North American F-100D Super Sabre TWEAKS LIST

TYPE: North American F-100D Super Sabre (USAF)

SCALE: 1/32

COMPANY: Trumpeter

KIT Number: 02232

MOLD CREATION DATE: 2007

TWEAKS LIST VERSION 1.1 (publication date: Aug. 2008)

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• Dave Menard, for the extensive notes he has provided on the F-100.
• Larry Nattrass for his notes
• The many F-100 pilots who have patiently answered Ben's questions over the years.

The following list is intended to help modelers in improving scale accuracy of an airplane model replica. In no way is it intended to support or be offensive towards a scale model company. It is up to the modeler to decide whether correcting the listed issues is worth the time and money he will have to invest in the quest for accuracy process.

No aftermarket correction or detail set is mentioned in this document as the availability of such items may be very variable. Hence, refer to other LSP sections to find relevant information. Moreover, aftermarket sets do not necessarily correct all listed issues. Please refer accordingly to relevant documentation.

1. FUSELAGE (from front to rear)

• Intake is flat on bottom, should be curved.

• Add bulge inside upper intake lip for radome.

• Many F-100Ds had a small UHF antenna on top of the nose, just aft of the radome for the fire control radar.

• Open the avionics bay cooling air vent slots on sides of nose.

• The nose weight takes up most of the available space in the avionics bay, so it would probably be

better to just glue the hatch closed.

• Rectangular ARC-34 antenna was sometimes mounted under the nose, either behind or next to the pitot tube mount. It was later moved to the fuselage spine.

• The Nav light located forward of the nose gear is a little bit too small.

• Small UHF antenna was often mounted just forward of clear anti-collision light (Part Q16) on belly.

• Add clear, oval-shaped refueling light on right side of fuselage under cockpit.

• Many early F-100Ds had a half-cylinder-shaped strike camera on the belly, just forward of the nose gear well.

• Gun bay details are simplified. Bays appear to have been either natural metal or white on the real jet. Gas purge holes in gun bay doors need to be opened.

• There is an issue regarding the location of the ammo bays and doors in comparison with the position of the cockpit tub and seat. Bay doors are located too close to the airframe front. Fortunately, this is not too noticeable if ammo bays are closed.

• The landing lights (Parts Q11) would probably have been retracted before the jet was shut down, not left extended as depicted on the model. Moreover, they are too large and not correctly located (too close to the speed brake). Pictures of some actual airframes show two round service panels fixed by screws where Trumpeter located the lights. To move the lights to the correct location (closer to the front and external side), the gun gas exhaust purge hole in the fuselage must be relocated ((closer to the front and external side as well). Note that the diameter of this hole is too large as well.

• The speed brake well is too shallow and surface details are not authentically depicted.

• The engine is missing the cone-shaped bullet fairing, and the compressor face detail is entirely fictional, but none of this can be seen on completed model.

• Add rectangular latches, two per side, on saddleback access panel behind cockpit. This is the panel with the black dielectric panel on it.

• Open heat exchanger exhausts just aft of the saddleback panel. They are the two dents next to the oddly-shaped panel on the spine, which is for the ram air turbine.

• Sand down the raised D-shaped high-pressure bleed air dump door on the left side of the fuselage and rescribe it flush with the fuselage.

• Open the cartridge starter exhaust hole on underside of fuselage.

• Add access panel for single-point refueling to the fuselage under the trailing edge of the left wing.

• Remove the drag chute cable channel on the right side of the fuselage. It was only on the left side.

• Chord of the tail is 2mm too wide, but the fillet leading up to the fin is ok. Remove 2mm from the

leading edge, allowing the fillet to meet the new fin leading edge.

• Many of the “rivets” on the fuselage were actually Phillips-head screws securing removable access panels, so check photos and consider leaving the “rivets” alone in those areas.

• Trailing edges of stabilators normally drooped below the bottom of the fuselage, not level with the ground Add static wick to top of fuel tank vent fairing.

• Nav lights on fairing (Part Q15) should be white over orange.

• Add small vent pipe under fuel tank vent fairing on the tail. There were two different versions of the fuel tank vent fairing. Trumpeter has the early version, and the fairing was widened when the Radar Homing And Warning System (RHAWS) was added to many jets serving in Vietnam. RHAWS was not fitted to F-100s serving in Europe. So, the fairing is right for a non-RHAWS-equipped jet, but it will have to be widened for a modified jet.

• Fill the mounting slots and add a short brass tube pivot for the stabilators if you want to depict them drooped. Do not run the tube all the way across the fuselage because it will interfere with the engine.

• Box in the well for the tail skid with styrene sheet. The interior was Interior Green.

• Add a small tube with a 90° bend just aft and to the left of the tail skid. The opening in the tube faces forward.

• The two angled parts at the 5- and 7-o’clock positions (the aft-most ends of the stabilator fairings) are scabbed onto the rounded metal of the aft fuselage. The interiors should be thinned to represent sheet metal, then a small section of sheet styrene should be added to bridge the insides of the V they form.

• Sand the rear fuselage edge near the exhaust to mimic steel sheet thickness.

2. WINGS/WEAPONS

• Many of the “rivets” on the wing box section were actually Phillips-head screws, so check photos and consider leaving the “rivets” alone in that area.

• The leading edges of the wing into which the slats retract have no engraved structural details or rivets. However, as above mentioned, slats were normally extended on parked aircraft.

• Flaps always went to flight position (it was possible to stand on them to do maintenance), so they should not droop.

• Remove raised panels where wing fences are mounted.

• Main gear wells are too shallow. The tops of the wells were formed by the inside of the wing skin.

• Add static wick to each wing tip.

• Drop tanks are early, 275-gallon variety. A 28-inch plug must be added forward of the pylon leading edge for the post-1965 335-gallon type.

• Drop tank pylons lack the correct airfoil. The leading edges should curve inboard. They are also missing the bulged fairing on the forward, inboard side. Moreover, the corners of the fin tips are rounded on the kit whereas they should have sharp edges. The pylons were integral to the drop tanks and were not used with any other ordnance.

• Forward fuel filler cap on drop tanks are simplified. Caps on both tanks should be on the port side of the tank. Aft fuel filler cap missing from both drop tanks.

• The ALQ-31 ECM pod was carried on the centerline station and only at Eglin AFB, never on an operational F-100.

• Rocket pod included in the kit is questionable. At the very least there should be two of them.

• The "practice bomb" dispenser MN-1 or SUU-21 was always gloss white and usually carried on the centerline station.

• The ECM pod is a Navy one, never carried by a Hun, not even the Wild Weasels.

3. COCKPIT

• The seat appears to have the parachute pack molded into the seatback. The parachute was not normally left in the aircraft. This can be fixed by replacing the seat with an aftermarket one or using a piece of curved styrene sheet to replace the kit seat back.

• Missing hoses on the seat and the belts are not correctly depicted.

• Gunsight area detail is simplified and missing some items between the pilot and the sight.

• Remove diamond pattern on cockpit floor. Floor was smooth.

• Add canopy alternate emergency jettison handle to lower right side of cockpit tub, just aft of instrument panel.

• Add sidewall detail.

• The clear part (Part Q3) for the instrument panel is too thick, so delete it and glue the film part directly to the back of the instrument panel. Then fill the instrument holes from the front with drops of clear gloss.

• The cockpit floor is about 2.5mm too low which throws off the length of the lower instrument panel.

• The center instrument panel detail is pretty good, but the two side panels are simplified. Note as well that some details of the front panel are more adequate for the F-100F than the F-100D.

• The two drop tank fuel quantity indicators on the top left corner of the panel are represented as featureless cylinders. They can be easily dressed up with instrument decals and small bezels.

• The emergency landing gear, special store unlock, and emergency external load jettison handles are missing under the instrument panel.

• Shorten the gear retraction handle by about 50%. It is too long.

• Lower, center panel forward of control column has some extra switches and dials added, but can be easily removed with a knife. The relief container at the bottom right corner is missing!

• Console details are mostly accurate, but have a few extra switches and knobs added on the aft 1/3 of both consoles compared to the aircraft manual. These could have been added later in the jet's life.

• Map box on aft part of right console is featureless and too small.

• Throttle is missing.

• Detail on deck behind seat (Part K8) is simplified.

4. CANOPY

• Add canopy rail structure.

• There are no canopy hooks. Use photo-etched ones.

• Add mirror, data cards and other details on canopy internal sides.

• Part K5 should go up inside of canopy, but will need modification to fit.

• There should be a hook-like structure (that looks like a canopy breaker) on the top of the pyramid-shaped part of Part K5.

• Occasionally, there were one or two comm black boxes mounted in racks on the sides of the pyramid-shaped structure on Part K5.

• Add standby compass and grab handle to windscreen frame.

• Add canopy knife to the lower right side of windscreen frame, just aft of instrument panel.

• Many F-100Ds had a Y-shaped omnidirectional antenna inside the canopy. This could be replicated with strips of decal.

5. LANDING GEAR

• Based on measurements, the main gear track width is spot-on (a little bit more than 10cm between the two main landing gear legs) as the F-100D/F maintenance manuals state 12.4 feet between the centerlines of the main gear tires. However, the edge of the gear well that is immediately outboard of the strut (where the gear door mounts) should be ~29mm from the edge of the wing meets the fuselage but it is 31.5mm. That explains the large gap between the strut mount and the edge of the gear well. The other part of the gear well where the second door attaches also goes about 2mm too far outboard, which means both gear doors are probably too long as a result.

• Main gear tires are too large in diameter. Tire is 26mm outside diameter and should be ~23.5mm. Rim size and tire width are fine, just the tire sidewalls are too tall.

• No landing gear ground safety locks are provided.

• Drill out holes in center of nose wheel hubs.

• Main gear tiedown rings on inboard part of struts opposite the axle are represented as solid tabs. These can be made using wire.

• Fill ejector pin marks in plastic main gear struts. The metal struts are better.

• Main gear actuator details are simplified.

• All gear well details are simplified or incorrect (structural strengtheners).

• Instructions call for Interior Green on gear door interiors. They should be natural metal or silver lacquer. Gear well and speed brake well interiors were a dark Interior Green.

• Instructions incorrectly call for gluing the small panels (J47 and J46) on the inboard main gear doors flush with the large sections of the doors. When the centerline store capability was added, the new two-piece inboard main gear doors didn't swing through a full 90° arc like the early, one-piece doors did. The small panels opened farther, allowing the main gear tires to clear the doors.

• Hydraulic lines should run from the top of the center section of the main gear well to the lines molded into the large inboard main gear doors. These were used to actuate the small door panels.

6. MISCELLANEOUS

• Even though the length of this list below would make it appear otherwise, the general shapes are good enough and most of the details are accurate enough that a good-looking facsimile of an F-100D can be built straight from the box.

• The kit is made of 15 gray styrene trees, two clear parts trees, a photo-etched fret, white metal landing gear struts and ballast weight part, rubber tires and some other vinyl parts (such as 20mm ammo belts).

• Fit is generally good. However, if you want to close panels and doors that may be left opened (e.g. weapon bays, electronic bay, etc.), be prepared to dedicate a lot of time to get smooth seams between parts as the separate doors do not mate well the corresponding wells.

• While Trumpeter got the general rivet pattern right, the rivets were all flush and wouldn't be visible from more than a few feet away. Many of the panels on the wings and fuselage were held in place by dozens of Phillips head screws, and the holes on the kit for these could be left alone. The screws are often visible in photos.

• F-100 slats were almost always out (extended) when the jet was parked. They were free-moving, opened and closed by aerodynamic forces, and had to be pinned for them to remain in the closed

position.

• Unlike the F-4 Phantom, the ailerons on the F-100 didn't droop after the hydraulic pressure bled off. Unless you are building a jet in take off or landing configuration, the flaps (the two inboard panels on the wings) should be up and the ailerons in the neutral position. Takeoff position for F-100D flaps was 20°, landing was 45°.

• The stabilators often did droop trailing edge down after the hydraulic pressure bled down. A U-shaped spar carried through the fuselage under the afterburner so both panels moved as one unit.

• The aft nose gear door and inboard main gear doors were mechanically locked in the closed position, but were often manually opened by crew chiefs to aid maintenance. The doors didn't fall open as hydraulic pressure bled off after engine shut-down.

• Note that the J57-23 afterburner nozzle was NEVER fitted to ANY Regular Air Force F-100 of any model period. The F-102 afterburner nozzle was only used on National Guard F-100Ds, F,s and a few New Mexico Air National Guard F-100Cs.

• Danish F-100s retrofitted their F-100s with Martin-Baker Mk.5 seats around 1960.

• There seems to be a question as to whether or not the aft section dolly provided in the kit was used with the F-100. According to Dave Menard, the cart for the aft section is a model that was gone by 1958. It was not used to hold any engines at any time either. Note as well that the engine cannot hang out of the fuselage without the interim mount fitted to the top of the fuselage just forward of the split line period.

• For a maintenance scene with the opened fuselage, details have to be added on the fuselage internal side (such as bulkheads and ribs). The barrier hook (post-1961) had to be completely removed before the aft fuselage could be removed.

• Decals are almost completely unusable and should be replaced with aftermarket ones. Fonts are all wrong, national insignia are the wrong size and proportions, many colors are wrong, many words are misspelled (CLOBE?), and many stencils are in Cyrillic!
If you choose to use the kit decals:
1. No tail hook fitted to either 52796 or 63189.
2. 52796 and 63189 would both have the speed brake with the narrow cutout.
3. 52796 and 63189 as-depicted in the decal sheet would have been painted silver lacquer, not left natural metal.
4. The camouflaged jet would not have the 275-gal drop tanks included in the kit, but would have had 335s.

• Last but not least: check the approximate year of the aircraft you are modeling, since the configuration of the F-100 changed quite a bit over its lifetime.

1. Some time around 1957-1958, the USAF started painting F-100s silver lacquer, while leaving the titanium aft fuselage unpainted. A good rule of thumb is almost any F-100 after 1960 would be painted silver, not natural metal, with the exception of Thunderbirds aircraft.

2. The barrier hook was added some time around late 1960 or 1961.

3. The straight in-flight refueling (IFR) probe was used early in the F-100D's career, but was changed to a bent one in the late 1950s. There were actually four different variations of the probe. The probes in the kit appear to be the second and fourth versions. Different blocks used different probe mounts, some with the light and some without. The long IFR probe mount (E5 & E17) goes ONLY under D models with tail numbers in ranges of 42121 thru 42303, 53502 thru 53757, 52744 thru 52954. The short IFR probe mount (E2 & E15) goes ONLY under D models with tail numbers in ranges of 53758 thru 53814, 62903 thru 63346, 63351 thru 63463. The rectangular fairing at the aft end of the long mount was actually part of the wing and should be used with the short mount, too.

4. F-100Ds and Fs were delivered with the speed brake with the narrow cutout (Parts L1 & L13). All jets except for Blocks -1, -5, -10, -15, -35, & -40 (serial numbers 54-2121 thru 55-2783) were refitted with the wider cutout speed brakes (Parts L2 and L14) starting in late 1962 or early 1963 so they could carry a centerline store. This job was carried out in squadron maintenance facilities. Jets with the wide cutout also had the two-piece main gear doors as provided in the kit. Unmodified jets had the F-100A/C single-piece inboard main gear doors that hung perpendicular to the ground when opened.

5. F-100s initially carried 275-gallon drop tanks, which are the tanks provided in the kit. Around 1964, these were converted to 335-gallon capacity by adding a 28-inch plug forward of the pylon. You won't see a camouflaged 275 on a USAF jet.

6. Many F-100Ds and Fs in Vietnam were fitted with radar warning receivers and the antennae were mounted in a teardrop-shaped fairing under the intake lip and in a wedge-shaped fairing on the aft end of the fuel tank vent fairing on the tail. A round azimuth display replaced the two drop tank fuel quantity indicators on top of the instrument panel, and two groups of warning lights were mounted on top of the glare shield, in front of the gun sight.

7. Many PACAF F-100Ds and Fs had a Doppler navigation system installed around 1959-1960, with a small air intake in the leading edge of the fin, just above the angle formed by the fillet and the fin.

8. If you plan to mount ordnance or 450-gal drop tanks on the mid-wing stations, the hard points for mounting them are about six inches outboard of the hard points used for the 275- and 335-gal drop tanks on the real jet. Trumpeter has correctly scribed the different mounting positions in the undersides of the wings.

9. Except for the pylons on camouflaged 335-gal drop tanks, F-100 pylons were painted silver.

The following sources were used to build this list.

David Menard and Larry Nattras notes.

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