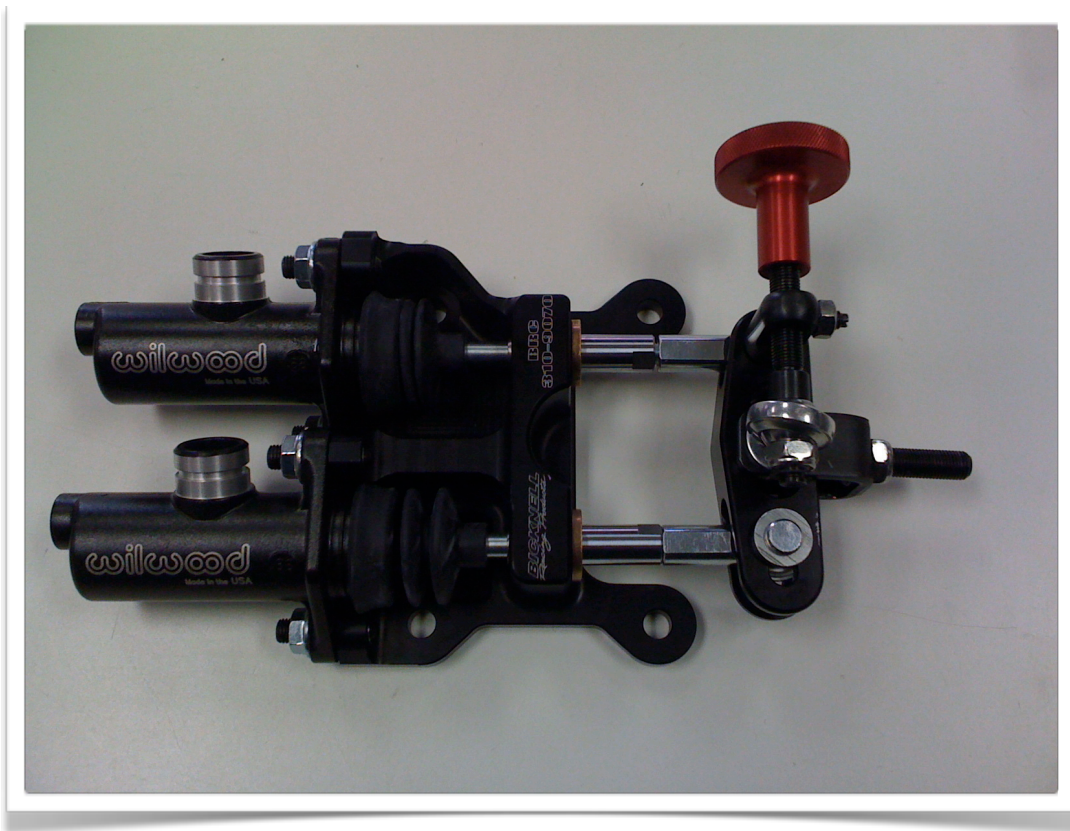


# **BRC 310-9070**

## **HIGH END BRAKE BALANCE BAR**

**January 19, 2010**

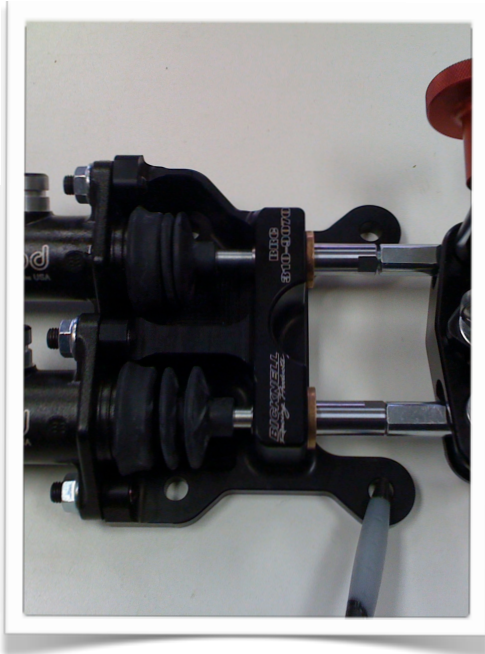


**THANK YOU FOR PURCHASING THIS GREAT NEW PRODUCT FROM BICKNELL RACING PRODUCTS. BY FOLLOWING THESE SIMPLE INSTRUCTIONS, THIS UNIT WILL GIVE YOU MANY SEASONS OF TROUBLE FREE USE.**

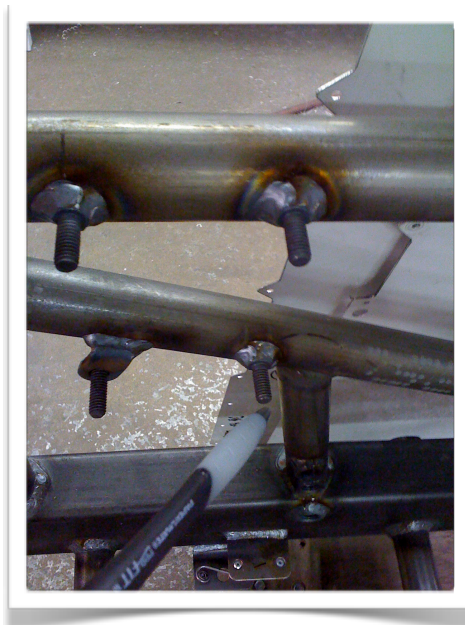
# VERY IMPORTANT

**THIS MUST BE DONE BEFORE INSTALLING BALANCE BAR IN YOUR RACE CAR.**

**SHORTEN THE BOTTOM, FRONT MOUNTING STUD THAT IS WELDED TO YOUR FRAME SO THAT IT IS FLUSH WITH THE END OF THE SHORT NYLOCK NUT PROVIDED WHEN THE UNIT IS INSTALLED AND TIGHTENED DOWN. FAILURE TO DO SO CAN RESULT IN BRAKE FAILURE. PLEASE SEE PICTURE BELOW**



SHORTEN STUD FOR THIS LOCATION



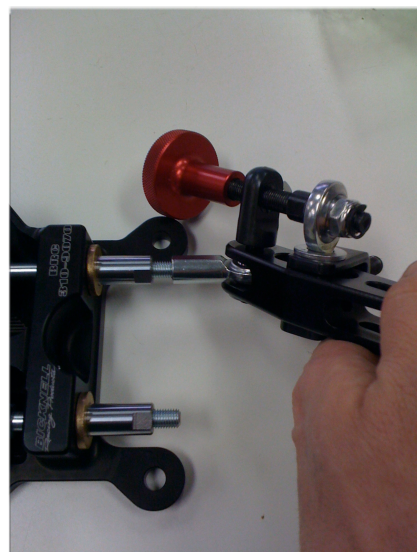
FRONT OF CAR

1. REMOVE THE STANDARD JAM NUTS THAT COME ON THE MASTER CYLINDER RODS. SCREW THE LONG SLIDER BUSHINGS ONTO YOUR MASTER CYLINDERS PUSH RODS. THE FLATS FOR THE WRENCH NEED TO BE AT THE FARTHEST END AWAY FROM THE MASTER CYLINDER BODY. THE TOP MASTER IS FOR YOUR FRONT BRAKES, THE BOTTOM ONE IS FOR YOUR REAR BRAKES. SCREW THE TOP ONE ON SO THAT THERE IS 1/2" TO 5/8" OF THE MASTER CYLINDER PUSH ROD THREADS SHOWING. SCREW THE BOTTOM ONE ON SO THAT THERE IS 5/16" - 3/8" OF THE MASTER CYLINDER PUSH ROD THREADS SHOWING.



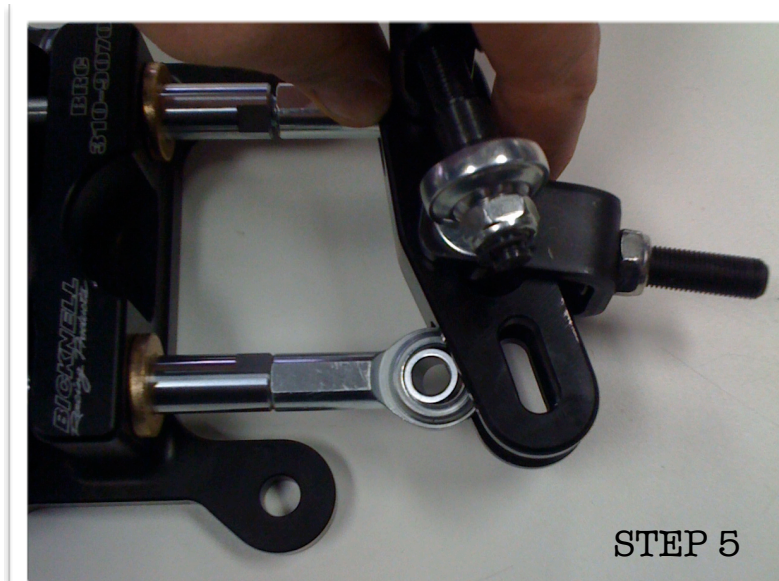
2. SLIDE BOTH MASTER CYLINDERS INTO PLACE AND TIGHTEN THE MOUNTING NUTS. BE SURE TO RECHECK THEM ONCE THE UNIT IS MOUNTED IN THE CAR. **IF AT THIS POINT THE MASTERS RODS DO NOT MOVE IN AND OUT FREELY, LOOSEN NUTS, RE POSITION AND TRY AGAIN. RE TIGHTEN. SOME MASTERS MIGHT BE NOT BE 100% PERPENDICULAR BETWEEN THE FACE AND THE BORE. IF THEY ARE NOT, IT CAN CAUSE A BIND. YOU WILL HAVE TO FILE OUT THE BRONZE BUSHING TO MAKE THEM SLIDE EASILY. DO NOT BE ALARMED IF YOU HAVE TO DO THIS. BUT DO NOT CONTINUE IF IT SEEMS IMPOSSIBLE FOR THESE TO MOVE FREELY IN AND OUT. CALL BICKNELL RACING FOR HELP.**

3. TAKE THE PIVOT BLOCK ASSEMBLY WITH THE BRAKE ROD CLEVIS POINTING FORWARDS AND THE ADJUSTER KNOB POINTING UP AND WIND THE TOP ROD END ONTO THE MASTER CYLINDER ROD. BE SURE THAT THE ROD AND THE BUSHING ARE NOT TURNING. YOU NEED TO MAINTAIN THAT 1/2 TO 5/8 OF THREAD TO SCREW INTO THE ROD END. **FAILURE TO DO SO CAN RESULT IN BRAKE FAILURE.** ONCE YOU HAVE WOUND THE HEIM UP TO THE LONG SLIDER BUSHING, TAKE TWO 7/16 WRENCHES AND LOCK THEM TOGETHER BY TURNING THEM OPPOSITE DIRECTIONS.





4. REMOVE THE CLEVIS PIN THAT HOLDS THE BOTTOM ROD END IN PLACE AND REMOVE THE ROD END. SCREW THAT ROD END ONTO THE LOWER MASTER CYLINDER ROD AND AGAIN MAKE SURE THAT THE RODS AND BUSHINGS ARE NOT TURNING. YOU NEED TO MAINTAIN 5/16" TO 3/8" OF THREAD TO SCREW INTO THE HEIM. **FAILURE TO DO SO CAN RESULT IN BRAKE FAILURE.** ONCE YOU HAVE WOUND THE ROD END UP TO THE LONG SLIDER BUSHING, TAKE TWO 7/16" WRENCHES AND LOCK THEM TOGETHER BY TURNING THEM OPPOSITE DIRECTIONS.



5. NOW SLIDE THE LOWER ROD END BACK INTO ITS SLOT IN THE PIVOT BLOCK. THE PIN GOES IN FROM THE TOP SIDE WITH TWO WASHERS ON THE TOP AND ONE WASHER AND A COTTER PIN ON THE BOTTOM. BEND THE COTTER PIN ALL THE WAY AROUND SO THAT IT WILL NOT FALL OUT OR INTERFERE WITH ANY MOUNTING BOLTS, STRAPS, LOOSE CLOTHING ETC.. HOLD THE TOP OF THE PIN WITH A PAIR OF PLIERS IF NEEDED TO ASSIST IN PROPER BENDING OF THE COTTER PIN.



NOTE 2 WASHERS ON TOP

6. NOW THAT THE UNIT IS ASSEMBLED, MAKE SURE TO LIGHTLY LUBRICATE THE ADJUSTER ROD AND THE SLIDER BUSHINGS AND BRONZE BUSHINGS. DO NOT SATURATE IN OIL AS THIS WILL DO NOTHING MORE THAN COLLECT DUST AND DIRT. TOO MUCH OF A LUBRICANT WILL NOT MAKE IT BETTER!!!

7. BEFORE INSTALLING THE COMPLETE UNIT IN THE CAR, **DOUBLE CHECK ALL HARDWARE TO ENSURE IT IS TIGHT AND FREE OF BINDS. MAKE SURE ALL SAFETY CLIPS AND COTTER PINS ARE IN PLACE. DO NOT OVER TIGHTEN DETENT PIN, JUST MAKE SURE THAT THE ¼ NUT IS TIGHT. IT IS PRESET FROM FACTORY. OVER TIGHTENING WILL RESULT IN PREMATURE WEAR OF SHAFT AND OR IMPAIR BIAS ADJUSTMENT.**

8. MAKING SURE YOU HAVE SHORTENED THE MOUNTING STUD IN STEP 1, YOU ARE READY TO INSTALL THE UNIT IN THE CAR. YOU MAY HAVE TO ADJUST THE LENGTH OF YOUR BRAKE ROD OR REPLACE IT WITH A LONGER ONE. YOU NEED TO MAINTAIN ½” OF THE CLEVIS THREADED INTO THE BRAKE ROD. **FAILURE TO DO SO CAN RESULT IN BRAKE FAILURE. THIS UNIT WILL NOT REQUIRE TWO ROD ENDS ON YOUR BRAKE ROD.**

REMOVE THE RIGHT HAND MALE ROD END AND SCREW YOUR BRAKE ROD DIRECTLY ONTO THE PUSH CLEVIS THAT IS SUPPLIED ON THE UNIT AFTER YOUR PROPER LENGTH HAS BEEN DETERMINED. **IT IS VERY IMPORTANT TO MAKE SURE THAT YOUR BRAKE ROD IS IN LINE WITH THE MASTER CYLINDER RODS. IT CANNOT BE POINTED LEFT OR RIGHT. IT WILL BIND IF IT IS NOT RUNNING PARALLEL TO THE MACTER CYLINDER RODS**

**IT IS VERY IMPORTANT TO MAKE SURE THAT YOUR BRAKE ROD IS IN LINE WITH THE MASTER CYLINDER RODS. IT CANNOT BE POINTED LEFT OR RIGHT. IT WILL BIND IF IT IS NOT RUNNING PARALLEL TO THE MASTER CYLINDER RODS. IF NEEDED YOU CAN ADD SPACERS BEHIND THE ROD END ON THE BRAKE PEDAL TAB. IF IT BINDS THE BALANCE BAR WILL NOT WORK PROPERLY. FAILURE TO COMPLETE THIS STEP MAY RESULT IN BRAKE FAILURE. SEE PICTURES BELOW**



TOP VEIW  
FRAME, MASTER CYLINDER RODS  
BRAKE ROD ALL RUNNING PARALLEL

9. USE A THREAD LOCKING COMPOUND ON THE 4 MOUNTING STUDS AND TIGHTEN THE 4 NYLOCK NUTS.

10. ONCE EVERYTHING IS IN PLACE AND TIGHT, CHECK TO MAKE SURE YOU DO NOT HAVE ANY BINDS AND THAT ALL MOVING PARTS MOVE IN AND OUT FREELY. AFTER WORKING THE PEDAL UP AND DOWN A FEW TIMES, MAKE SURE THE MASTERS ARE RETURNING ON THEIR OWN. IF NOT, LOOSEN THE 2 MOUNTING BOLTS THAT HOLD THE MASTERS ONTO THE BALANCE BAR SLIGHTLY, WORK THE PEDAL AGAIN TO LET THE MASTERS SELF CENTER THEMSELVES, THEN RE- TIGHTEN THE MOUNTING BOLTS AGAIN.

11. BLEED YOUR BRAKES AS YOU NORMALLY WOULD.

12. REMEMBER THAT THE SETTINGS ARE STARTING RECOMMENDATIONS. IF YOU NEED TO ADJUST YOUR ROD LENGTH SO THAT THE PIVOT BLOCK SITS STRAIGHT UP AND DOWN WHEN BRAKE PEDAL IS DEPRESSED. TO ADJUST THE LENGTHS YOU CAN CRACK THE SLIDER NUTS LOOSE FROM THE ROD ENDS AND TURN THE RODS FROM THE BACKSIDE WITH A PAIR OF PLIERS. SEE PIC. MAKE SURE TO RE TIGHTEN THEM AFTER ADJUSTING

13. WEEKLY MAINTENANCE.

**MAKE SURE TO WEAR SAFETY GLASSES.**

**DO NOT POINT COMPRESSED AIR AT ANY PARTS OF YOUR BODY**

BLOW OFF ALL LOOSE DIRT WITH COMPRESSED AIR.

USE BRAKE CLEAN TO BREAK ANY CAKED ON DIRT AND GRIME FREE

ONCE CLEANED, LIGHTLY LUBRICATE AS DESCRIBED IN STEP #6.

DO NOT WASH CAR AND LET UNIT SIT WITH WATER ON IT. IF IT RUSTS, IT WILL NOT WORK PROPERLY.

BEFORE MOVING VEHICLE, ALWAYS MAKE SURE THAT PARTS ARE FREE AND WORKING PROPERLY AND THAT BRAKES ARE WORKING WHEN APPLIED. IT IS YOUR RESPONSIBILITY TO HAVE PROPERLY WORKING BRAKES BEFORE YOU DRIVE ANY MOTORIZED VEHICLE AT ANY TIME.