

Cross Steel



## ***Rack & Pinion*** INSTALLATION INSTRUCTIONS

Our rack and pinion kit is designed to replace traditional cross steering that utilizes original, or aftermarket steering boxes (such as Vega). Frames that have been modified or applications that we have not cataloged must be measured to assure proper fit and function.

### **1) EXAMINE YOUR EXISTING STEERING**

Before starting the rack and pinion installation, examine your existing steering, to assure that your suspension was correct to begin with. Figure A and C show the drag link rods in their proper location. Note that each is parallel to the axle and to each other, and each is equal height from the ground. If these bars are not as pictured, steps should be taken to position the new mounting bracket so that they are as pictured.

The mounting bracket was developed using several chassis manufactures specifications, this does not mean that there aren't slight differences from one to the other. The bracket in our standard kit is made with a 96 degree angle between the frame and the axle. You should verify this dimension before installing the bracket (see figure B).

### **2) REMOVE EXISTING STEERING**

Before removing any components position the cars front wheels and steering wheel in the straight ahead position. Secure the wheel so it does not move (tying a rope to the wheel and fastening it to a stationary object). Measure the distance between the inside of the front wheel (back of the rim, half up from the ground) to the frame on both sides of the front end. Use these measurements as a reference, as to the wheels being straight. Remove right side outer tie end (use a puller). Unbolt steering box, and remove it and the tie rod tube. Remove the old tie rod ends from your tie rod tube and the pitman arm. Determine which of these has left hand thread and use it with the new rack. (Unless replacing)

### **3) RACK AND PINION INSTALLATION**

The rack and pinion will be in its center position when it is purchased. A paint mark indicates this position. Bolt rack and bracket back in the same spot the old steering box was, or position the bracket in the desired location and attach to the rail by welding or bolting. Screw the outer tie rod and jam nut in the tie rod tube until it stops. Equally adjust the tie rod tube so that there is the same amount of threads showing on both the inner and outer end, and the outer end stud is in line with the steering arm hole. Insert the outer tie rod in the steering arm and torque castle nut to normal specifications.

Check toe measurement taken earlier. If measurement is different adjust tie rod tube until it is the same as earlier. Locktite and tighten both jam nuts.

#### 4) SHAFT INSTALLATION

Install female coupler and tighten pinch bolt slightly snug. Insert splined shaft into coupler. Compare the length with your old steering coupler or u-joint. If the new shaft is longer than what you had, calculate the difference, remove the shaft from the coupler and trim to size. Reinstall shaft into the coupler and check for fit. Remove shaft and coupler (keep together). With a 1/4" drill bit, drill a hole thru the coupler and shaft approximately a 1/2" from the top of the coupler, and as close to the center as possible. (Best to do in a drill press). Drive the 1/4" roll pin provided into the drilled hole. Then drive the 1/8" roll pin provided into the 1/4" roll pin. Install the shaft and coupler on the rack and pinion and torque the pinch bolt to 20ft lbs.

