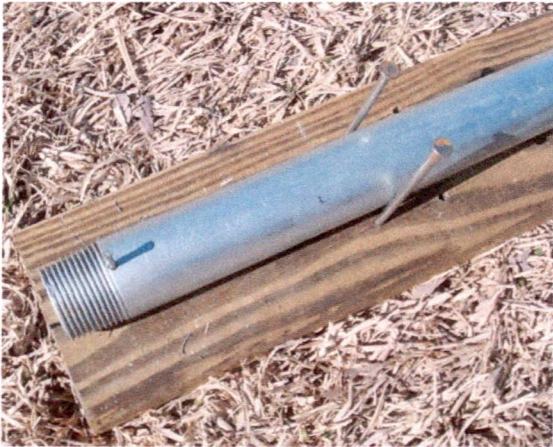


# Additional Information for Drilling Holes in the Telescoping Poles

Updated August 3, 2010

Pictures to help understand the 2 X 4 Hole Marker Method:

1



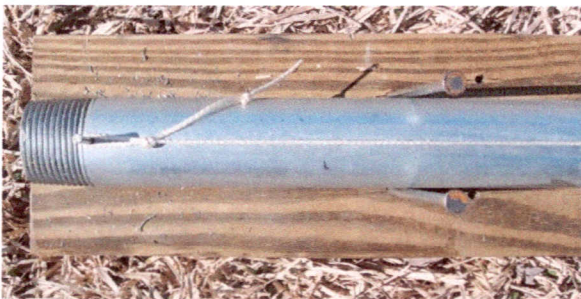
Drive 2 nails at each end of pipe to hold pipe on the board.

2



Estimate top dead center 1" from end of pipe and drill a hole. Mark estimated center of pipe on bottom of pipe and mark on wood also. This will serve as markings when you rotate pipe. Do this on both ends of pipe. After drilling hole on top rotate 180 degrees to match line on bottom and drill another hole.

3



Drive small nails in holes at end of pipe and tie loops at the end of a string and stretch down the pipe from nail to nail. This gives a center line all the way down the center of the pipe.

4



Use tape measure to mark hole centers. Measurement starts at the end of the pipe threads. After marking hole centers on one side, rotate pipe and mark on the other side also. Do not attempt to drill the hole thru both sides of the pipe at one time. It is very difficult to get it correct by that method.

# Improved Push Rod for Two Stage JUMP

Updated August 3, 2010

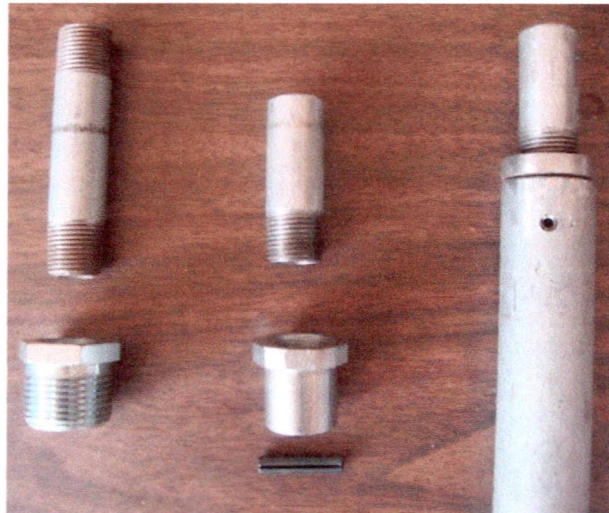
This improvement will keep the  $\frac{3}{4}$ " rigid coupling on the top of the Push Rod from hanging up on the  $1\frac{1}{2}$ " Rigid Coupling of the outer pole.

On the Push Rod top unscrew the  $\frac{3}{4}$ " X  $\frac{3}{8}$ " Bushing and  $\frac{3}{8}$ " Nipple (together) from the  $\frac{3}{4}$ " Rigid Coupling. Unscrew the  $\frac{3}{4}$ " Rigid Coupling from the top of the Push Rod. Hack saw off the threaded portion of the top of the Push Rod and dress the internal edges with a round file to remove any burrs. File the outer threads of the  $\frac{3}{4}$ " Bushing down until the Bushing and Nipple fit into the  $\frac{3}{4}$ " pipe. It should be tight enough where you need to tap it in with a hammer without hitting extremely hard. After seating the Bushing in the  $\frac{3}{4}$ " pipe, drill a  $\frac{3}{16}$ " hole all the way thru the pipe and Bushing. Drive a  $\frac{3}{16}$ " X 1" Tension Pin thru the hole. Tension Pin is available at Ace Hardware for about 37 cents. If you cannot find the Tension Pin, contact me and I will send you one. This improvement will make the Push Rod  $1\frac{3}{4}$ " shorter which will raise the height of the Jack and Jack Support by  $1\frac{3}{4}$ ".

If you are building a new JUMP, disregard the original instructions for the Push Rod tip and make the Push Rod tip as shown here.



Original Push Rod Tip



Improved Push Rod Tip