

How To Install Bodies and Fenders

Part 1: Overview

The Wescott Guide

This guide is intended to be used to assemble a car using a Wescott body and an original or reproduction chassis. The guide may be of use as a reference for assembling cars with an original body and mounting original or reproduction fenders.

Check Your Chassis

The first VERY IMPORTANT step, and one often neglected, is to start with a chassis that is square, not twisted, and is accurate in critical dimensions. (See Part 1, Frame Inspection, below.) Model T's and Model A's basically had simple flat top frame rail, the Model A with curved front frame horns. In 1932, Ford started kicking up the frame over the axles to lower the body. It is very important that the kickup on 1932-40 frames be correct, or many grille, hood, and body fitting problems will result. For accurate frame drawings, see the back pages of this catalog.

Assembly Overview

We recommend first checking the chassis and make sure it is correct. Then to assemble the body and interrelated parts such as fenders, grille, hood, running boards etc., and align them as a unit. This approach not only works well for Fords but most other makes as well.

Part 2: Frame Inspection

The frame must be square, with no twist, and accurate to the original Ford shape, for proper fit of all the parts. Check any and every frame before assembly, even if it has come with assurances that it is "cherry" original or from "The World's Greatest Frame Builder." A careful check takes just a few minutes, and may save you hours of frustration later. The frame should be checked before and after repairs are made, structural modifications are made, and all brackets have been welded on. Check frame before bolt on suspension and drive train items are installed.

Procedure

Step 1. "Float" the frame

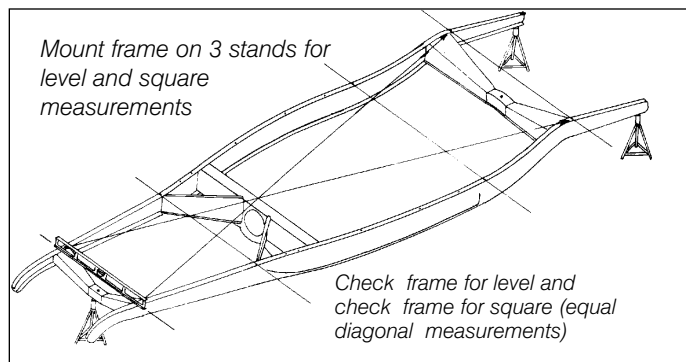
Place the frame on 3 stands, one at each rear corner and one at the center of the front crossmember. This allows the frame to "float" and show any latent twist.

Step 2. Level Check

Shim the stands at the rear until the frame is level across the rear stands. Using a carpenter's level, check the frame for level across the front and rear crossmembers and several places between. Keep the level facing the same direction to maintain accuracy of readings. Out of level readings will indicate humps, sags, or twist (readings that are progressively out of level on one side moving away from the rear indicate a twisted frame.)

Step 3. Cross Measure for Square

Cross measure the frame (in a "X" pattern) between various pairs of points across from each other on the frame rails. Measure from a point on one frame rail to a point on the other rail, then measure between points opposite the first set of points. Pairs of points that should be measured include from the middle to the front, from the middle to the rear, overall from front to rear, and between cross members. On a "square" frame each leg of a pair of measurements will be equal to the other leg. Pairs of measurement that are not equal show "diamond". A frame can show "diamond" overall, or in local areas if it has been pushed in from the side.



Step 4. Vertical Check

Check the sides of the frame rails to see that they are vertical. This is critical for proper fitting in areas where fenders or running boards mount directly to the frame (including most 1932-40 Fords).

Step 5. Check Measurements

Check the frame for proper measurements across the frame rails at various points. Our frame diagrams (at the back of the catalog) can be used as a reference. It is especially important on 1932-40 Fords that the frame have the proper width and the front and rear kickups be correct as it affects the relationship and fit of the radiator, grille, hood, and front fenders to the body and running boards.

Making Corrections

If any corrective action is necessary it may be best to have the work done at a professional frame alignment shop, as adequate pushing and pulling tools and anchor points are seldom available at a casual shop. If corrective work is done, go through the complete check again. The work may not have been done properly or may have created other problems.

Part 3: Chassis Assembly

Step 1. Assemble to complete rolling stage

The chassis should be finished to "complete rolling" stage, but before final paint. The motor, transmission, rear end, driveline, front and rear suspension, steering gear, brakes, wheels and tires, etc. should be installed. Other parts such as the master cylinder, pedal assemblies, brake lines, fuel tank, etc. should be installed if mounted directly to the chassis.

Step 2. Locate mounting holes or drill for body, radiator

Check locations on the frame of mounting holes for the body and radiator. Our frame diagrams (at the back of the catalog) are available as a guide. If these mounting holes are not drilled, do so at this time. Access should be available inside the frame for nuts, lockwashers, and wrenches. If frame boxing plates or chassis parts interfere with bolt locations, nuts or cage nuts should be installed. Body to frame bolts should be at least 3/8" diameter, grade 5. Lockwashers or locknuts should be used.

Step 3. Locate bolting points for doors

The minimum number of body to frame bolting points to maintain door alignment are at each side of the front of the cowl, at the front of each door opening, at the rear of each door opening, and as close to the rear of the body as practical.

Step 4. Install welt and pads

Install chassis anti-squeak welt as needed. On 1926-32 Full fendered cars (and 1933-34 Pickups) install welting on the top of the frame from the front of the frame to the last body mount. Welt pads also should go on top of the splash apron at each body mount. 1926-32 Fenderless cars should have welt from the cowl

to the rear body mount. 1933-34 Passenger cars should have welt installed from the firewall to the rear body mount and on top of the center X rails. 1935-36 Passenger cars use rubberized cork pads, 1937-48 Passenger cars use molded rubber pads, and 1932-41 Pickups use rubber pads between the wood blocks and the frame.

Part 4. Fender and Running Board Installation

1926-34: Mount running board brackets to frame. Check location to frame diagrams. Tweak as necessary so brackets are at right angle to chassis center line and parallel to each other. Clamp (do not bolt at this time) 1926-31 splash aprons in approximate location.

1926-40: Loosely bolt or clamp (do not tighten at this time) running boards to frame or brackets.

1928-32: Mount front splash apron to frame. Note that 1930-32 uses special studs which also mount the front bumper brackets. 1930-31 front fenders and front apron extend forward of the frame.

1926-36 (and 1937-39 Pickup): Drill front fenders for headlight bar or headlight stand mounting holes as necessary.

1926-40: Bolt front fender support braces to frame. All 1926-32 and 1933-34 Pickups use a single heavy support brace on each fender. 1933-36 Passenger cars and 1935-39 Pickups use a heavy headlight support brace with a reinforcing strut to the front cross member and a brace at the rear of the wheel opening. 1937-39 Passenger cars use a strut from the inner fender to the front cross member and a brace at the rear of the wheel opening. 1940-48 cars use a support yoke from the front cross member to the inner fenders and baffle braces at the rear of the wheel opening.

1933-40: Clamp or drill and loosely bolt inner front fenders to frame. Install fender brace or inner fender support struts.

1926-40: Clamp front fenders to frame, running boards, inner fenders and fender brackets. Clamp or loosely bolt fender brace behind wheel on 1933-48 models. Most reproduction fender braces require some reworking for proper fit. The fender should not have to be forced over or pulled down to the bracket. The bracket should touch the fender only at bolt locations and the headlight bar or stand mounts. The front fender bracket should be adjusted to support fiberglass fenders without tension to help prevent cracking problems. The bracket should have a slight forward pull at the outside edge of steel fenders to help pull the bead edge straight.

1926-31: Adjust running board aprons to proper fit with front fenders and running boards. Clamp aprons to front fenders.

1926-36 Loosely bolt headlight bar or stands to fenders. Install shims between fenders and fender brackets if necessary to prevent distorting fenders.

1926-29: Install hood shelves and wood blocks.

1926-32: Carefully tighten headlight bar or stand to fender bracket bolts. Use a carpenter's level to check level across headlight mounts. Use a plumb bob or carefully cross measure to check that headlight bar is centered in relation to frame. Adjust fender brackets as necessary to set headlight bar position.

1926-48: Double check fit of front fenders, aprons, running boards, etc. When satisfied with fit and alignment drill remaining holes and securely bolt. If any body mount holes are covered by splash aprons or front fenders, drill fender or aprons for bolt clearance.

Part 5: Radiator and Grille Installation

Step 1. Install hood lacing on radiator shell or grille. Mount any emblems, trim or ornaments to the grille or grille shell if mounting bolts will be inaccessible when grille is installed on radiator.

Step 2. Mount the radiator to the frame. Use the special radiator mounting kit with springs, as these help avoid radiator damage due to frame flex or road vibration. Install the radiator shell or grille to the radiator (1933-34 uses special spacers).

Step 3. Install inner splash baffles on 1933-40. These baffles help direct proper airflow through radiator. Install hood hinge brackets (if used) on radiator shell or grille.

Part 6: Install Body To Frame Mounting Pads & Blocks

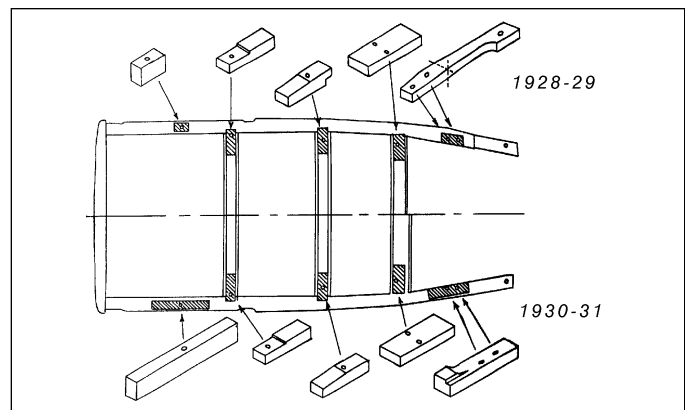
Install wood body to frame spacer blocks to body if used. Most 1926-31 steel sub framed cars and 1932-40 Pickups use hardwood spacer blocks. Most Wescott 1928-31 bodies are designed to use modified original style wood blocks. The Wescott 1926-27 Roadster and 29 Hiboy floorpans do not use wood blocks.

Reproduction blocks can be easily modified to fit Wescott bodies or blocks can be made up from "scratch". Place the body upside down and sand the top of the block for rough fit with the bottom of the floorpan. We use a 36 grit disc on a 5" rotary sander. Scuff sand the block mount area on the floorpan and glue using an epoxy or other suitable adhesive. When the glue has hardened, sand the block until flush with the lower edge of the body. Glue or staple 3" strips of chassis welt to the block at body mount location.

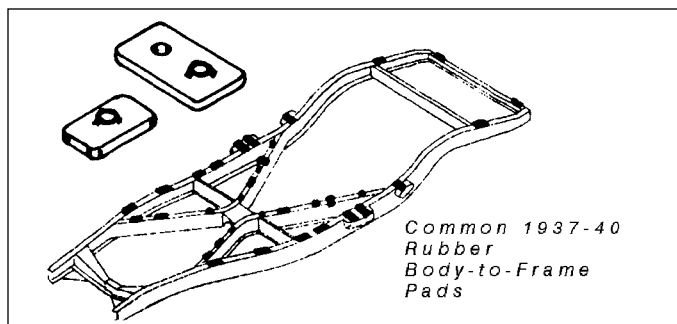
1932-1934 Passenger cars used a rubberized fabric pad between the body and frame. We recommend using a continuous strip of "chassis welt".

1935-36 Passenger cars used rubberized cork and rubber body to frame pads. 1937-48 Passenger cars used rubber body to frame pads. 1940 Convertibles used a thick (appx. 1/4") steel pad with a thin rubber pad. This type of rigid mount at the cowl and door post is necessary for good door alignment on Convertibles. Rubber pads at these mount points simply allow too much flex.

1932-47 Pickups used a heavy wood body to frame spacer block. The proper shape and spacing are important for proper body to fender and hood alignment.



Wood body-to-frame spacer blocks for Model A's



Part 7: Body Installation & Alignment

Step 1. Set the body on the frame. Position chassis so frame is level across cross members and body mounts. Set the body on the frame. Position body using the hood top length for reference to the distance between cowl and grille or radiator shell. Check to be sure that the body is centered on the frame at the cowl, door posts, and rear wheelwells.

Step 2. Install hardware. Install radiator support rods, rear hood hinge brackets (if used), and hood lacing to the cowl. Install the hood and hood latches. On 1926-32 cars (and 1933-34 Pickups) if stock latches are not used, bolt fender to frame at latch mount locations.

Step 3. Shim to level. Shut and latch doors on body. Shim the body so it is level across the cowl at the windshield posts or post mounts, at the back of the front doors, and at the back of the deck lid opening or rear quarter panels.

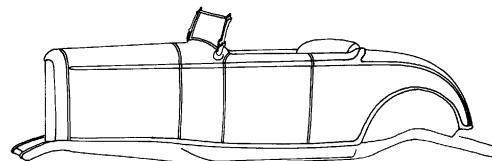
Step 4. Rear fenders. Clamp rear fenders to running boards and body. Shim and adjust the body from side to side as necessary for proper fender fit. Keep the body level by adding the same height shims from side to side. It may be necessary to loosen and adjust running boards and splash aprons. Check and shim as necessary for fuel tank clearance on 1932-40 models.

Step 5. Level and shim again. Shim the body and or the radiator so the reveal line of the hood, cowl, doors, fenders, inner fenders, and body is visually correct. It may also be necessary to shim the hood lacing so the hood sits at the proper height. The clearances between the hood and cowl or grille, and doors to door post should be even from top to bottom. Check the body for levelness again and shim as necessary. The body should now be located properly on the chassis. All Wescott bodies are aligned for proper door fit at the factory. The above methods may not be adequate for a body which is out of square across the cowl or quarter panels, a more extensive body adjustment may be indicated.

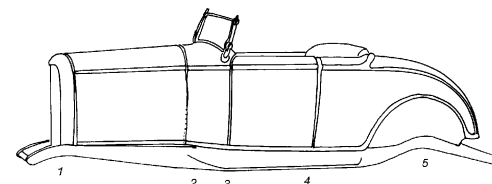
Step 6. Body mount locations. Scribe body mounting hole locations on the body using body mount holes in the frame as a guide. Drill any remaining mounting holes for front or rear fenders, inner front fenders, grille, etc. Remove body from frame and drill body mount holes. Mark all shim heights and locations to help when re-shimming. Reinstall body on frame. Install body to frame bolts (do not tighten yet). The body will need to be checked for levelness again and shims added or removed as necessary.

Step 7. Door & hood clearance. Check the door clearance between inner panel and door jambs; this should be even top to bottom. Open and close doors; each door latch should engage the striker without the door having to be forced up, down, forward, or back. The doors on all Wescott bodies are built with a slight preload so the bottoms of the doors close tighter than the tops. This gives a firm latching action and helps prevent rattles. The preload should be equal from side to side. Check for proper hood to fender or inner fender clearance. Fine tune shim as needed.

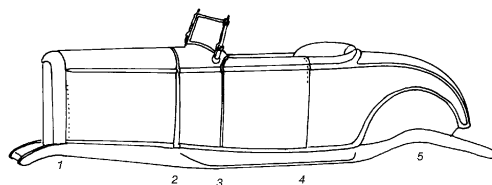
Common Alignment Situations



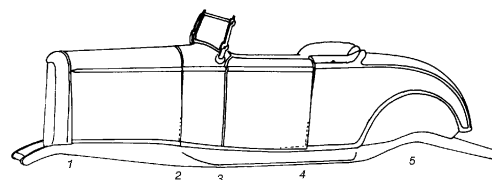
A. Body is aligned properly. Reveals line up. Door & hood gaps are even.



B. Body is too high at middle (reference points 2, 3, & 4.) Wide gap at top of door tapering to normal at bottom. Normal gap at top of hood front tapering to wide at bottom. Rear bottom of hood overlaps cowl, normal gap at top.



C. Grille and rear of body are high (references 1 & 5) Door overlaps quarter panel at top. Wide gap at lower rear of hood tapering to normal at top. Lower front hood overlaps grille, normal gap at top.



D. Body to high at front of cowl (reference 2) Door overlaps and drops at quarter. Grille & radiator are pulled back. Back lower corner of hood overlaps cowl. Normal gap at top of hood front tapering to wide at bottom.

About shims- It is important to note that a shim at any one bolt mount will affect the alignment of both sides of the car. For example, adding a shim at the right front cowl mount will move the top of the right door in and slightly down, move the top of the left door out and down, move the right upper corner of the cowl away from the hood, and may affect level measurement across the cowl. A shim in a different area may compensate for some movement. After adding the shim in the example above, if another shim is inserted at the left front door post, it will move the top of the left door up, move the front of the left cowl closer to the hood and affect the level measurement across the cowl in the opposite way the first shim did.

Step 8. Tighten bolts. When shims are inserted, tighten all body mount bolts. Use lockwashers or lock nuts. Check body alignment again, and re-shim if necessary.

Step 9. Finish bolting. Bolt rear fenders to running boards and body. Install fender welt if desired. Clamp in place any back panels, rear rolled pans, or rear frame horn covers. When satisfied with alignment and fit, drill all remaining mounting holes and bolt securely.

Part 8: Accessory Installation

We recommend that all other parts be fitted and installed, such as the windshield assembly, headlights, taillights, cowl lights, bumpers, door and deck handles, etc. The car should be brought to as near a fully assembled condition as possible. All parts should fit and any modifications should be made before painting or plating any parts.