

1928-1934 Independent Front Suspension

Installation Instructions

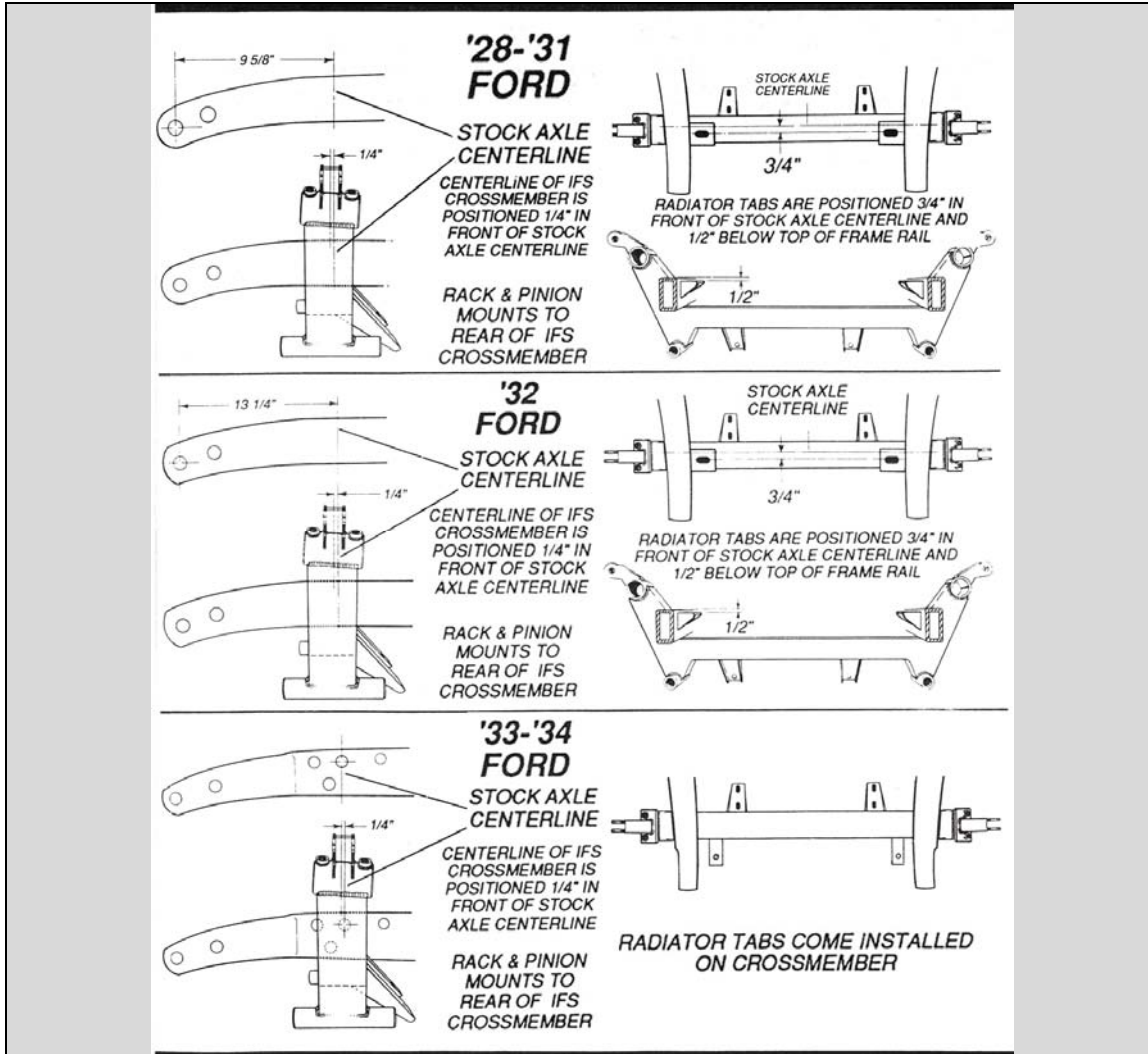
1-800-984-0223

www.totalcostinvolved.com

**PLEASE READ THESE INSTRUCTIONS THOROUGHLY BEFORE
BEGINNING INSTALLATION...**

The installation of Total Cost Involved Independent Front Suspension unit may appear complicated, but it is really very simple. Because T.C.I has engineered all the correct angles and geometry into the cross member itself, all that's required are a few careful measurements to locate the cross member correctly on your chassis before welding it into position. If you are installing the IFS unit onto a stock frame, there is some work involved in preparing the frame for installation, but the remainder of the job can be accomplished with everyday hand tools. WE recommend that all welding be performed by a qualified welder. We also recommend that you have the alignment checked at a front end shop when you are finished. If you have any questions please do not hesitate to call T.C.I. at 909-984-1773.

The installation procedure is the same for all '28-'34 chassis, but the location measurements differ. Please be sure to use the correct dimensions from the diagram for your particular car.



1. PREPARING THE FRAME

- Remove all of the old steering and suspension components
- Tack weld two braces to the top and bottom of the frame rails behind the original cross member to insure that frame rails do not move
- Remove original cross member by drilling out the rivets
- Box the frame rails and weld up the rivet holes left by the original cross member
- Finish grind all welds

2. INSTALLING THE IFS CROSS MEMBER & RADIATOR TABS

- Mark stock axle centerline on the frame rails as per diagram at right that applies to your chassis
- Fit IFS cross member squarely on rails, top and bottom, with the centerline of the cross member located $\frac{1}{4}$ ' forward of the stock axle centerline.
- Tack weld IFS cross member to boxed frame rails
- Recheck all measurements. (Check measurements diagonally to check for square ness).
- Weld cross member to rails on all sides
- Weld radiator tabs in position as per diagrams

3. INDEPENDENT SUSPENSION ASSEMBLY

- Install lower control arms onto cross member. The lower arms are identical, so there is not a left or a right
- Install the coil-over shocks
- Install the upper control arms with the eccentric onto the cross member
- Install the spindle, brake rotor assembly (assembly comes with bearings packed and seals installed) to the ball joints with the caliper brackets and steering arms facing the rear
- Install the rack & pinion steering gear

4. SETTING RIDE HEIGHT

- With full car weight on suspension. Lower control arm pivot should be $\frac{1}{2}$ ' to 1" lower than the center of the ball joint sleeve. To adjust, jack up the car to remove the weight and then turn the lower rings on the coil-overs. The lower control arms will angle slightly uphill towards the wheels when properly set

5. SETTING CAMBER

- Loosen set screw locks on eccentric housing
- Rotate eccentric by inserting the provided tool or an equivalent $\frac{1}{4}$ " diameter object (Phillips screwdriver) into the hole on the side of the eccentric. Rotating eccentric is easier with car jacked up, but camber must be checked at ride height.
- Camber should be set at $\frac{1}{4}$ " negative

6. SETTING CASTER

- With set screw locks still loose, caster is set by sliding eccentric slightly fore or aft within it's housing. Gentle tapping with a soft hammer may be required.
- Set caster at 1 1/2° positive, making sure that both left and right sides are set the same. If using power rack add 3° more positive caster
- Tighten set screws to lock in caster and camber settings

7. SETTING TOE-IN

- Set toe-in by adjusting the tie rod ends on the rack & pinion steering gear
- Toe-in should be set at 1/32" for radial tires and 1/16" to 1/18" for bias-ply tires

Rack & Pinion Installation

Before installing the Rack & Pinion to the chassis, it is necessary to center the rack. You can accomplish this by turning the R&P spline shaft so that it is locked to one side. Put a reference mark on the splined shaft and the R&P body. Next count how many revolution it requires to complete it from lock to lock position. Once you have determined the total number of revolution, divide the total amount of revolution by two. This value is the amount of revolution it requires to center the R&P, this will get you close until you take it to the alignment shop.

Next, install the rubber bushing to the R&P. Coat a thin layer of grease on the rubber bushing, this will make the positioning of the rubber bushing easier to install and position. **(Center/ Center measurement between the two brackets is 12 in.)**

Once this is done install the R&P to the chassis with the 4-3/8 Button Head Bolts, washers and nyloc nuts. Use anti-seize on the threads and torque nut to 35 ft./lbs.

Power Rack Installation

Note: (High Pressure is the Large Port & The Low Pressure is the Return Port)

For the power rack there are two parts going into the Rack & Pinion. There is the inlet line (Low pressure) and the outlet line (High pressure). The high pressure line is the line coming in from the power steering pump. The low pressure line is the return line to the power steering pump.

High Pressure Line (Inlet): 9/16-18 Teflon Style

Low Pressure Line (Return): 5/8-18 Teflon Style

Mopar Power Rack: 3/4-46 Spline

Mopar Manual Rack: 9/16-26 Spline

Mopar Omni Rack: 5/8-36 Spline

- 1. '28-'34 IFS cross member (1)
(Unwelded radiator mounts)
- '33-'34 IFS cross member
(Welded radiator mounts)

28-34 IFS UPPER & LOWER CONTROL ARMS:

- 2. Upper Arms (2)
- 3. Lower Arms (2)
- 4. Eccentric (2)
- 5. 1/2 Eccentric Set Screws (4)
- 6. Control Arm mounting bolt (4)
- 7. 5/8 Stainless Cup Washer (16)
- 8. Control Arm bushing half (16)
- 9. Bushing Sleeve (8)
- 10. Control Arm Mounting locknut (4)
(See below for 11-13)
- 13. Coil-over Mounting Locknut (4)
- 14. Ball Joint -installed (4)
- 15. Ball Joint Castle Nut (4)
Cotter Pins (4)
Ball Joint Covers (4)

28-34 IFS Adjustable Shocks:

- 11. Aluminum Adjustable shocks (1PR)
- 12. 1/2 X 1 3/4 Button Head Bolts (4)
- 13. 1/2" Nyloc Nut (4)

IFS SPINDLE ASSEMBLY KIT:

- 16. Steering Arm -Left (L&R)
- 17. Spindle (2)
- 18. Standard Caliper Bracket (L&R)
- 19. Caliper Bracket Mounting Bolt (4)
- 20. Caliper Bracket Locknut (8)
- 21. Standard Caliper (L&R)
- 22. Standard Caliper Mounting Bolt (4)
- 23. Grease Seal -installed (2)
- 24. Inner Bearings -installed (2)
- 25. Inner Bearings Race -installed (2)
- 26. Brake Rotor (2)
- 27. Outer Bearing Race -installed (2)
- 28. Outer Bearing -installed(2)
- 29. Spindle Washer (2)
- 30. Cotter Key -not pictured (2)
- 31. Spindle Nut with Lock (2)
- 32. Grease Cap (2)
- 33. Optional Full-circle caliper Bracket(L&R)
- 34. Optional 4-piston caliper (L&R)

