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Installation Instructions

509 Hemlock Street
 Philipsburg, PA 16866
 814.343.6315
 Support@umiperformance.com

UMI 2080-300 Rear Watts Link Kit 1982-2002 GM F-Body



Contents

Part #	Quantity	Description
2080-ABC	1	Watts Link Chassis Mount
2080-PQ	1	Watts Link Propeller Assembly
2080-RUX	1	Right Side Axle Mount
2080-STX	1	Left Side Axle Mount
2080-LINKS	1	Link Set (2 links)
2020B	2	Steel Sleeve, 1 7/8" inch long
2080Z	4	Aluminum Rod End Bushings
2245F	4	U-bolt – Fits 3" Rear Axle
1000001	2	M12 Nylock Nut
1000015	8	1/2" SAE Flat Washer
1000038	2	1/2-13 x 2" Hex Bolt
1000122	8	7/16-20 Tall Hex Nut
1000120	12	7/16 Thick Washer
1000054	2	M12 x 80mm Hex Head Bolt
1000105	2	1/2-13 x 1 1/2" Button Head Bolt
1000110	4	1/2-13 Thin Locknut
1000114	4	7/16-14 x 1" Hex Bolt

Additional Parts Required

Aftermarket sway bar clamps are required to provide proper clearance for the watts link axle brackets. UMI Part #2244 provides the necessary clearance. 1 1/8" of clearance is required between axle tube and sway bar.





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Disassembly and Installation

It is recommended to read through the instructions before beginning installation.

Follow all proper shop safety practices. Properly support vehicles when working underneath.

1. Lift the vehicle off the ground and properly support. Use your preferred method; jack stands or vehicle lift. Ensure the chassis is level.
2. Remove both rear wheels.
3. Remove pan hard bar and pan hard brace. Save the (3) flange head bolts from the driver side pan hard brace. The pan hard bar, pan hard brace, and (2) bolts from passenger side will NOT be reused



4. Unclip brake lines from the rear axle housing and move away from axle. Do not kink any of the hardlines.
5. Install Sway bar axle brackets and sway bar. The brackets should be placed as far outboard as possible.
6. Install Watts link Axle mounts. (2) U bolts per bracket are required. Use the provided 7/16" lock washers and nuts to fasten U Bolts.

Driver Side Bracket has the straight, shorter arm.

Passenger side has angle cut longer arm.

7. Slide the watts link brackets outboard as far as possible. Use a level on the slotted plate to plumb the axle bracket and tighten the U Bolts.



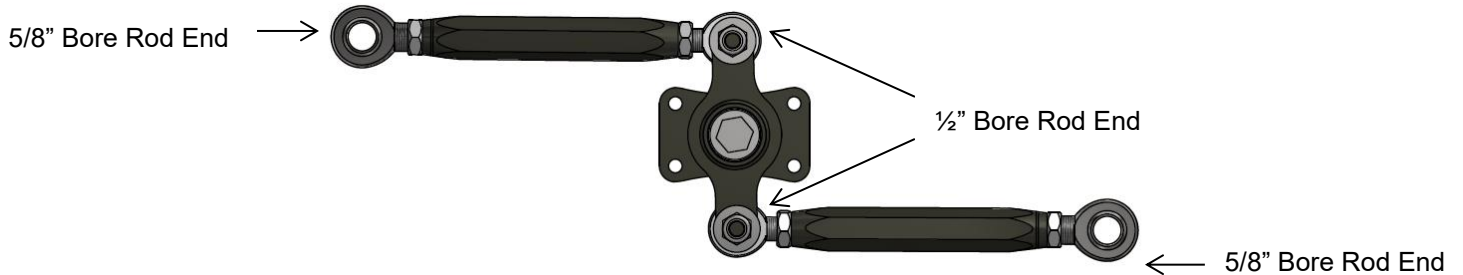


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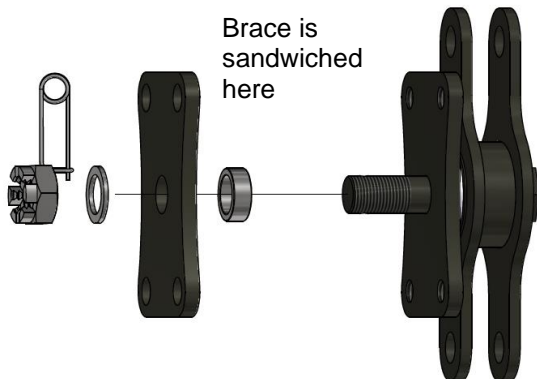
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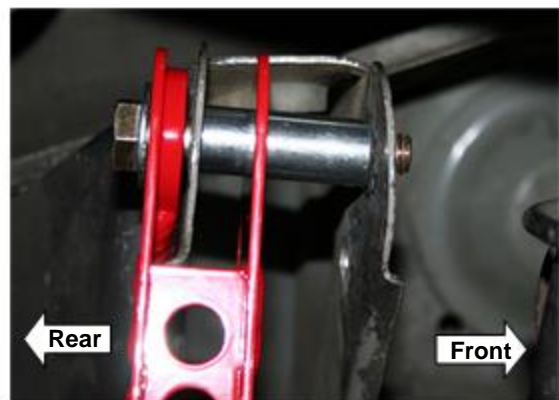
8. Assemble the Watts Link Propeller and Links.
 - a. $\frac{1}{2}$ " bore rod ends are attached at the propeller with no spacer. Use $\frac{1}{2}$ -13 x $1\frac{1}{2}$ " button head bolt, washer, and thin locknut to secure.
 - b. $\frac{5}{8}$ bore rod end is attached to axle bracket using the provided aluminum spacer bushings.



9. Remove the castle nut, washer, back plate, and spacer from the Watts link pivot. Install the pivot onto the brace, then reassemble in the same order as shown.
10. Use (4) $\frac{7}{16}$ -14 x 1" hex bolt and washer to secure the pivot to the brace. The pivot is height adjustable, the center of the available adjustment is a good starting position.
11. Tighten the Castle nut and install the diaper pin.



12. Attach the assembled brace and pivot to the car. Install the (2) Metal sleeves, $1\frac{7}{8}$ " long, into the (2) $\frac{3}{4}$ " holes on the passenger side of the brace. The Thick plate on the brace goes toward the rear.
13. Install the M12 x 80mm hex bolts, flat washers, and locknuts.
14. Install the (3) flange head bolts set aside in step 3 of disassembly thru the brace in the original location on the car.
15. Tighten all hardware on the brace.





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16. Connect the center links to the Axle brackets. Use (2) supplied aluminum spacers on each 5/8 bore rod end. Secure the rod end with a 1/2-13 x 2" hex bolt, flat washer, and thin locknut. **Do Not** Tighten at this time. Final tightening needs to occur with the suspension loaded at ride height.



17. Now that all components are initially installed, the setup process can begin, refer to page 5 for setup instructions.



18. After initial setup. Tighten all fasteners related to the pivot and links.
17. U bolts can be trimmed to length if desired by installer.

As with all components on any performance vehicle; performing a maintenance schedule to include checking all fasteners, commonly called "nut and bolt check", is highly recommended.



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Setup

Initial Setup should be done with the rear suspension loaded at ride height. This can be with jack stands under the rear axle, and under the front chassis. It is best to have the car level.

The basics of a watts link are fairly simple. It controls the lateral (side to side) location of the rear axle, and the rear roll center.

First, set the desired pivot height. The middle of the adjustment range is a good starting point.

Adjust the links mounting location on the axle so that they are level, side to side. The location in the slot may vary due to ride height differences.

- If you are unable to achieve level. Adjust them so they are equal and opposite.



Once these heights are set, Adjust the lengths of each link to achieve the desired rear axle location. Ideally the links should be the same length, If they are within 3/16" they will perform well. If the length of the links are different by more than 3/16", adjust one of the axle brackets side to side.

Lateral Location:

The advantage of a watts link over the factory pan hard bar is that the rear housing location does not move through travel. A Panhard bar swings in an arc with the center mounting point on the chassis allowing side to side movement of the housing.

Keeping the rear centered is very important when using wide rear tires as the clearances are often tight.

Side to side location can be adjusted by lengthening one link and shortening the other.

Example: to move rear toward the driver side.

Lengthen the passenger side link and **Shorten** the driver side link

Rear Roll Center:

The center pivot of a watts link is the location of the rear roll center

The rear roll center affects the handling balance of the car by adjusting the amount of roll caused by cornering.



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Tuning

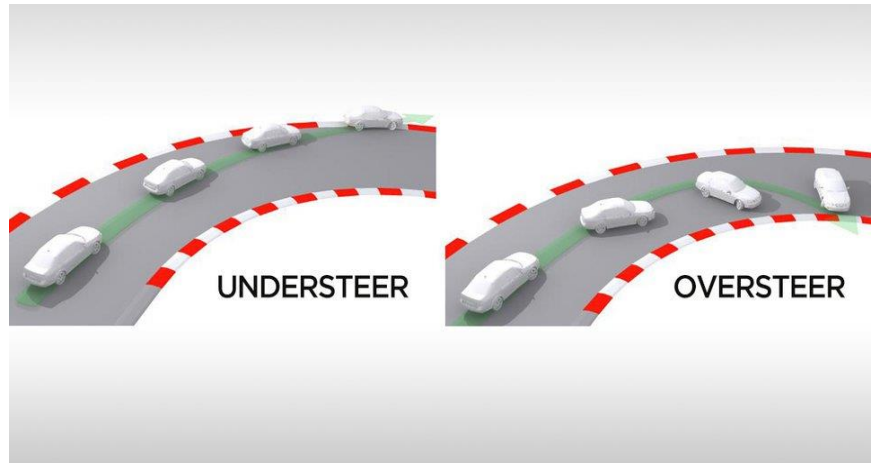
Handling can and should be adjusted to a driver's preference. There is no "magic" location that will guarantee a well handling car. It is found through testing different setups with a car and driver.

Basic Handling:

Understeer: The car will not follow the desired arc of the turn. The front of the car pushes toward the outside of the turn. This is commonly referred to as a "push".

Oversteer: The car will not follow the desired arc of the turn. The rear of the car turns more than the front, like a tail slide. This is commonly referred to as "loose"

Neutral: The car follows the desired arc of the turn and is very comfortable for the driver.



Adjusting the Watts link location has the largest effect on Mid Corner handling. The simplest explanation is when the tires are only being asked to corner, no accelerating, or braking.

How to adjust the watts link to achieve these scenarios:

Raise the watts link pivot to make the car oversteer more. This will make the car turn "easier"

Lower the watts link pivot to make the car understeer more. This will make the car feel more "planted" and under control.

Working with other possible adjustments:

Raising the rear spring or sway bar rate may require a lower roll center.
Softer rear springs and sway bars may require a higher roll center.

After initial setup, it is recommended to mark the height locations of the center pivot and axle brackets.

When making adjustments at the track, you will be able to use this mark as a reference. If each location is moved equally the axle should not move side to side and the links will stay near level.





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UMI Performance Inc.
Made in Pennsylvania, USA

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