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Old-School Graduates to New-School Suspension

In 1948, Ford introduced a new line of trucks, from the big F-8 3-ton to the F-1 1/2-ton pickup, all of which shared a common straight-axle front suspension with a leaf spring design. A straight-axle design limits the front suspension's ability to absorb the road surface irregularities, causing a multitude of actions and reactions within the front suspension system. Sure, the F-1's rubber cab mount system attempted to absorb some of the harsh ride from the front suspension. But, if you are not restoring your old '48-'52 Ford F-1 completely bone stock, then the first thing you want to change is its front suspension.

Custom car and truck builders have been replacing the original huckboard-style suspension with IFS (independent front suspension), which improves both stance and handling performance. This began with Chevrolet's introduction of the Corvair in the mid-'60s. Its advanced independent front suspension would be adapted by customizers for the F-1. Then came along the AMC Pacer, Pinto, Mustang II, and Granada's independent front suspension, and those worked OK for customizers, too. Today's aftermarket manufacturers continue to offer a refined Mustang II design, which remains popular among custom car and truck builders.

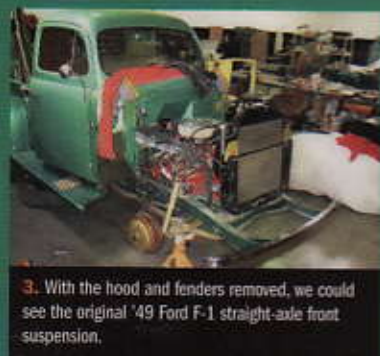
TCI (Total Cost Involved) has been designing and improving front and rear suspensions since 1978. TCI's IFS kits come complete with a frame crossmember, coil spring shock towers, coil springs, shocks, engine mounts, a frameral boxing plate, upper and lower A-arms, disc-brake calipers, disc-brake rotors, urethane bushings, spindles, and hardware. These kits also are available with 2-inch drop spindles or stock spindles, springs, and shocks.

Wheeler's Speed Shop in Huntington Beach, California, is known for its fine craftsmanship and technical wisdom and has been building some of the wildest street rods in SoCal. Wheeler's talented and skilled crafters, Troy Stephens, Chris Jonas, John Quigley, and Sean Murphy, the owner of SMI carburetor and induction systems, were going to install a '49 Ford F-1 front IFS kit from TCI. We thought it would be interesting to check it out. After an inventory of the kit's contents, the '49 F-1 was hoisted onto jackstands, its front wheels removed, and the installation began. **TR**

'49 Ford F-1 TCI IFS



1. The TCI '48-'52 Ford F-1 IFS kit contents were laid out for inventory and inspection.



2. With the hood and fenders removed, we could see the original '49 Ford F-1 straight-axle front suspension.



3. A&B The hood and front fenders were carefully removed from the frame.



4. Before extracting the engine, the radiator hoses were disconnected and the radiator was removed.



5. After disconnecting the linkages, cables, and wires, Chris Jonas used the muscle of a cherry-picker to remove the engine from the framerrails.



6. With the engine removed from the frame, it made easy access for the removal of the original straight-axle front suspension.



7. After removing some essential nuts and bolts from the front suspension leaf springs, shocks and steering pitman arm, Chris lowered the floor jack and rolled the front suspension from under the frame.



8. The steering wheel was removed before the steering box and column could be removed from the framerrail.



9. A&B Fitted with proper ear protection, Chris triggered the pneumatic chisel and began removing the factory rivets, then he secured the frame corner gusset.



10. After the removal of the engine, original front suspension, and steering column and box, the frame was cleaned up.



11. The front suspension's leaf spring shackle was un-riveted and removed from the framerrail.



12. A small disc grinder was used to cut a notch in the lower framerrail section, allowing the TCI crossmember to fit properly between the framerrails.



13. The provided frame boxing plate was tacked in place of the C-channel of the framerrail.



14. The TCI crossmember was put in place and squared using corner gusset rivet holes.



15. A&B With the TCI crossmember squared and level, it was TIG-welded into place.



16. The centerline of the TCI shock tower was lined up with the centerline of the TCI crossmember.

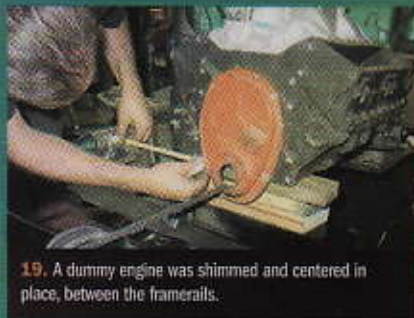


17. A&B After tack-welding the TCI shock tower in place and the alignment was checked, the entire shock tower was TIG-welded.





18. The stout TCI crossmember and shock towers were TIG-welded in place between the framerrails.



19. A dummy engine was shimmed and centered in place, between the framerrails.



20. Before final TIG-welding the engine mounts, Brian Wheeler checked the degree indicator.



21. A&B With the engine mount squared, level and true, Brian put down some penetrating TIG-welds.



22. After the engine mount welds had cooled, Brian and Chris removed the engine mount bolts.



23. A&B Troy Stephens helped Brian and Chris guide and drop in the engine.



24. Chris installed the upper A-arm.



25. A long Grade-8 bolt was inserted into the lower A-arm mounting brackets and on the A-arm, then they were secured.



26. A floor jack was used to assist in installing the TCI coil spring.



27. After the TCI spindle had been installed, Chris installed a TCI shock to damp the front suspension.



28. For this application, the customer wanted to maintain the stock ride height but achieve the ride quality of the IFS (independent front suspension).



29. A&B To improve the stopping quality, Chris installed the TCI 13-inch-diameter brake rotor and two-piston caliper.





30. A&B Chris rolled underneath to align and install the TCI steering rack.



33. This rear photo of the front TCI disc brake assembly exposes the new TCI two-piston caliper.



34. How many guys does it take to mount the front sheetmetal on a '49 F-1? Four, one on each corner.



31. A&B After threading the steering rod end to the tie rod, it was then aligned and secured with a castle nut and cotter pin.



35. After the front sheetmetal was aligned, it was mounted at the mounting points of the frame and firewall.



32. With the new brake line connected to the caliper, we could stand back and admire the complete TCI IFS install.



36. Peering through the front wheelwell, we could see the final TCI front IFS conversion complete.



37. With the TCI IFS kit installed, Chris remounted the front wheels and tires.



38. Replacing the original Ford F-1 straight axle/leaf spring front suspension with TCI's IFS has slightly dropped the nose, creating a slight rake and just what the customer wanted.

SOURCES

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