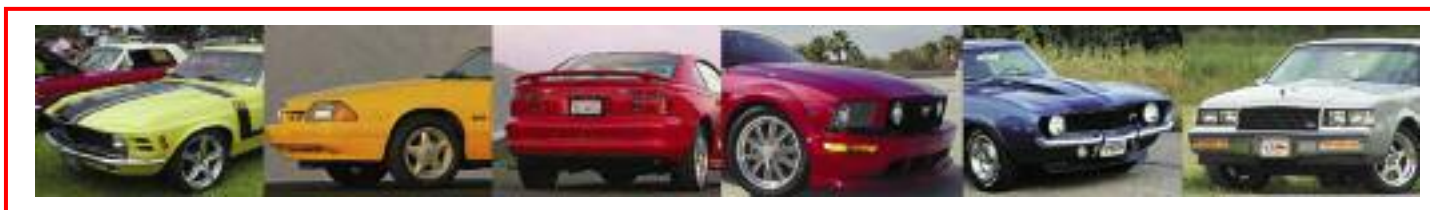




GM GEN 3 & 4 F-Body
OWNER'S INFORMATION and INSTALLATION INSTRUCTIONS
2009



**Watts Link applications also available for
65-73 Mustangs and Cougars, Fox/SN95 and S197 Mustangs
Gen 1 and 2 GM F-bodies and GM 78-88 G-Bodies**



Watts Link for Gen 3 & 4 F-Body applications

OWNER' S INFORMATION and INSTALLATION INSTRUCTIONS

Our products are manufactured to the highest quality standards. To insure your complete satisfaction, please follow these simple steps: **The FAYS2 (F2S) WATTS LINK is made to fit unaltered or undamaged frame rails.**

- 1) Read the entire Owner's Manual and Installation Instructions before you begin installation. The Owner's Manual included with your products has been designed to make the installation of your FAYS 2 WATTS LINK straight forward and trouble free.
- 2) Thoroughly inspect the contents of the box and check against the parts list. If you are missing a part, call the number listed below within 15 days of purchase. Proof of purchase is required to have any parts replaced.
- 3) Experience working with cars is required. If you are not sure of the installation procedures, consult a qualified mechanic.
- 4) In the unlikely event you are not completely satisfied with the product, please contact us immediately. Please make yourself aware of the return policy and follow our time frame and procedures for returns closely.
- 5) F2S will honor the following 90 Day return policy. Proof of purchase from F2S is required. You must have an order number before returning any products or parts for any reason. Parts will not be returned to you without an order number. F2S will accept return suspension products if you are dissatisfied for any reason. Defective parts are replaceable through F2S.

OUR PLEDGE TO ASSIST YOU

Contact F2S Tech Support staff for additional help and installation tips, if needed. Our technicians will respond to your message as soon as possible. Our business hours are anytime we answer the phone Monday through Sunday from 8:00am to 8:00pm CST. Phone: (920) 279-0875 Email: jim@fays2.net

PREPARATION FOR INSTALLATION

- 1) Installation will be easier if you have a drive on car lift. The next alternative is secure drive on ramps.
- 2) Tools you will need:
 - Drive on car lift (preferred)
 - Level (digital preferred)
 - Floor jack
 - Rubber Mallet
 - Wrenches and sockets
 - Jackstands
 - Drive on ramps
 - Standard tape measur
 - Large crescent wrench
 - 1 1/4", 1 1/8", 3/4", 7, 15 18 and 20 mm sockets &wrenches

INTRODUCTION

In a few short hours you can greatly improve your F-Bodys handling with the F2S Watts Link.

The FAYS 2 WATTS LINK is one of many suspension parts in the rear of your car. If you have suspension or brake problems after installation of our Watts Link, these conditions probably existed prior to the installation. Inspect your cars suspension system PRIOR to installation of the F2S Watts Link.

Maintenance your F2S Watts Link is important. At first, check the F2S Watts Link for tightness at 25 and 100 miles. Then, as often as your scheduled oil change or after every race or track day.

Pre-assembly notes

The watts link propeller in your kit is assembled with non-locking nuts to aid in setting your adjustments and fitting the rod ends and center bolt.

When you have finalized your adjustments replace the three non-locking nuts with the three nylocs using blue thread locker

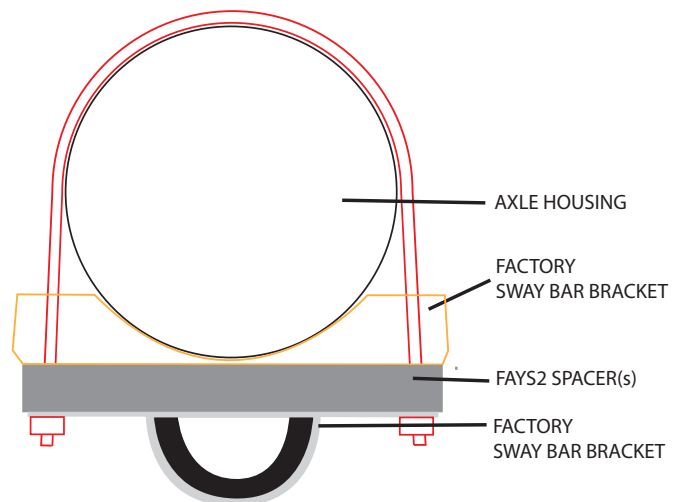
BRAKE LINE CLIP ALTERATION

Some cars may require the brake line clips to be removed from the axle housing. If your car requires this alteration, mount the axle clamp with the gusset facing down to provide a smooth surface to route the brake line over the axle clamp. Secure the brake line to the axle housing after tightening the axle clamps.



FACTORY SWAY BAR MOUNT SPACER

If you have the factory sway bar, you will need to loosen the ubolts and add a spacer between the rubber bushing and the sway bar bracket to lower the sway bar to clear the axle clamps.

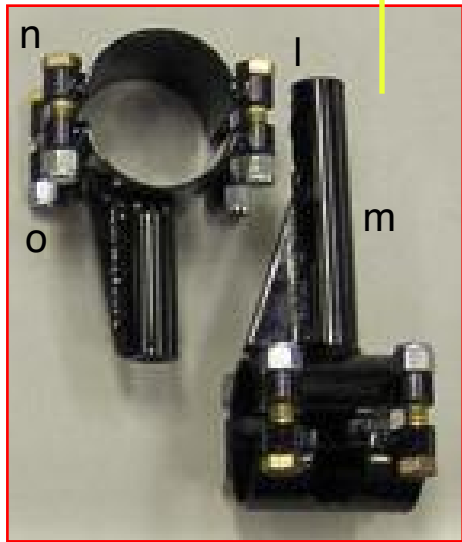
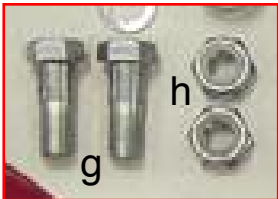
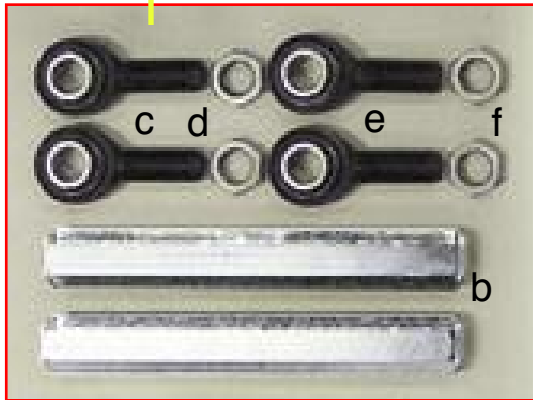
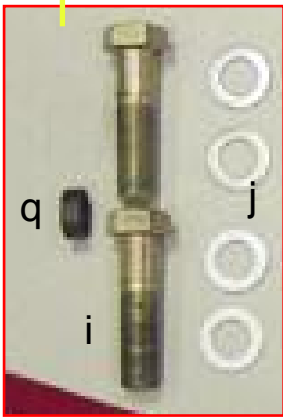


DRIVERS SIDE REPLACEMENT BOLTS

Some cars may require the two outermost bolts on the drivers side of the watts frame to be replaced with the two bolts and lockwashers provided.



PARTS LIST



- a. (1) watts frame
- b. (2) watts bars
- c. (2) 3/4" x 16 R rod ends
- d. (2) 3/4" x 16 R jam nuts
- e. (2) 3/4" x 16 L rod ends
- f. (2) 3/4" x 16 L jam nuts
- g. (2) 3/4 x 1.75 x 16 bolts
- h. (2) 3/4 x 16 nyloc nuts
- i. (1) 3/4" x 16 x 3 rod end bolts
- i. (1) 3/4" x 16 x 3.5 rod end bolt
- j. (4) 3/4" machine washers

- k. propeller assembly:
- 1 billet propeller
 - 2 2 bearings
 - 3 Snap ring
 - 4 (1) 3/4" machine washer
 - 5 (1) 3/4" H.D. flat washer
 - 6 (1) Hat bushing
 - 7 (1) 3/4 x 10 x 3 00 bolt
 - 8 (1) 3/4 x 10 nyloc nut

- l. drivers side axle tube mount
- m. passengers side axle tube mount
- n. (8) 7/16 axle clamp bolts
- o. (8) 7/16 lock nuts
- q. (1) 3/4 x 7/8 bushing

INSTALLATION INSTRUCTIONS

1) RAISE VEHICLE

You must raise the car to a level high enough to enable you to work under the rear axle. A drive on car lift is preferred. If you raise the rear of the car only, be sure to securely block the front wheels so the car cannot roll.

THINK SAFETY FIRST!!!! ALWAYS USE CAUTION WHEN RAISING THE CAR

WARNING!!! Always use approved automotive jack stands to support the car. Perform all work on a level concrete surface with the jack stands underneath the frame rails of the car. **NEVER** depend on a floor jack to support the car!!!

2) REMOVAL OF FACTORY COMPONENTS

2a) Remove two screws that secure the sheet metal pan above the panhard brace and muffler.



2b) Remove the panhard bar and bolts and nuts from the drivers side and passenger side. Set the nuts and bolts aside for re-use. It may be necessary on some models to loosen the sway bar mounts to gain access to these nuts and bolts.



2c) Remove the three bolts holding the drivers side of the panhard brace. Use extreme caution here because you will need to reuse these bolts and the threaded portion of the frame. You may need to use a rust penetration liquid to loosen them.

2d) Remove the bolt holding the passenger side of the panhard brace. Set the nuts and bolts aside for re-use.



CLEAN ALL THESE AREAS OF GREASE AND DIRT BEFORE YOU PROCEED.

**BEFORE THE NEXT STEP
YOU WILL WANT TO BE SURE THE AXLE IS CENTERED SIDE TO SIDE UNDER THE CHASSIS**

3.INSTALLATION OF THE F2S WATTS LINK FRAME WORK

3a) Install the F2S Watts Link frame-work by sliding the frame work into the passengers side channel where you removed the factory panhard bar and support. This is best done by sliding the frame work horizontally from the drivers side to the passenger side rather than from the bottom up.

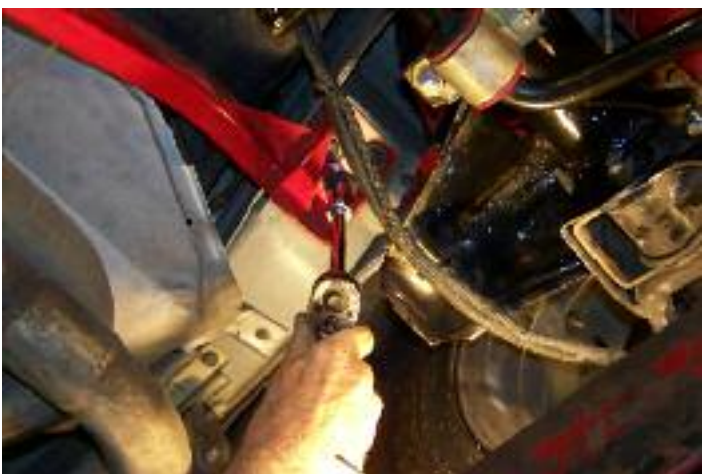


3b) Insert both factory bolts through the passenger side of the F2S Watts Link frame-work into the factory holes and install the nuts using blue locktite but do not tighten completely at this time.



NOTE: Do to slight variations in the F-Body chassis assembly and welding at the factory it may be necessary to grind some clearance in the passenger side chassis holes and or drivers side watts frame holes. If this appears to be the case, you are welcome to call us at 920.279.0875 for guidance.

3c) Insert the three factory bolts through the drivers side of the F2S Watts Link frame-work into the factory holes using blue locktite. We have provided one new bolt and washer which may be needed on the outer most hole.

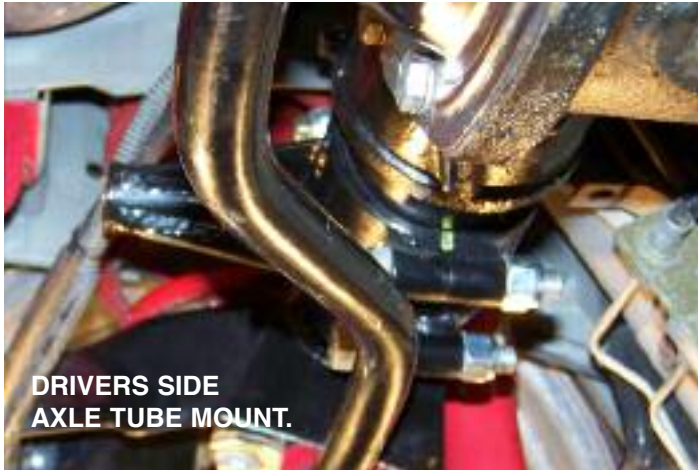


3d) Torque the five bolts and two nuts to factory specs at this time.

4.INSTALLATION OF THE F2S WATTS LINK AXLE TUBE MOUNTS

4a) There are two axle tube mounts. The drivers side is 3 inches wide and has a shorter threaded tube and the passenger side is 5 inches wide and has a longer threaded tube. The 5 inch wide tube may can be modified by drilling if necessary to clear axle tube breathers in non factory market axles. **PLEASE CALL TO DISCUSS IF YOU NEED TO MODIFY THE AXLE CLAMP.**

4b) Position the drivers side axle tube mount around the axle tube so that it points to the rear at the 9 o'clock position as shown below. Snug the nuts and bolts but leave them loose enough so you can slide the axle tube mount from side to side and rotate it on the axle tube. You will tighten the bolts and nuts later. You may need to remove the hard brake line from the axle tube and possibly remove the brake line clip from the axle. WHEN THE INSTALLATION IS COMPLETE, SECURE THE HARD BRAKE LINES TO THE AXLE WITH HEAVY DUTY ZIP TIES OR SIMILAR DEVICES.

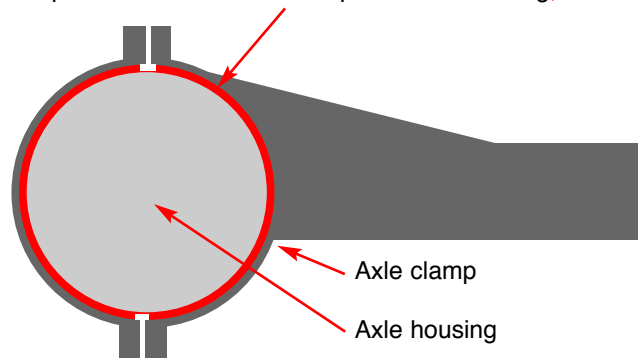


4c) Next position the passenger side axle tube mount so that it points to the rear and downward at about the 4 o'clock position. Snug the nuts and bolts but leave them loose enough so you can slide the axle tube mount from side to side and rotate it on the axle tube. You will tighten the bolts and nuts later. You may need to remove the hard brake line from the axle tube and possibly remove the brake line clip from the axle. WHEN THE INSTALLATION IS COMPLETE, SECURE THE HARD BRAKE LINES TO THE AXLE WITH HEAVY DUTY ZIP TIES OR SIMILAR DEVICES.



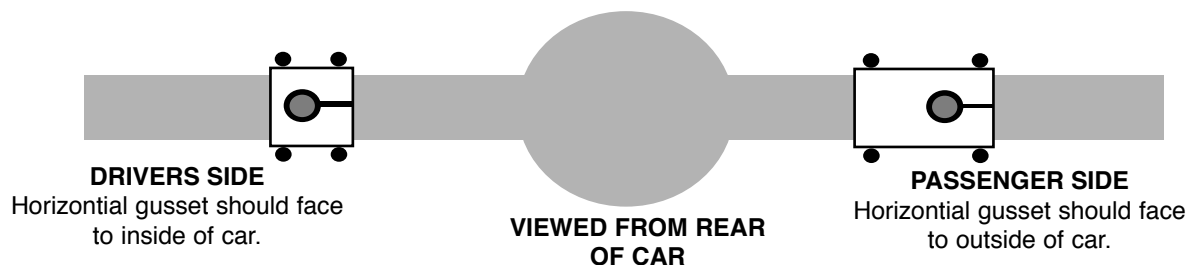
PASSENGER SIDE AXLE TUBE MOUNT.

When installing axle clamp on factory axle housings position spacers between axle clamp and axle housing, as shown

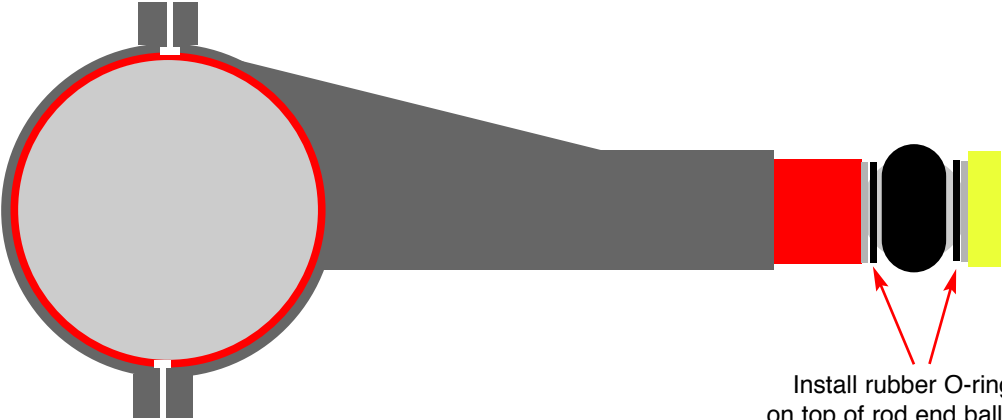


NOTE: Because the axle can move from side to side when the panhard bar is removed or when the suspension is hanging or when the car is lowered, be sure to center the axle under the chassis before positioning the axle clamps.

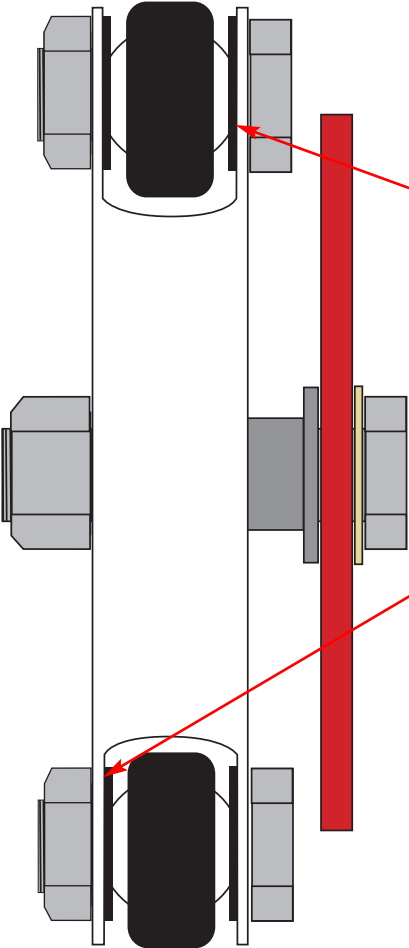
CORRECT AXLE CLAMP POSITIONING INFORMATION



FAYS2 WATTS LINK AXLE TUBE MOUNT AND PROPELLER ROD END RUBBER O-RINGS



Install rubber O-rings on top of rod end ball and inside of washers.



Install rubber O-rings on top of rod end ball and inside of propeller.

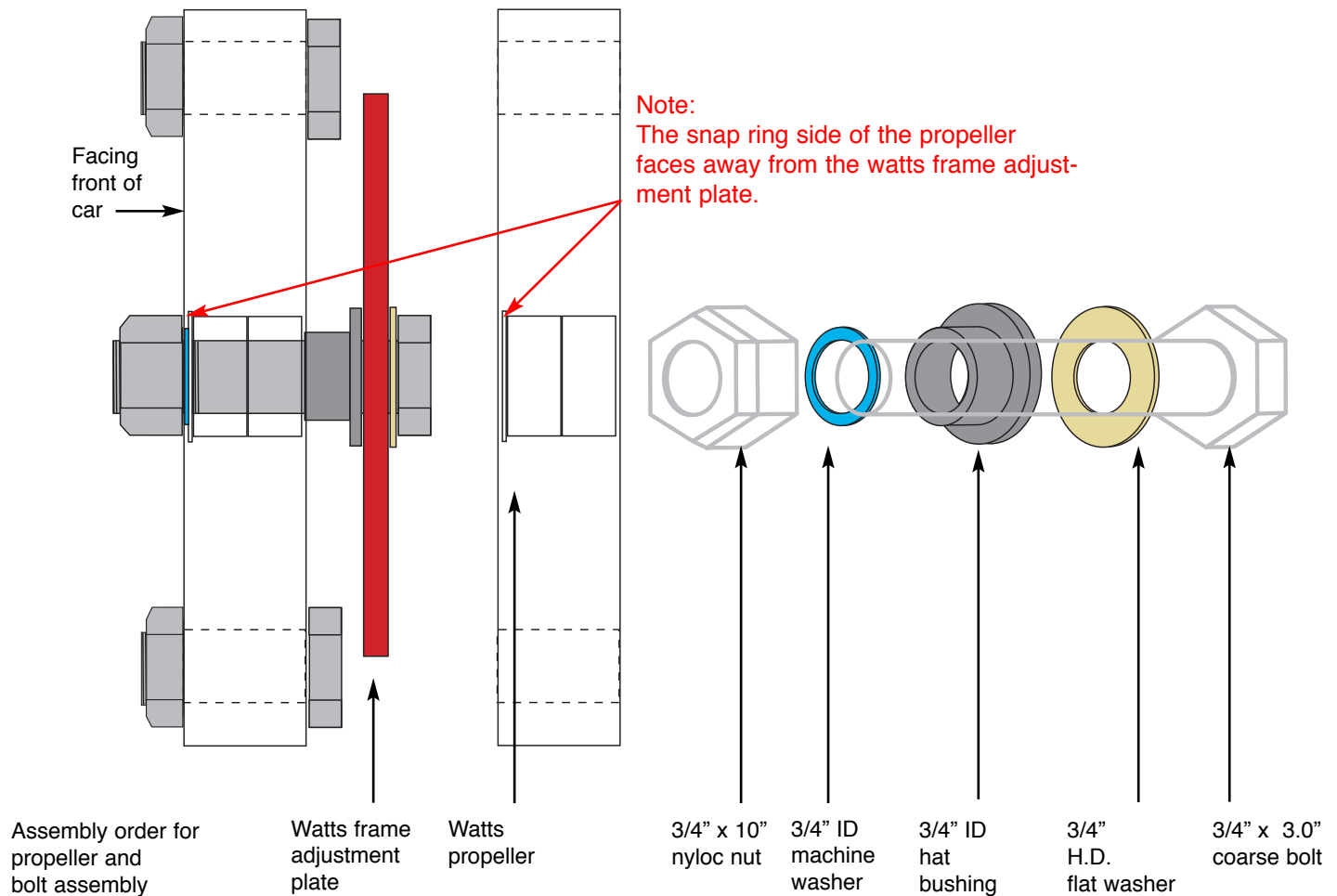
5 .INSTALLATION OF THE F2S WATTS PROPELLER AND LINK BARS

5a) Begin this step of the installation by positioning the propeller assembly into the center hole on the watts frame center adjustment plate. The correct order for the assembly is shown in the illustration below. This position may need to be moved for final adjustment, but starting in the center hole will get you close.

NOTE:

The adjustment plate is slotted to accommodate different ride heights of various cars depending on modifications made by the owner. Also once you have installed the complete FAYS2 Watt Link assembly and driven your car you may want to adjust this center propeller bolt up or down to dial in more or less roll steer. See our web site at www.fays2.net for more information on watts link theory and geometry.

Assembly order for Watts propeller and bolt assembly



5b) The picture below demonstrates how the watts propeller assembly will be positioned on the frame-work.

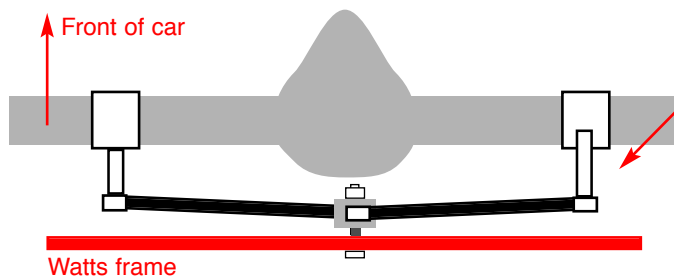
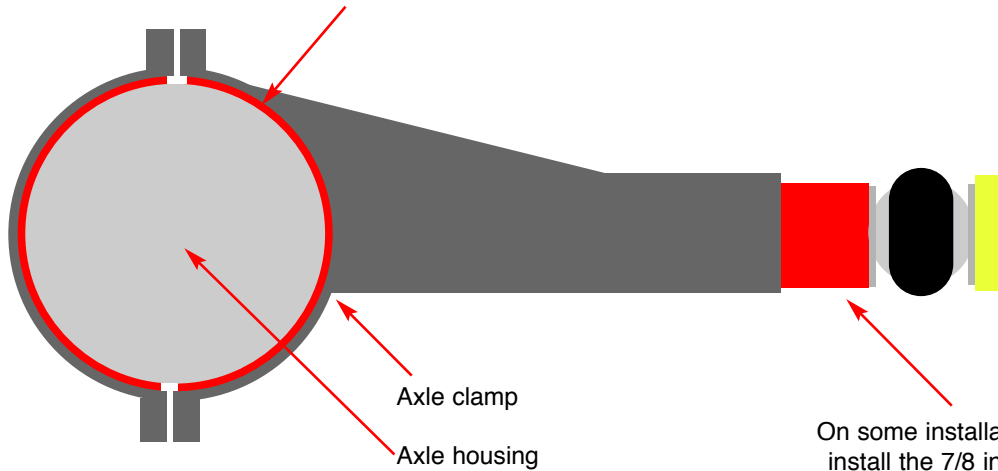


Note:

This picture shows the propeller bolt facing towards the FRONT of the car. You may face the bolt to the rear of the car if your clearance needs require it. We have provided a non-locking 3/4 x 10 nut for positioning. When you have determined your final propeller position replace the non-locking nut with the 3/4 x 10 nyloc nut.

FAYS2 WATTS LINK AXLE TUBE MOUNT SHIMS AND ROD END BOLTS SPACERS

When installing axle clamp on factory axle housings position shims between axle clamp and axle housing, as shown



Note:
When viewed from below the differential the watts bars can have a slight angle toward the front of the car provided both bars are equal angles and length.

NOTE: Because the axle can move from side to side when the panhard bar is removed or when the suspension is hanging or when the car is lowered, be sure to center the axle under the chassis before positioning the axle clamps.

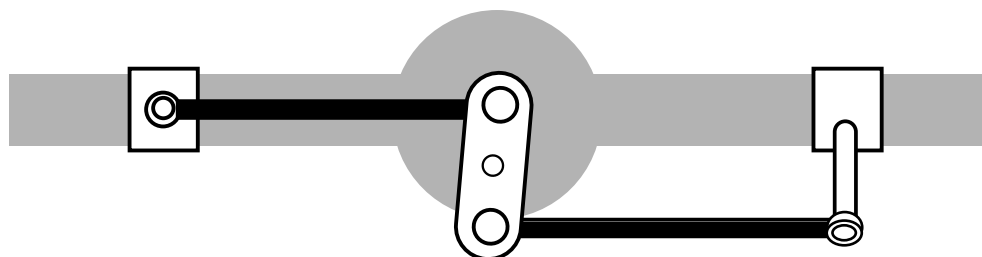
5c) Trial fit a watts bar in the top end of the propeller using a 3/4 x 1.75 x 16 bolt and a 3/4 x 16 non-locking nut and a 3/4 x 3.0 x 16 to the bolt in the bar going to the drivers side (the top bar) and snug only at this time. Position the bar between the rod ends so that 5 to 7 threads are showing at the propeller side and only two threads are showing on the rod end at the axle clamp end. You should not have the jam nuts tightened on the rod ends at this time because you will still need to make adjustments in the bar lengths.



NOTE: As you assemble the watts propeller with the bars and rod ends, be aware that when tightened, the rod end should be position in the center of the propeller arms as shown. This is to allow the maximum movement without interference. When you finally do tighten the jam nuts be careful to not let the rod end rotate out of position.

5d) Now attach the other end of the bar to the drivers side axle tube mount using the 3/4 x 3 x 16 grade 8 bolt. Assemble with a 3/4 machine washer on either side of the rod end and thread into the axle tube mount snugly but do not torque at this time. **The 1/4 inch spacer(s) may be necessary for correct alignment on either axle clamp.**

5e) At this time adjust the drivers side axle tube mount so that the watts bar is parallel to the axle and the ground and the propeller is between 12 and 1 o'clock at the top and between 6 and 7 o'clock at the bottom when viewed from the back of the car. Ideally the axle tube mount threaded tube should be at the 9 o'clock position. It may be necessary to move the propeller center pivot bolt up or down at this time to get the watts bar parallel to the axle. If you find the bar is close but not parallel at the 9 o'clock position you can add some weight to the trunk or raise the cars chassis slightly to get the bar parallel. See pictures and illustration below. When you have the bar positioned correctly, tighten the jam nuts securely keeping the rod ends perpendicular to the bolts securing them.



NOTE: As you assemble the watts link on your car it is very important to adjust the watts bars to an **EQUAL LENGTH**. This is important to maintain the watts link geometry and prevent binding.

This next adjustment is critical to the operation of the Watts geometry.

5f) Next connect the other watts bar to the lower propeller arm using a 3/4 x 1.75 x 16 bolt and a 3/4 x 16 non-locking nut and a 3/4 x 3.0 x16 bolt to the bar going to the passenger side (the lower bar) and snug only at this time. Position the bar between the rod ends so that 5 to 7 threads are showing at the propeller side and only two threads are showing on the rod end at the axle clamp end. You should not have the jam nuts tightened on the rod ends at this time because you will still need to make adjustments in the bar lengths.

5g) This bar also must be parallel to the axle housing and to the other bar when installed. **Use your level.** If not, rotate the the passenger side axle tube mount angle so that the bar is as close to parallel as you can get it. We have supplied you with one spacer if you need additional length. See illustrations below.

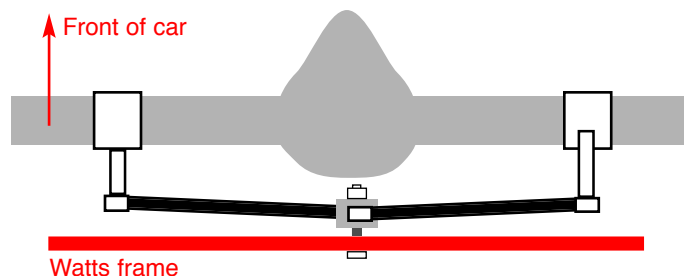
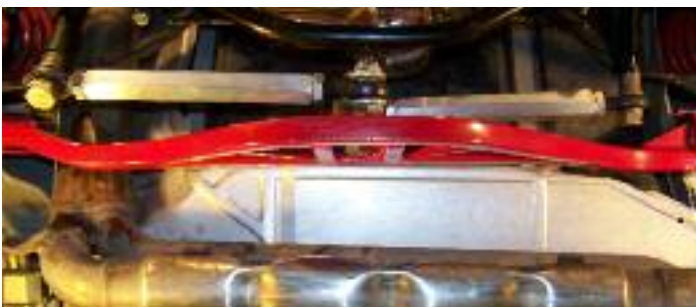
5h) When you have the bar positioned correctly, tighten the jam nuts securely keeping the rod ends perpendicular to the bolts securing them.



5i) Now remove this bar and adjust the drivers side bar to the **EXACT** same dimensions and tighten its jam nuts also. (See illustration on page 10)

5j) Reconnect the drivers side bar to the drivers side axle tube mount. You will probably have to slide this axle tube mount to the left or right to get the 3/4 x 3 x 16 bolt to thread in easily.

5k) After you have torqued all the axle clamp bolts in position, make a mark on the axle and axle clamps with a paint stick. This will allow you to quickly check if your axle clamps move during use.



Note:
When viewed from below the differential the watts bars can have a slight angle toward the front of the car provided both bars are equal angles and length.

5i) Now torque all bolts and nuts as specified.

Passenger side watts bars bolt (3/4 x 3.0 x 16)



Passenger side axle clamps bolts and nuts (1/2 x 2.25)



Drivers side watts bars bolt (3/4 x 3.5 x 16)



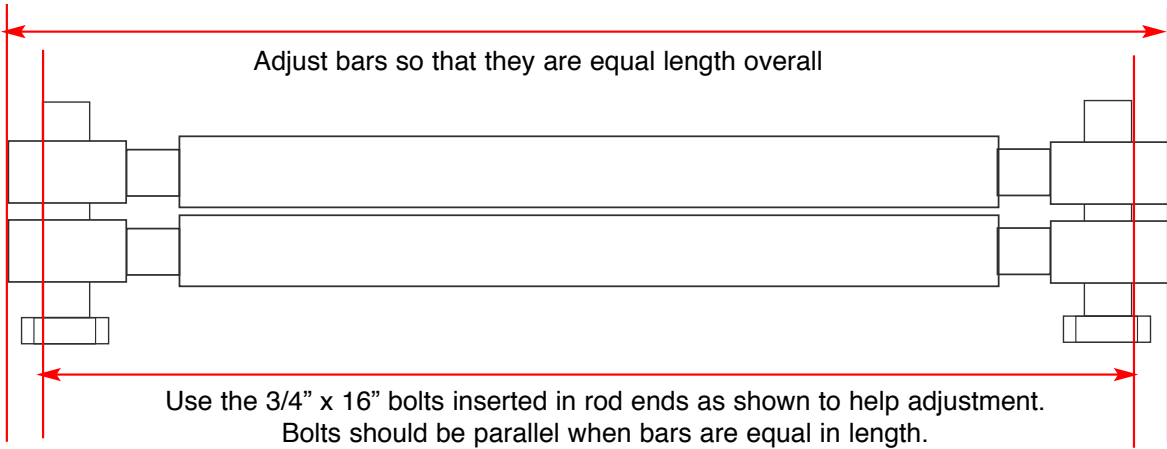
Drivers side axle clamps bolts and nuts (1/2 x 2.25)



Propeller bolt and nut (3/4 x 3.0 x 10)



Suggested method of adjusting Watts bars to equal length.



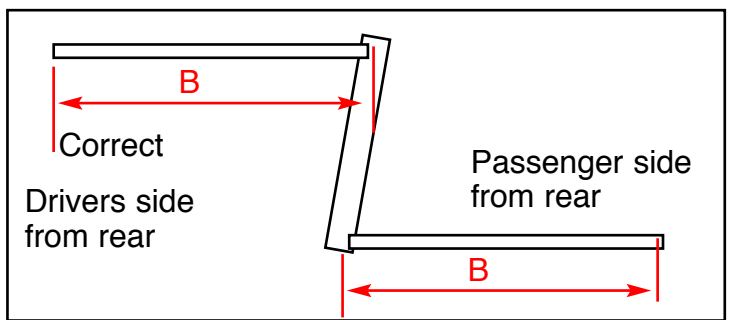
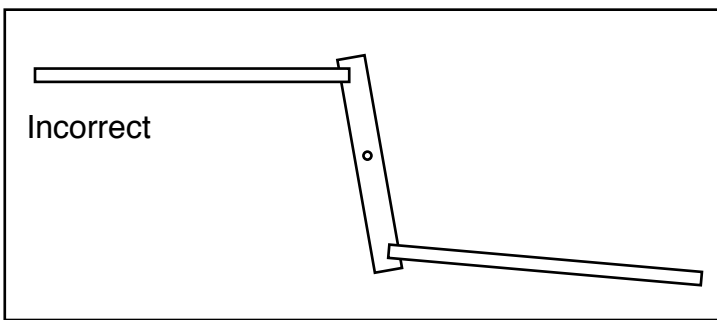
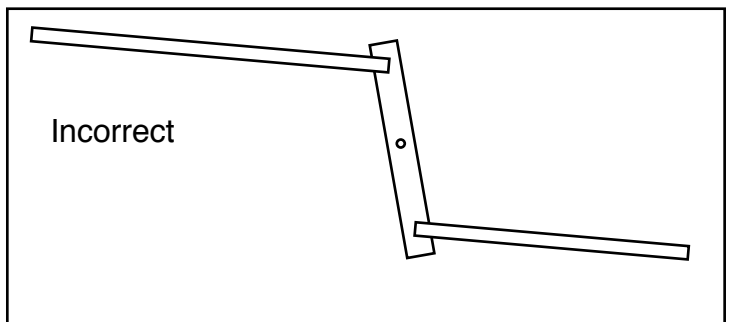
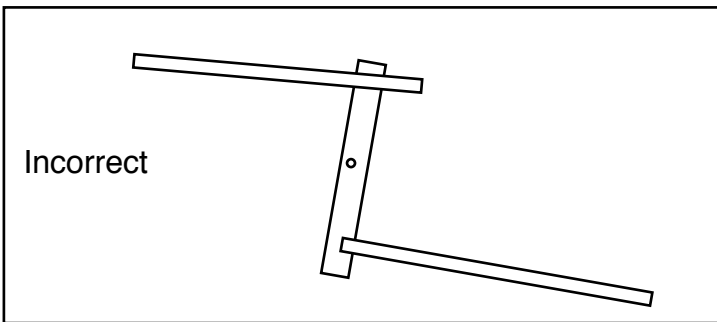
NOTE: Because the watts link principle works on geometry and not binding, wedging or leverage it is important that you adjust the bars so that they will rotate with very little pressure with your hand. This will take only a very slight turn of the bar (with the jam nuts loosened) to accomplish.

Then retighten the jam nuts as specified earlier

NOTE: It is also very important to adjust the watts bars to an **EQUAL LENGTH**. This is important to maintain the watts link geometry and prevent binding.



NOTE: See illustrations below for correct and incorrect alignment of bars.



NOTE: Because the axle can move from side to side when the panhard bar is removed or when the suspension is hanging or when the car is lowered, be sure to center the axle under the chassis before positioning the axle clamps.

These two bars must be parallel to each other and to the axle housing when the car is on the ground.

TORQUE VALUES

(4)	3/4" x 16 jam nuts	100 FT. LBS.
(2)	3/4" fine thread nyloc nuts	100 FT. LBS.
(1)	3/4" coarse thread nyloc nut	100 FT. LBS.
(2)	3/4" x 16 rod end bolts	100 FT. LBS.
(8)	Axle tube mount nuts	80 FT LBS

Re torque factory bolts and nuts to factory specs. Use blue thread locker on all threads!

NOTE: Because the watts link principle works on geometry and not binding, wedging or leverage it is important that you adjust the bars so that they will rotate with very little pressure with your hand. This will take only a very slight turn of the bar (with the jam nuts loosened) to accomplish.

Then retighten the jam nuts as specified

NOTE: It is also very important to adjust the watts bars to an EQUAL LENGTH. This is important to maintain the watts link geometry and prevent binding.

NOTE: See illustrations for correct and incorrect alignment of bars.

NOTE: It is very important to adjust the watts bars to an EQUAL LENGTH. This is important to maintain the watts link geometry and prevent binding.

CONGRATULATIONS!

You have purchased and installed the FAYS 2 Watts Link assembly. Even if you make no other suspension modifications you will notice an improvement in your F-Bodys handling and responsiveness. Additional improvements to spring rates and shocks will be maximized with the FAYS 2 Watts Link assembly installed. Make a one to two mile test drive at moderate speeds and recheck all the nuts and bolts and alignment of the Watts bars. At regular intervals, such as 25, 50 and 100 miles, recheck all nuts bolts and alignment of the Watts bars. Then check at oil changes.

WARNING!

**DO NOT ATTACH TIE DOWN STRAPS TO THE FAYS 2 Watts Link.
DO NOT AT ANY TIME USE THE FAYS 2 Watts Link
AS A TIE DOWN BRACKET FOR YOUR CAR.**

OUR PLEDGE TO ASSIST YOU

Please contact our Tech Support Staff for additional help and tips if needed.

Our technicians will respond to your message as soon as possible.

Our business hours are any time we answer the phone Monday through Sunday from 8:00am to 5:00pm CST. :

WARNING:

FAYS2 Suspension takes no responsibility for your enthusiastic driving style or participation in high speed or competitive driving events.

Call Jim at
Phone: (920) 279-0875

Email: jim@fays2.net

FAYS2 Suspension
2943 Bradley Rd.
Omro, WI 54963

TROUBLE SHOOTING

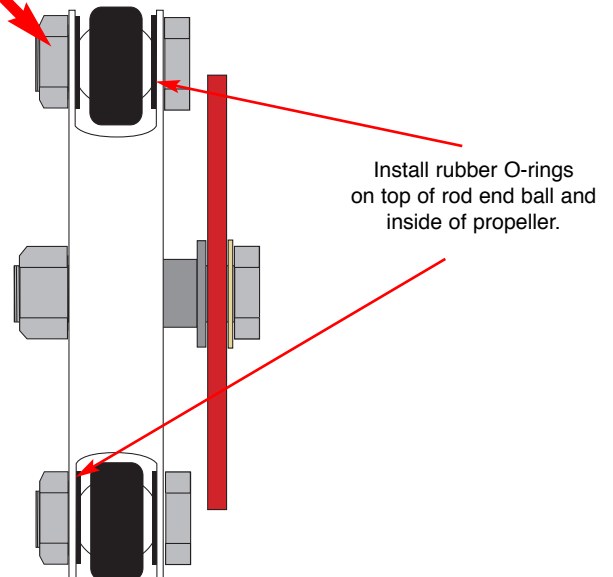
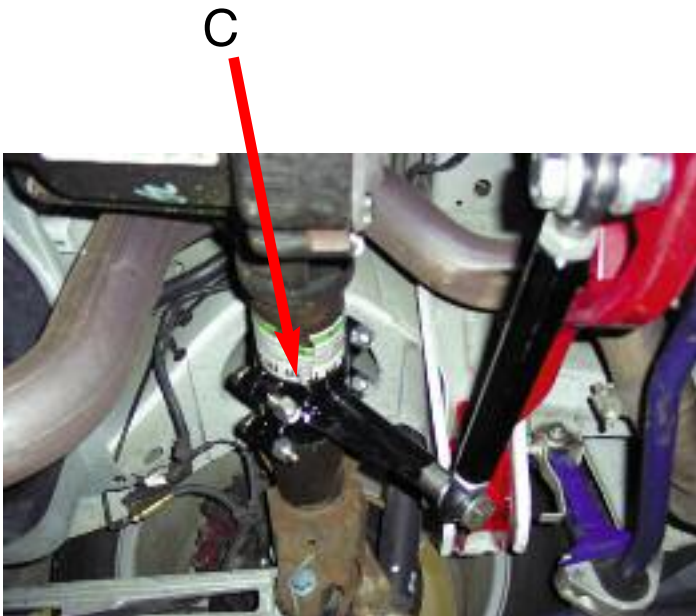
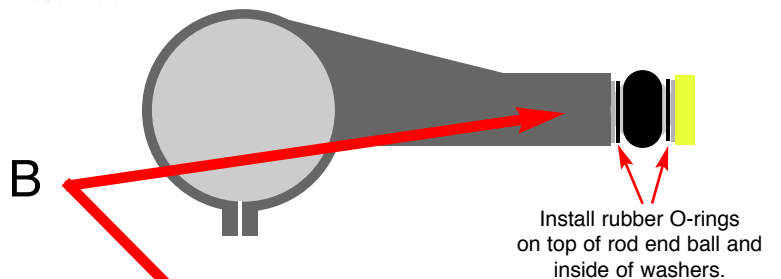
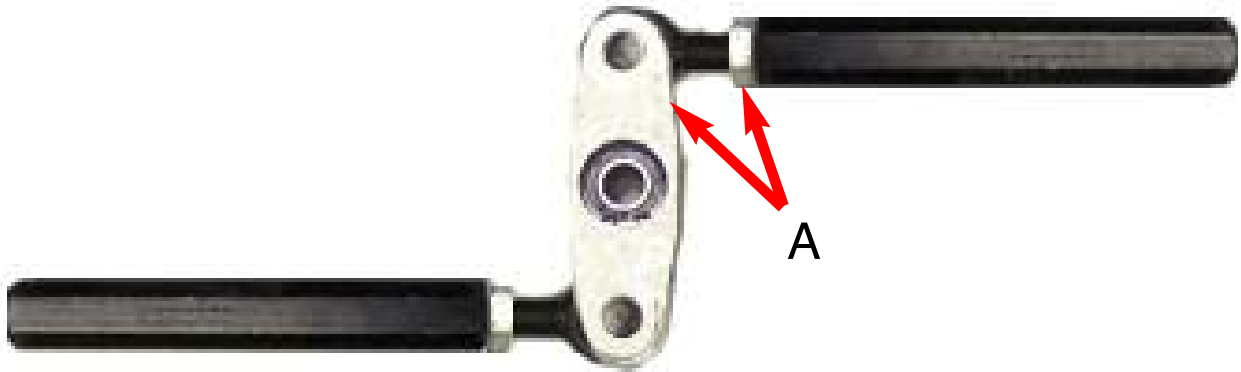
Two issues that come up after installation are referred to as a “clunk” and a “clink”.

A. The “clunk” is often not enough threads showing on the rod end where it attaches to the propeller. Be sure to have at least 8 or 9 threads showing on the rod end where it attaches to the propeller to prevent the jam nut from hitting the propeller in the area indicated as the suspension moves up and down. The rod end at the axle clamp needs only 1 or 2 threads showing.

B. The “clink” can be the rod end rotating on the axle clamp bolt or the bolt securing it to the propeller. Your kit includes 8 experimental “o-rings” to dampen this “clink”.

C. Last, be sure your axle clamps are tightened securely on the axle to prevent them from rotating under use.

Call Jim at Phone: (920) 279-0875
Email: jim@fays2.net
FAYS2 Suspension 2943 Bradley Rd. Omro, WI 54963





PARTS LIST CHECK LIST

- _____ a. (1) watts frame
- _____ b. (2) 9 inch watts bars
- _____ c. (2) 3/4 x 16 R rod ends
- _____ d. (2) 3/4 x 16 R jam nuts
- _____ e. (2) 3/4 x 16 L rod ends
- _____ f. (2) 3/4 x 16 L jam nuts
- _____ g. (2) 3/4 X 1.75 X 16 bolts
- _____ h. (2) 3/4 X 16 nyloc nuts
- _____ i. (1) 3/4 x 16 X 3.0 rod end bolt
- _____ i. (1) 3/4 x 16 X 3.5 rod end bolt
- _____ j. (4) 3/4 machine washers
- _____ k. propeller assembly:
 - _____ 1) billet propeller
 - _____ 2) 2 bearings
 - _____ 3) 1 Snap ring
 - _____ 4) 1 3/4 machine washer
 - _____ 5) 1 3/4" H. D.flat washer
 - _____ 7) 3/4 x 10 x 3.0 bolt
 - _____ 8) 3/4" x 10 nyloc nut
 - _____ 9) Hat bushing
- _____ l. (1) drivers side axle tube mount
- _____ m. (1) passengers side axle tube mount
- _____ n. (8) 7/16 axle clamp bolts
- _____ o. (8) 7/16 lock nuts
- _____ q. (1) 3/4 x 7/8 bushing
- _____ r. (4) axle clamp spacer halves
- _____ s. (2) sway bar spacers
- _____ INSTRUCTIONS
- _____ 2 window decals
- _____ (8) o-rings
- _____ (1) 3/4" x 10 assembly nut
- _____ (2) 3/4 X 16 assembly nuts