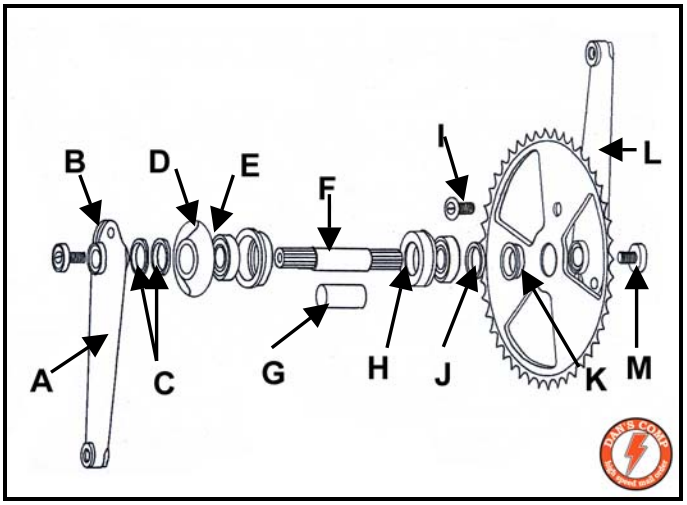
# Poverty POW Three-Piece Crank Install




**Included Parts**

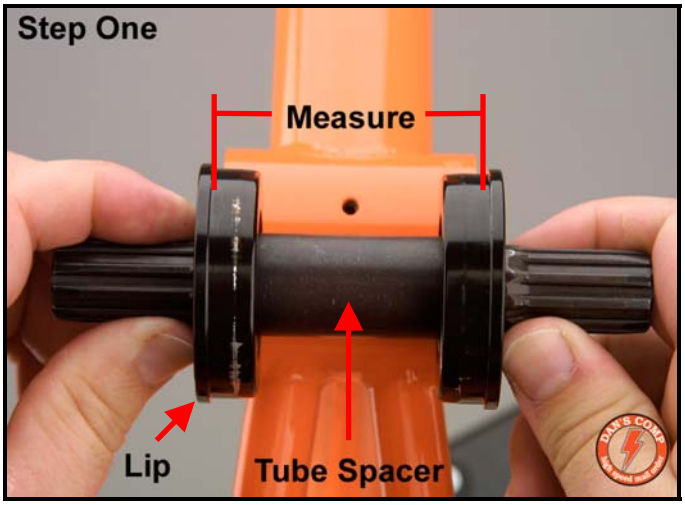
A. Left Crank Arm
B. Pinch Bolts *(Qty 2)*
C. 1,2,3mm Alignment Spacers *(Qty 2 each)*
D. 7mm Cone Spacer
E. Sealed Bearings *(Qty 2)*
F. Chromoly Spindle
G. Internal Tube Spacers (49mm & 51mm)
H. Bearing Cups *(Qty 2)*
I. Chainwheel Bolt
J. 5mm Flat Spacer
K. Chainwheel Adapter
L. Right Crank Arm
M. Spindle Bolt *(Qty 2)*

***Poverty POW three-piece cranks. Part # 451048***

**Tools Needed**

1. Wooden or Rubber Mallet
2. Universal Crank Arm Puller*
3. Grease or Light Oil
4. 3 Way Allen Wrench (4,5,6mm)*
5. File or Sandpaper
6. 8mm Allen Wrench


**** Tools used from the Professional tool kit. Part # 811110***
***Park PCS-1 Home Work Stand Part # 811356***
***Phil Wood grease 3oz. Tube. Part # 811195***




**Measuring the Frame**

- Place the short tube spacer *(49mm)* on the spindle.
- Slide both of the sealed bearings on the spindle, one on each end. Do not use any alignment spacers *(See picture)*.
- Place the assembly against the bottom bracket tube. The lip on the bearing cups should be against the ends of the bottom bracket tube. If the tube spacer is too short, replace the tube spacer with the longer spacer *(51mm)*. If the spacer is too long, you can either grind one end of the spacer to the desired length or use the short spacer along with one or two of the thin alignment spacers.
- It is very important that the tube spacer is installed and is the correct length to avoid over side loading the bearing when torquing the spindle bolts.

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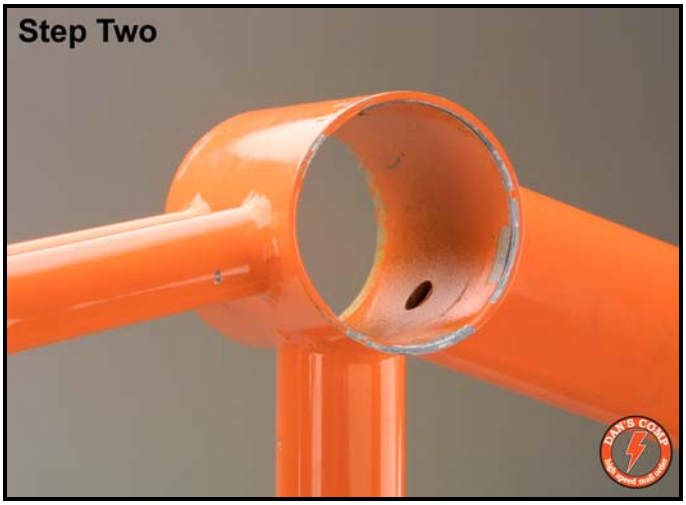


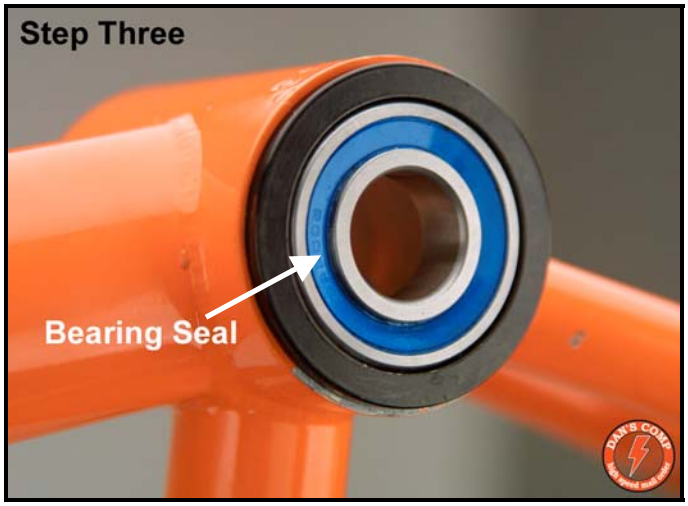

**Preparing the Frame**

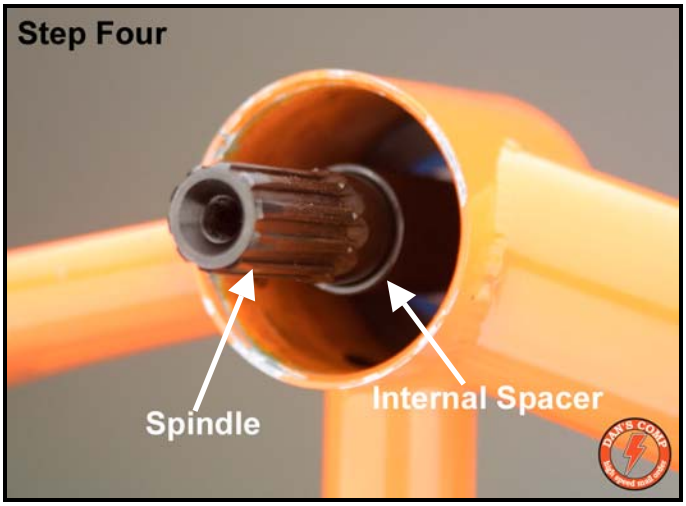
- If you are replacing an existing crank, be sure to remove the old bearing cup.
- Inspect the inside surface of the bottom bracket tube. Use a piece of fine sandpaper to remove any dirt, grit or paint which would prevent the bearing cups from pressing into the frame smoothly.
- Use a small amount of grease or light oil to lubricate the inner surface of the bottom bracket tube.

**Installing the Right Cup and Bearing**

- Press the right cup and bearing into the frame using a bearing cup press. You can also use a wooden or rubber mallet if you do not have a bearing cup press.
- Lay the frame on a workbench or something strong to support it while installing the bearing.
- Be careful not to damage the bearing by directly hitting the bearing seal *(See picture)*.
- Make sure the bearing cup is pressed in completely against the bottom bracket tube. There should be no gap between the frame and the bearing cup.

***Note: The bearing cup should fit tight into the frame. This prevents the bearing cups from shifting while riding.***




**Installing the Spindle and Tube Spacer**

- Lightly lubricate the outer surface of the spindle. This allows the spindle to slide into the bearing easier.
- Slide the spindle into the bearing until all of the splines are exposed. The spindle has three grooves on one end, this end goes through the right bearing.
- Slide the inner internal tube spacer over the spindle until it stops against the inside of the bearing *(See picture)*.
- If the internal tube spacer is the correct length, the left bearing cup and the frame should have approximately a 1mm gap.

***Note: The drive side end of the spindle has three grooves. The splines are longer on this end for the chainwheel.***

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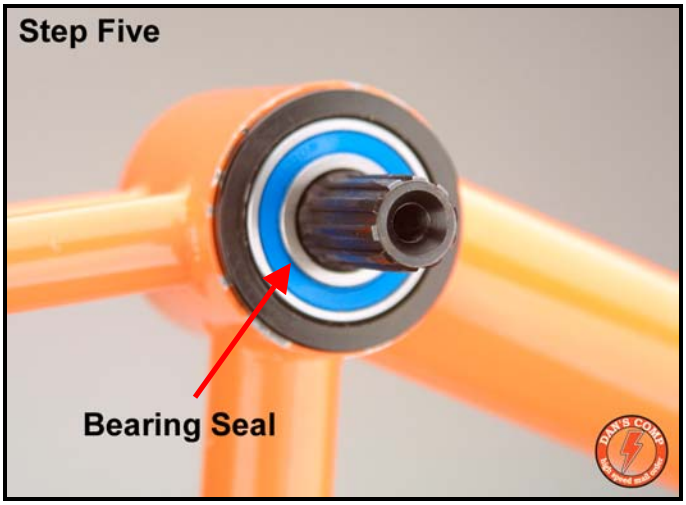
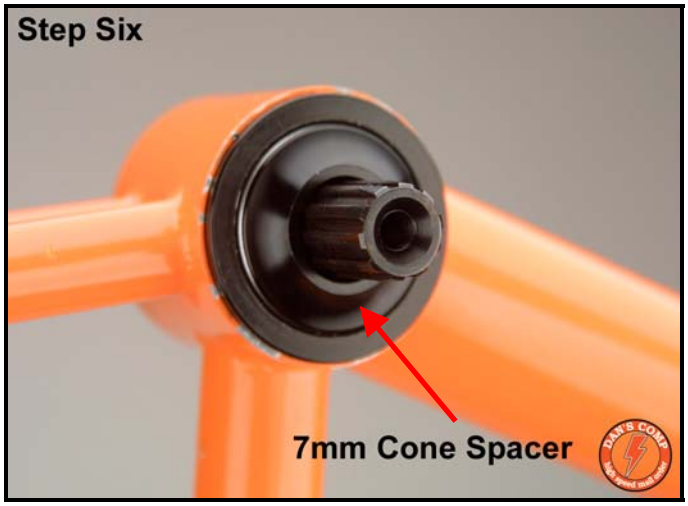


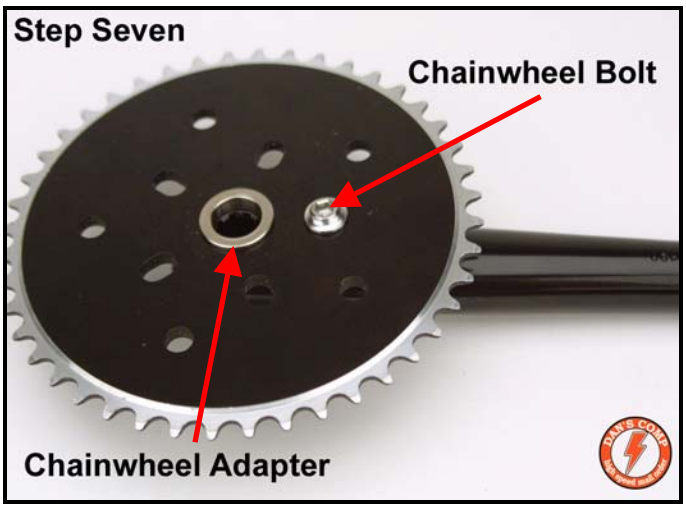

**Installing the left cup and bearing**

- Install the left cup and bearing. Do not use a bearing cup press. Use a wooden or rubber mallet.
- Lay the frame on a workbench or something strong to support it while installing the bearing.
- Be careful not to damage the bearing by directly hitting the bearing seal *(See picture)*.
- Be sure to leave the spindle and tube spacer in the right bearing. This will keep the internal tube spacer aligned and allows the left bearing and cup to go in straight.
- There should be approximately a 1mm gap between the edge of the bottom bracket tube and the lip on the bearing cup. This will keep the bearings from binding when the crank arms are installed onto the spindle and tightened.

**Installing the Alignment Spacers on the Spindle**

- Slide the 5mm flat spacer onto the right side *(Drive side)* of the spindle. The recessed side of the spacer faces out to allow for a chainwheel adapter.
- Slide the 7mm cone spacer onto the left side *(Non-Drive side)* of the spindle. The tapered side faces out.




**Installing the Chainwheel**

- Measure the spindle hole in your chainwheel. If the measurement is 15/16", you will need to install a 15/16" to ¾" adapter (included). If the measurement is 7/8" (22mm), you will need to a 7/8" to ¾" adapter (not included). If the measurement is ¾"(19mm), you do not need an adapter.
- If a chainwheel adapter is needed, install it in the backside of the chainwheel.
- Lubricate the threads of the chainwheel bolt.
- Line up the bolt hole on the right crank arm and the chainwheel.
- Thread the chainwheel bolt into the crank arm with a 6mm allen wrench. Do not tighten completely.

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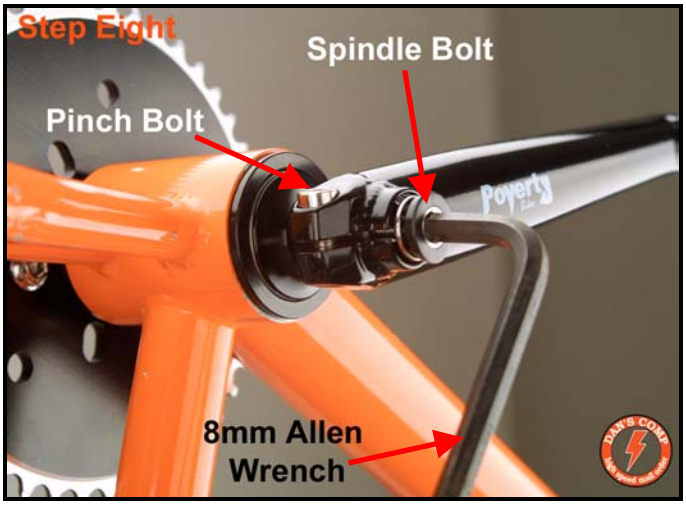


**Installing the Crank Arms**

- Loosen the pinch bolts on the crank arms with a 6mm allen wrench. This may help the arms slide on the spindle easier *(See picture)*.
- Lightly lubricate the splines on the spindle.
- Slide the left and right crank arms onto the spindle. If the arm does not slide on easily, use a wooden or rubber mallet and lightly strike the splined area of the crank arm. Make sure the two arms are installed in opposite directions
- Lightly lubricate the spindle bolts and thread into the ends of the spindle. Use an 8mm allen wrench to tighten the spindle bolts. This may also help pull the arms onto the spindle completely. Make sure the spindle bolts don't bottom out on the spindle.
- Spin the crank arms as you are tightening the bolts to check the clearance between the chain stays of the frame and the end of the crank arm. There should be a minimum of 5mm clearance between the chainstays of the frame and pedal boss.
- You may need to install additional alignment spacers between the crank arms and the bearings. If so, pull the crank arm back off of the spindle. You may need to thread a Universal Crank arm removing tool into the crank arm.

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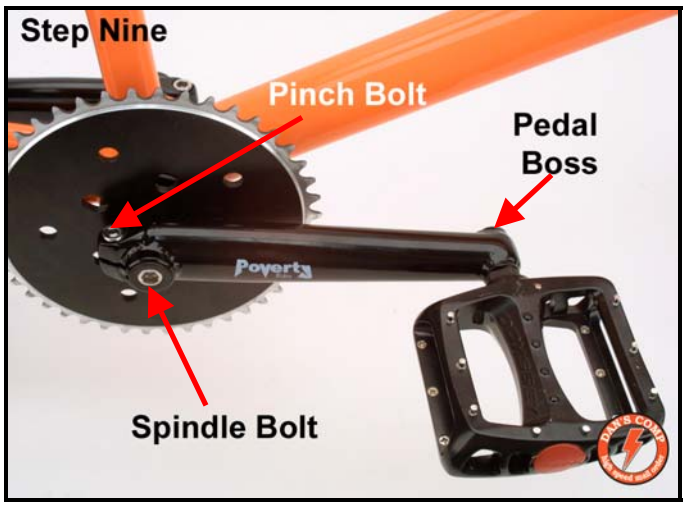
**Last, but not least…**

- Tighten the chainwheel bolt completely with a 6mm allen wrench.
- Tighten both pinch bolts completely with a 6mm allen wrench.
- Install your pedals. Look for the "**R**" or "**L**" on the ends of the spindles. The "**R**" indicates the right pedal and the "**L**" indicates the left pedal. The left pedal has reversed threading. Be sure you thread the correct pedal into the correct pedal boss.

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