



'73-'87

CHEVROLET C10

REAR SUSPENSION

-WITH-

PANHARD BAR

INSTALLATION MANUAL

SEPTEMBER 2016

REV A.

'73-'87 REAR SUSPENSION WITH PANHARD BAR INSTALLATION

READ FIRST!

PLEASE READ THROUGH ALL OF THE INSTRUCTIONS AND ENSURE THAT YOU UNDERSTAND THEM. BE SURE THAT YOU HAVE ALL THE REQUIRED GSI COMPONENTS, BASIC TOOLS, AND SKILLS.

CUTTING

THIS KIT REQUIRES SIGNIFICANT CUTTING TO THE EXISTING FRAME. AIR HAMMERS, ABRASIVE CUT-OFF WHEELS, AND RECIPROCATING POWER SAWS (SAWZALL) ARE RECOMMENDED TOOLS. THERE SHOULD BE **NO** NEED FOR ANY MODIFICATION TO THE GSI SUPPLIED PARTS.

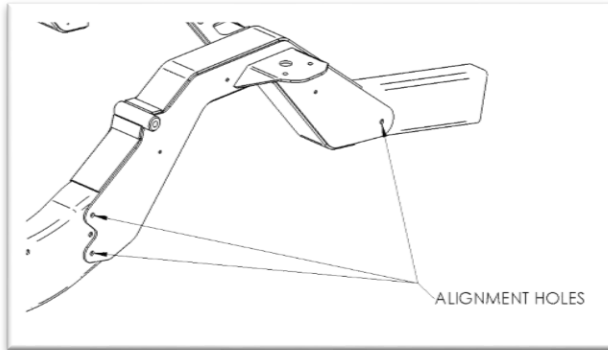
WELDING

THIS KIT REQUIRES WELDING TO THE FRAME. MIG (GMAW) WELDING PROCESS WITH A SUITABLE MIX GAS AND ER70S2 WIRE IS RECOMMENDED. ALL COMPONENTS ARE 3/16" OR 1/4" THICK, WELDS SHOULD MATCH THE THICKNESSES OF PARTS BEING WELDED.

DO NOT GRIND ANY WELDS! DO NOT QUENCH WELDS WITH WATER OR OIL. ALLOW TO AIR COOL.

NOTCH AND BRIDGE INSTALLATION

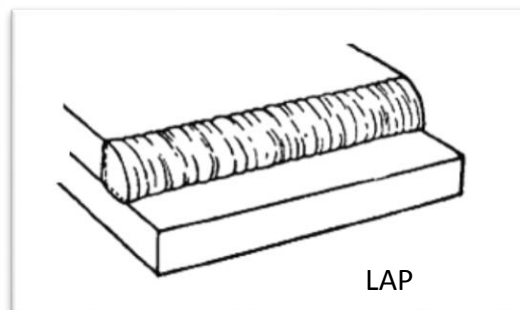
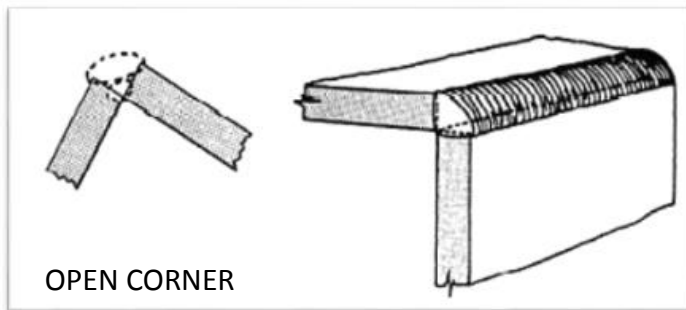
1. STRIP THE REAR FRAME OF ALL SUSPENSION COMPONENTS. **IF YOU PLAN TO REMOVE THE VERY LAST CROSS MEMBER DO NOT DO IT UNTIL FINISHED WITH THIS INSTALL.**
2. PLACE REAR NOTCHES ONTO THE FRAME. NOTE THERE ARE 3 ALIGNMENT HOLES THAT MATCH UP WITH EXISTING HOLES IN THE FRAME. USE THE $\varnothing 3/8"$ ***NOTCH TO FRAME ALIGNMENT*** HARDWARE PACK.



3. WITH THE NOTCHES BOLTED TO THE FRAME, INSTALL THE BRIDGE SECTION WITH THE $\varnothing 3/8"$ ***BRIDGE TO NOTCH*** HARDWARE.

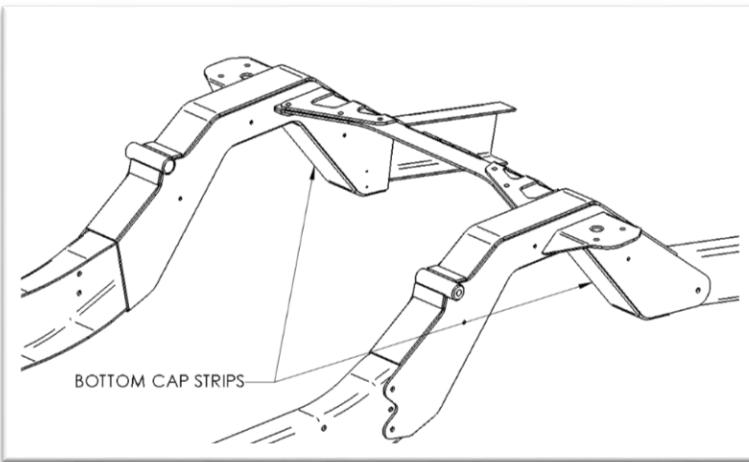
NOTES

THE FRAME MAY HAVE EXPANDED FROM CROSSMEMBER REMOVAL OR BE DAMAGED. STRAPS OR CLAMPS MAY BE NEEDED TO PULL EVERYTHING TOGETHER.

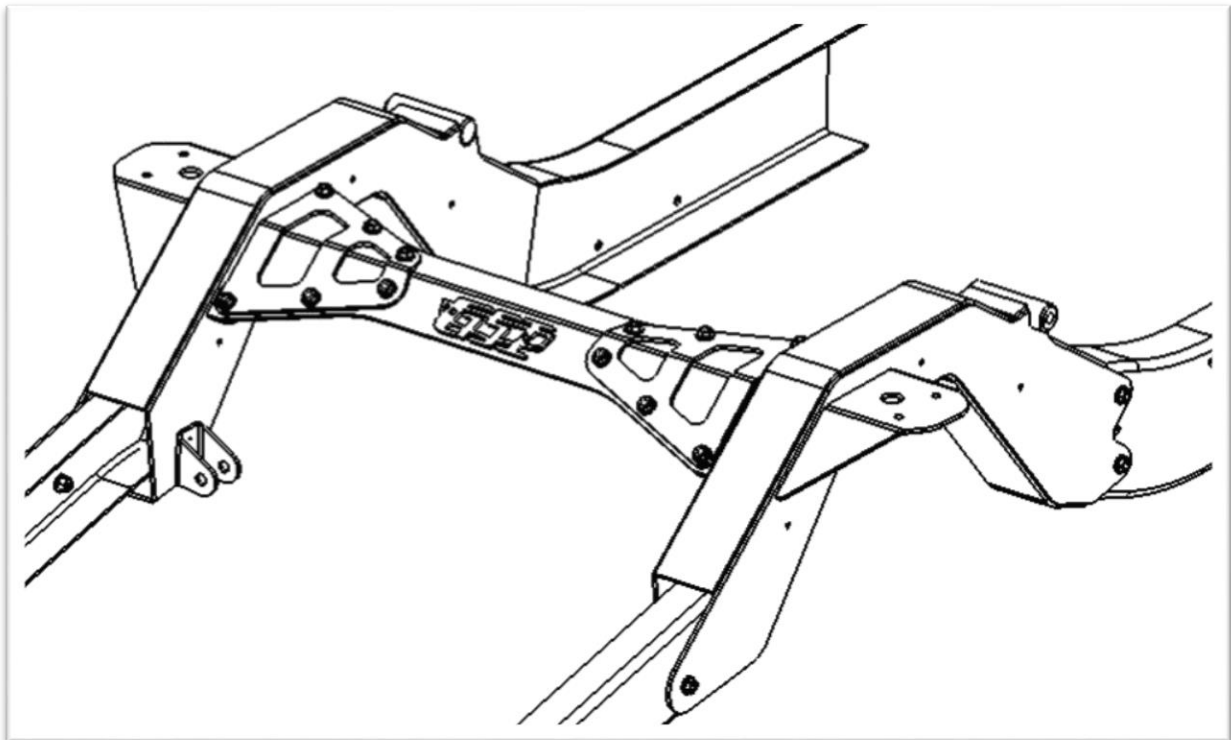


4. LAP WELD NOTCHES TO FRAME ON THE TOP AND OUTSIDES. **DO NOT WELD THE BOTTOM CAPS YET!**
5. ONCE WELDED USE THE INSIDE SURFACES OF THE NOTCH AS A GUIDE TO SAWZALL THE PORTION OF THE FRAME TO BE REMOVED UNDER THE NOTCH AND CUT IT OUT. **DO NOT CUT THE NOTCHES THEMSELVES!**

6. PLACE THE NOTCH BOTTOM CAP STRIP UNDER THE NOTCH, THEN TACK WELD THEM.

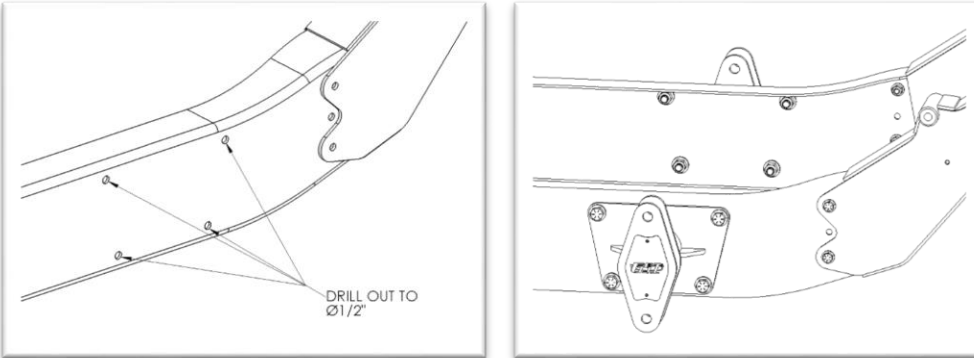


7. STAND BACK, AND ENJOY THE VIEW WHILE LETTING EVERYTHING AIR COOL. QUENCHING THE WELD WITH WATER OR OIL COULD CAUSE THE WELD TO CRACK.

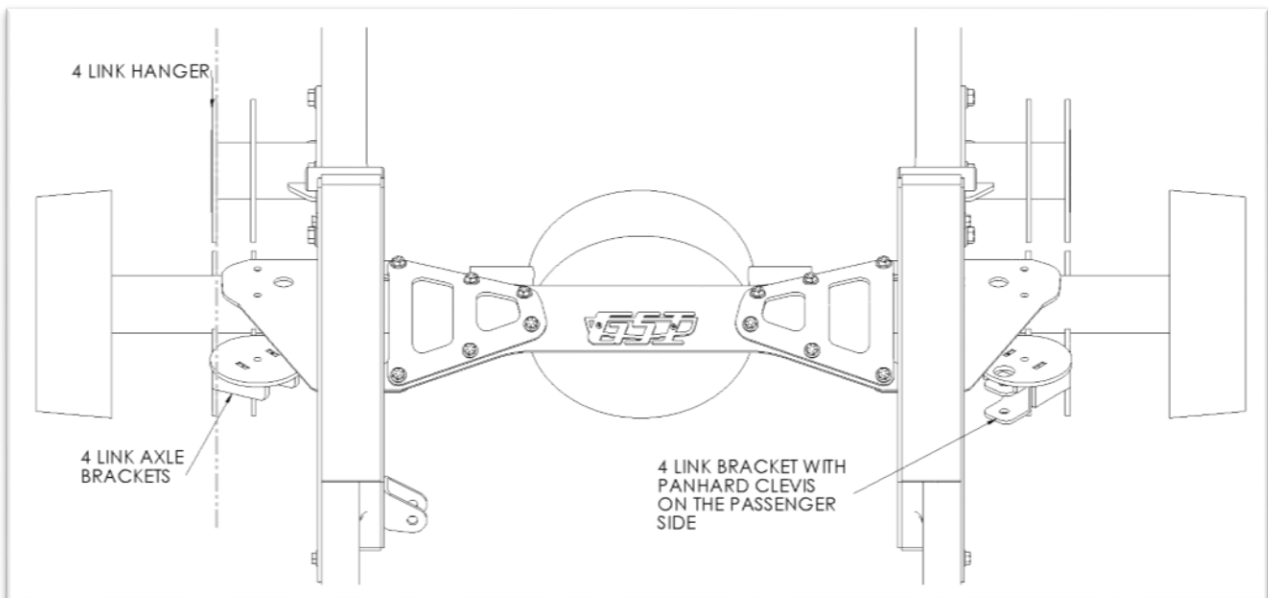


INSTALLATION OF THE 4 LINK

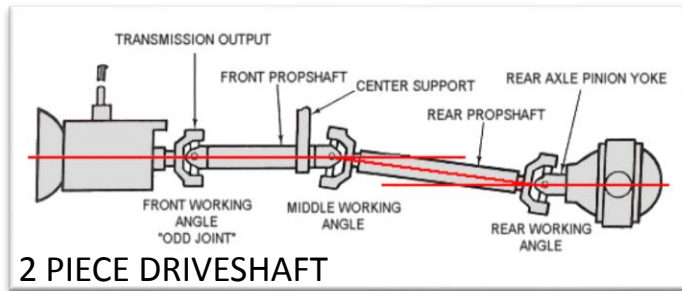
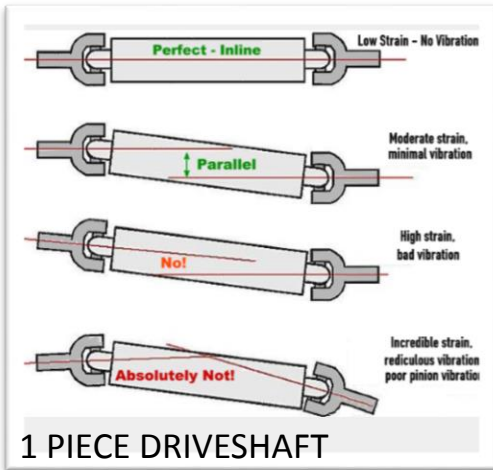
8. REMOVE THE REAR CROSSMEMBER JUST AHEAD OF THE NOTCHES. USE CARE IN REMOVING THE RIVETS AS THEIR HOLES WILL BE REUSED.
9. ONCE REMOVED, DRILL OUT THE OLD RIVET HOLES TO $\varnothing 1/2"$. YOU CAN PLACE THE 4 LINK HANGERS UP TO THE HOLES FOR A GUIDE, BUT DO NOT MODIFY THE HOLES IN THE HANGERS.



10. INSTALL THE 4 LINK HANGERS ON BOTH SIDES TO THE INSIDE OF THE FRAME USING THE $\varnothing 1/2"$ **4 LINK HANGER TO FRAME** HARDWARE. BOTH 4 LINK HANGERS ARE IDENTICAL!
11. CLEAN ALL BRACKETRY OFF OF THE 3" DIAMETER AXLE TUBES. DO NOT ALTER THE CENTER HOUSING (PUMPKIN), OR THE AXLE FLANGES (BRAKE FLANGES) ON THE ENDS FOR THIS INSTALL.
12. **(DO NOT FULLY WELD AXLE BRACKETS YET!)** PLACE THE 4 LINK AXLE BRACKETS ON THE AXLE SO THEY ARE SYMMETRIC ABOUT THE VEHICLES CENTERLINE, AND **INLINE** (SEE DOTTED LINE IN PICTURE BELOW) WITH THE 4 LINK HANGERS (INSTALLED IN STEP 10), SO THAT THE 4 LINK BARS GO STRAIGHT BACK AND PARALLEL WITH THE FRAME.



13. THE 4 LINK IS DESIGNED TO MAINTAIN A CONSTANT PINION ANGLE THROUGH THE TRAVEL OF THE REAR SUSPENSION. THIS IS IMPORTANT TO HELP PREVENT DRIVESHAFT WEAR AND VIBRATION. THE FOLLOWING GRAPHICS SHOW IDEAL ALIGNMENT OF ALL THE COMPONENTS.



IT IS OFTEN RECOMMENDED THAT THE "REAR WORKING ANGLE" OR "PINION ANGLE" IS PARALLEL TO THE TRANSMISSION TAIL SHAFT (OR FRONT DRIVE SHAFT FOR 2 PIECE SHAFTS). THIS IS OFTEN 3° TO 4° (DEGREES). WITH THE AXLE SET AT THE PROPER ANGLE, PLACE A LEVEL ON THE LOWER AIRBAG MOUNT PLATE AND MAKE IT PARALLEL TO THE GROUND.

14. WHEN YOU ARE SURE OF POSITION AND PINION ANGLE, BE SURE TO CLEAN THE AREA ON THE AXLE TO BE WELDED TO BARE METAL AND TACK WELD THE AXLE BRACKETS ON IN POSITION.

NOTES

DO NOT FULLY WELD AXLE MOUNTS. TACK FIRST, AND CONTINUE MOCKING UP 4 LINK BARS, SHOCKS, ETC. FULLY WELD ONLY WHEN SURE EVERYTHING WORKS! GRINDING OFF FULLY WELDED AXLE BRACKETS IS NOT FUN.

•ALSO•

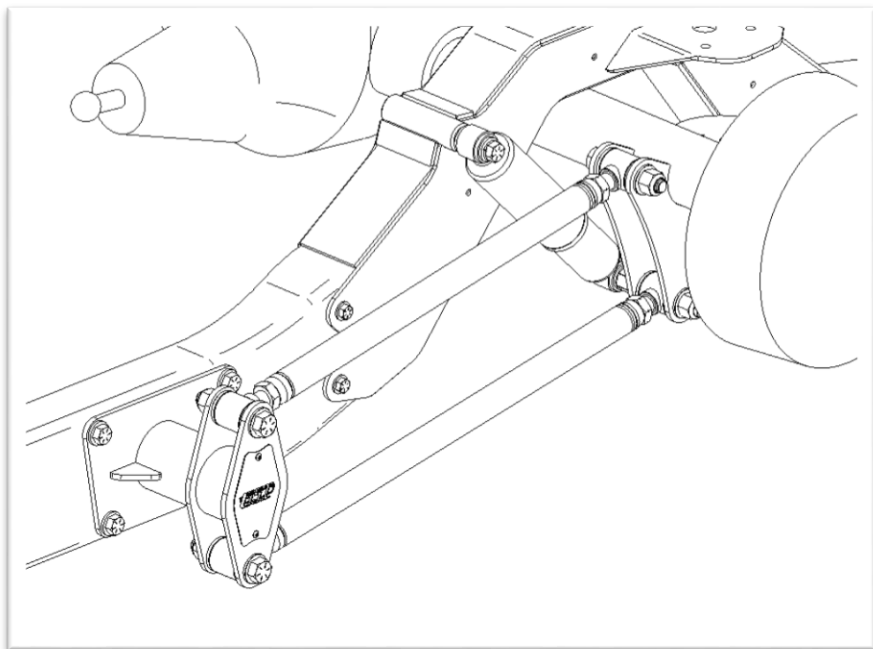
DO NOT WELD THE BRACKETS WITH ANY OF THE ROD ENDS (4 LINK OR PANHARD) INSTALLED. THE HEAT WILL RUIN THEM!

INSTALLING THE 4 LINK BARS AND SHOCKS

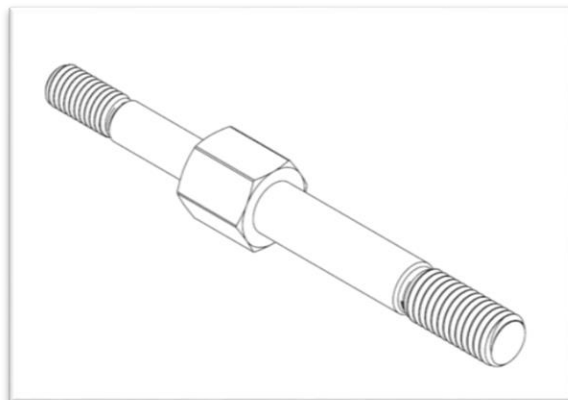
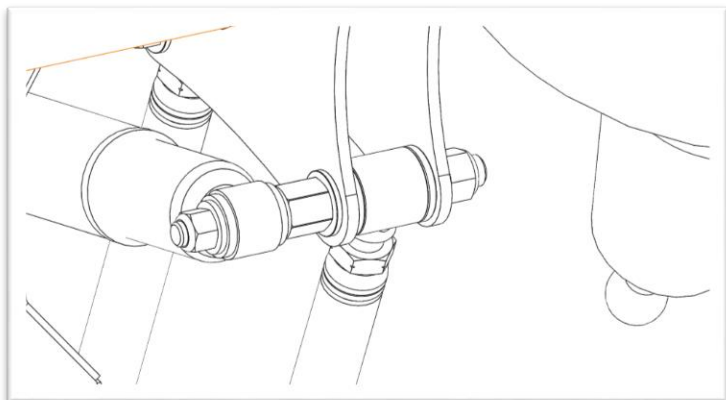
15. BOLT THE SHOCKS TO THE UPPER SHOCK BUNGS USING $\varnothing 1/2"$ **SHOCK HARDWARE**, USE A SPLIT LOCK WASHER!
16. ADJUST YOUR 4 LINK BARS WITH ROD ENDS INSTALLED AS FOLLOWS:
 - a. UPPER 4 LINK BAR SHOULD MEASURE 23.4" INCHES BETWEEN CENTER OF THE ROD ENDS
 - b. LOWER 4 LINK BAR SHOULD MEASURE 26.1" INCHES BETWEEN CENTER OF THE ROD ENDS

NOTE:

DEVIATION FROM THE NUMBERS IN a AND b IS **OKAY** AS LONG AS IT WORKS. EVERY TRUCK INSTALL WILL BE DIFFERENT. THESE ARE THE "DESIGN" LENGTHS. TRY TO BE AS CLOSE TO THESE NUMBERS AS POSSIBLE. A GOOD DOUBLE CHECK IS THAT THE AIRBAG MOUNTS LINE UP PROPERLY WITH THE AIRBAG INSTALLED.

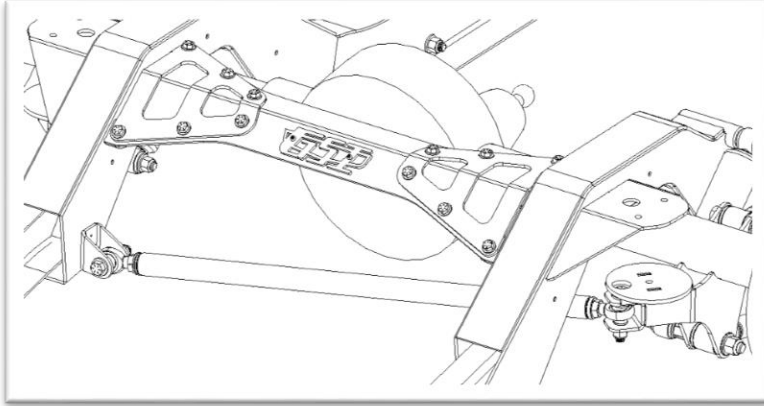


17. INSTALL $\varnothing 5/8$ **4 LINK** HARDWARE INTO ALL OF THE ROD ENDS, FOR THE 4 LINK HANGERS AND THE AXLE BRACKETS.
18. THE 4 LINK MOUNT ON THE LOWER AXLE BRACKETS USE THE **GSI SUPER SHOCK BOLT** HARDWARE KIT. IT IS A CUSTOM MANUFACTURED GRADE 8 EQUIVALENT DOUBLE ENDED BOLT. THE $\varnothing 5/8$ PORTION IS DESIGNED TO HOLD THE LOWER 4 LINK BAR ROD ENDS TO THE AXLE, WHILE THE OPPOSITE $\varnothing 1/2"$ PORTION IS DESIGNED TO SECURE THE LOWER EYE OF THE SHOCK. USE THE SUPPLIED WASHERS AND NYLOCK NUTS JUST AS YOU WOULD WITH ANY BOLT. WASHERS GO ON BOTH SIDES OF THE SHOCK EYES.



INSTALL THE PANHARD BAR

19. MAKE SURE ALL WELDED PARTS ARE COOL BEFORE INSTALLING ROD ENDS!
20. CHECK THAT THE PANHARD BAR IS ADJUSTED TO 32 INCHES BETWEEN CENTER OF THE FK ROD ENDS. LIKE THE NOTE IN STEP 16, THIS IS A “DESIGN” LENGTH. TRY TO BE AS CLOSE TO THESE NUMBERS AS POSSIBLE. INSTALL THE PANHARD BAR COMPONENTS PER THE DIAGRAM BELOW. USE SUPPLIED $\varnothing 1/2$ **PANHARD BAR** HARDWARE.



NOTE:

CYCLE SUSPENSION TO ENSURE ALL LINKAGE WORKS PROPERLY TOGETHER AND FULLY WELD REMAINING TACKED PARTS.

AIRBAGS AND FINAL ASSEMBLY

21. INSTALL AIRBAGS USING Ø3/8 **AIRBAG HARDWARE** **USE THE SPLIT LOCK WASHERS**. 2 ON TOP AND 1 ON BOTTOM. YOU WILL NEED TO INSTALL AIR FITTINGS AS NEEDED FOR YOUR AIR SYSTEM.

22. FINAL CHECK:

- a. DOUBLE CHECK THAT ALL FASTENERS ARE TIGHT.
- b. ENSURE THE REAR SUSPENSION FREELY MOVES THROUGH ITS ENTIRE TRAVEL.

23. FIRST DRIVE:

- a. USE EXTREME CAUTION THE FIRST TIME YOU DRIVE.
- b. PLAN THE DRIVE. STAY AWAY FROM BUSY ROADS AND PLACES WHERE IT IS NOT EASY TO PULL OVER AND PERFORM MAINTENANCE. DO NOT GO ALONE. HAVE A CHASE CAR. STAY CLOSE.
- c. LISTEN FOR ANY UNUSUAL SOUNDS.
- d. PERIODICALLY STOP AND INSPECT THAT ALL HARDWARE IS STILL TIGHT.

ENJOY!