

## **Instructions for Installing the Kugel IFS on 1935 –1940 Ford Chassis**

1. Begin your installation by setting up your chassis on stands at ride height and at the desired rake. NOTE: If you wish to keep your stock crossmember in place, just trim off the rear lip. On the 1940 Ford and some other models, there are rivets on the bottom side of the frame rails that must be ground off to fit the Kugel IFS close to the rails.
2. Position main Kugel IFS crossmember inside frame rails using the drawing on the next page as a guide, some trimming may be necessary. The frame must be boxed from the stock front crossmember back 12-16 inches. Reinstall main crossmember, check for position, ensure crossmember is level to the ground or leaning back  $1^{\circ}$  to  $2^{\circ}$  is okay, side to side and front to back, tack weld in place.
3. Assemble the lower a-arm to the crossmember using the hardware supplied. Set lower a-arm level to the ground (ride height position).
4. The upper a-arm support/a-arm assembly should be positioned on the frame for the next step. Check that the upper a-arm is parallel to the lower a-arm (as viewed from above), some trimming of support sides may be necessary. Bolt the spindle assembly/rotor between the a-arms (ball joints). The upper support sits on top/outside of the frame and must be aligned with the main crossmember, as viewed from above. \*Upper a-arm pivots centerline must be  $5\frac{1}{2}$ " wider than lower pivot centerline.  $2\frac{3}{4}$ " each side.
5. The eccentric adjusters should be turned using main a-arm bolts until the rotor is perfectly upright using a camber gauge or level until bubble is central. Some trimming of upper support sides may be necessary before tack welding in place. Once tack welded in place the camber can be adjusted until the rotor is set at  $0^{\circ}$  to  $\frac{1}{4}^{\circ}$  positive camber. NOTE: Most adjustment is positive and allows for future wear.
6. Repeat above steps for other side.
7. Double check your measurements again, check the levelness of the crossmember again and also check the crossmembers squareness to the chassis by comparing diagonal measurements. This would also be a good time, if you can, to put a fender on the frame and wheels & tires on the front end. Sit the car at ride height and look at where the tire is in the wheel well. Now would be the time to move it forward or backward, or up or down. When you are satisfied that the Kugel IFS is square, level, and in the proper place, finish weld.
8. Install the rest of the suspension parts on the crossmember. This completes the installation! You can now plumb the brake lines as best suites your application, and hook up your rack-and-pinion steering, using u-joints and splined shafts.
9. When you reassemble IFS:  $2^{\circ}$  to  $3^{\circ}$  positive caster (each side),  $0^{\circ}$  to  $1/4^{\circ}$  positive camber each side, and 1/16-inch to 1/8-inch toe in.

## Swaybar Installation

Assemble upper and lower a-arms onto crossmember (do not install shocks). Lay bare swaybar against the back side of the crossmember and rest on lower a-arm. Place swaybar pillow blocks and bushings onto swaybar and bolt to crossmember using Allen screws provided. Install shocks and springs. Tighten shock extension bolts to lower shock mounts, place heim ends in position on swaybar and lower mount and tighten all hardware.

## A-Arm Assembly

Upper a-arm eccentric adjusters are installed into the crossmember before the a-arm can be assembled on the crossmember. Short eccentric must go in the front of the crossmember. The shims are used to change the caster angle. More shims to front decreases caster. Do not leave out shims, remove from front and place in rear (increases caster) or vice versa. The set screws in the eccentric should tighten onto the a-arm bolt, these screws should be in line. Make sure they are tightened down on the flats machined in the bolts. The bolt can then be turned to increase/decrease camber. Once camber is set, hold onto head of bolt with wrench and tighten nut to about 95 foot lbs.

## Spindle Assembly

The spindle assembly comes already to go. Bearings are greased, seals are in and calipers are shimmed. Simply place spindles on lower a-arm, then upper a-arm. Tighten castle nuts on ball joints and insert split pin. Now center the steering rack and install tie rod ends. Check for proper toe-in, then tighten castle nuts and insert split pin.

## Settings

- 0° - 1/4° POSITIVE CAMBER (top of wheel tilt out)
- 2° - 3° POSITIVE CASTER (top of spindle tilt back)

Retighten upper a-arm nyloc nut. Check all hardware and tighten as necessary. Set toe in using tie rod ends.

## Setting

