

# MISSING

# LINKS

## *tweaks list*



### VEHICLE

Schutzenpanzerwagen Ausf.D  
Sd.Kfz. 251

### MANUFACTURER

Tamiya, kit numbers 35147, 35151  
and 35195

### SCALE

1/35

### AUTHOR

Mike Millette

### VERSION

1.0 January 29, 2002

Each MISSING LINKS Tweaks List is designed to assist the modeller enhance and refine the kit detail. We welcome comments that would help make each Tweaks List a more accurate reference tool.

Design and illustration by Dan Oldfield.

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## Forward Body: Exterior

1. Add large tie-downs to the forward upper sides of the nose where they meet the nose plate.
2. The bottom of the fender mounted light bracket needs to be hollowed out (or replace with an aftermarket item) and add an electrical line to the underside of the engine compartment.
3. Clamps holding the pioneer tools on the fenders need latch detail or better yet replacement by a PE clamp & latch.
4. The right side engine access doors have little "Z" shaped handles located at the forward and aft leading edge.
5. The underside of the fenders needs numerous bolts and brackets added where the fender pieces join to each other and to the body.
6. The backside of the nose plate should be open to allow air for the radiator.
7. The forward portion of the vehicles frame needs to be replicated once the air inlet has been opened. The frame tapers inward as it goes forward.
8. Small triangular stiffeners need to be added below the leading edge of the frame. These exist on the kit but are incomplete once the air inlet is opened up.
9. Forward hull sides just above the axle, needs to be notched.
10. Two piece steering arm needs to be added to the LHS wheel pivot.
11. The kit axle has a bracket that wraps around the center portion going aft. This bracket should actually be two straps that wrap around the bottom of the axle and go up over the top of the leaf springs.
12. The front wheels/tires should toe in slightly at the bottom and there is an "L" shaped lube fitting below both wheel attach points.
13. The exhaust pipe needs a clamp where it attaches to the muffler.
14. The exhaust pipe ends once it goes part way up inside the intake cover. It needs to continue over and down into the engine compartment.
15. The endcaps on the drive sprockets have a notch/opening on one side.
16. Road wheel endcaps should have two notches in them, 180° apart.

## Main Hull Exterior: Sides, Bottom & Backplate

### Sides

1. The locks for the stowage boxes are too small and mounted too high in the indentation. There should be

## selected detail sets 1: general details

### ACCURATE ARMOR

Sd.Kfz 251 track

### EDUARD

35113 Sd.Kfz. 251/1 Ausf. D - general details

### FRIULMODELLISMO

FALT-07 Sd.Kfz 251 track

FALT-61 Sd.Kfz 251 late track

### MODEL KASTEN

MK-19 Sd.Kfz 251 track

### MOSKIT

3517 Muffler & exhaust

### MR

3531 Floor/seat lockers

32120 Front wheels/spare wheels

SP-2 Torsion arms

### PART

P35 035 Sd.Kfz. 251 Ausf.D - general details

P35 036 Sd.Kfz. 251 Ausf.D - floor, boxes & seats

P35 037 Sd.Kfz. 251 Ausf.D - stowage bins

P35 038 Sd.Kfz. 251 Ausf.D - fenders

P35 040 Mtl.SPW.Sd.Kfz.251/1 Ausf.D "Stuka Zu Fuss"

P35 041 Sd.Kfz. 251/3-IV Ausf.D "Rosi"

P35 042 Sd.Kfz. 251/1 Ausf.D (back doors)

### R&J

35251 Maybach HL42 TUKRM 6 cyl. engine

35252 Front end with open engine compartment, 1 piece or 2 piece door options.

35252 Combination of 35251 & 35252 plus engine compartment details.

### ROYAL MODEL

086 Sd.Kfz. 251 photo-etched & resin details

240 Sd.Kfz. 251 (part 2) photo-etched & resin details

242 Sd.Kfz. 251C/D Interior Plates

### SHOW MODELING

SM 010 Sd.Kfz. 251 D details

a 0.5mm wide strip that runs from the top of the indentation to the halfway point and then another that protrudes outward. The lock is attached to that. There should also be a small loop at the upper aft corner of the indentation with a chain attached.

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2. The bolt detail along the side is a bit understated. The old bolt heads were sanded off and new bolt heads were added.
3. Tie downs need to be added at appropriate locations along the upper hull. Tie down layouts vary from vehicle to vehicle. I can't determine if these configurations are unique to specific manufacturers or if there is some other explanation. The variations occur primarily on the left side. In all but two photos I have seen, right side tie downs lie flat.
4. An antenna needs to be added.
5. The kit shows a raised weld seam where the cab & hull are joined. In reality there should be a slight gap or panel line at this joint. The join line was sanded off & re-scribed.
6. The Drive Sprocket housing needs a smaller secondary housing added to the upper, aft side.
7. A hydraulic (or pneumatic) line needs to be added from the hull to the drive sprocket housing
8. Torsion bar stops or bumpers need to be added above each torsion bar. These are on all Ausf.s of the Sd.Kfz.251 as well as the parent Sd.Kfz.11.
9. Track tensioning mechanism added to each side above last wheel.
10. The kit tracks are very undersized, featureless, and they just can't replicate that characteristic sag or the raised track-pad block. Worth replacing them if you feel so inclined.
11. The torsion bars should actually stick out .5 mm beyond the end of the torsion bar bearing before terminating at the swing arm. The road wheels do not stick out further, the difference is taken up by shorter axles.
12. The torsion bar bearing covers need to have six bolt heads added.
13. A close out plate needs to be added aft of the last road wheel on either side of the lower hull.

## Bottom

1. Bolt heads need to be added to the underside of the hull.
2. A small access plate needs to be added forward of the hull break.
3. An air valve and associated piping need to be added and connected to the aft pneumatic air inlet port

## Backplate

1. The kit towing pintle is a little over simplified compared to the real one. Various details, such as adjustment handles & a chain need to be added.
2. An electrical connector port needs to be added to the lower, left side.

## selected detail sets 2: conversion sets

### ADV/AZIMUT

- |       |  |
|-------|--|
| 35078 | Sd.Kfz. 251 w/2cm Flak (in actuality this is a Sd.Kfz. 11 with what resembles a 251 front end) |
| 35120 | Sd.Kfz 251/2 8cm GRW34 Mortar carrier conversion   |
| 35121 | Sd.Kfz 251/7 Engineer Vehicle conversion   |
| 35139 | Sd.Kfz 251/16 Flamethrower conversion  |

### CHESAPEAKE

- |        |                          |
|--------|--------------------------|
| CMD-31 | Sd.Kfz 251/22 conversion |
|--------|--------------------------|

### DES KITS

- |       |   |
|-------|---|
| 35004 | Sd.Kfz 251/22 Interior w/ Pak 40 Gun conversion |
| 35005 | Sd.Kfz 251/2 Interior conversion                |
| 35049 | Sd.Kfz 251/17 2 cm Flak conversion              |

### MR

- |      |   |
|------|---|
| 42   | Sd.Kfz 251/7 Engineer conversion        |
| 52   | Sd.Kfz 251/8 Ambulance conversion       |
| 60   | Sd.Kfz 251/9 Kanonwagen Late conversion |
| 62   | Sd.Kfz 251/22 Pak 40 conversion         |
| 3532 | Sd.Kfz 251/ final 1 piece bonnet        |

### R&J

- |       |  |
|-------|--|
| 35008 | Uhu IR searchlight conversion (Sd.Kfz. 251/20) |
|-------|--|

### VERLINDEN

- |      |   |
|------|---|
| 0739 | Sd.Kfz 251/7 Assault Bridges conversion |
|------|---|

3. The bolt detail on the Tamiya kit is a bit understated. New bolt heads could be added.
4. Tie downs need to be added to the upper corners.
5. The kit shows handles on both doors. There should be a handle only on the left door; the other has a bolt head where the handle would be. The handle on the left door needs to be shaved off and made 3-D.

## Cab Interior

1. Leading corner of hull sides raised to meet upper hull piece.
2. The cab had armor liners added to the lower sidewalls on both the driver & RO's sides. Four bolts (one at each corner) secure it in place.
3. MP-44 mounted to cab armor liner - both sides.
4. Brackets/clips for MP-44 ammo added to left side armor below the MP-44
5. A folded shelter quarter needs to be added to right side armor. Three straps & buckles secure the shelter quarter.

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6. A transformer for radio needs to be added to right floor, below the armor liner armor plate.
7. A speaker for the radio needs to be added outboard of the radio.
8. Indicator lamps and ignition added on dashboard. There are a couple different variations of the instrument panel. Again, I don't know if these are manufacturer or Ausf-specific. You may want to study photos to determine which configuration you want to use.
9. The top of the steering column in the kit is rather oversimplified. It needs to be detailed with additional brackets & bolts.
10. Gas, clutch & brake pedals need to be replaced with more detailed versions.
11. A hook needs to be added to dash to the right of the large gauge to hold radio headset.
12. A strip needs to be added to the bottom of the "windshield" hull plate to eliminate a step where the pieces join.
13. Details and frame need to be added to the radio. Headset, headset connector cable, and antenna cable need to be added as well.
14. Armored glass windows detailed with latches, forehead headrest & bolt detail.
15. Frames, bolts, straps & pads for head protection pads need to be added above the driver & RO seats.
16. Armored glass side window blocks need to be added.
17. The armored side window blocks have brackets that keep them in place. These need to be added.
18. Brackets for spare armored glass blocks need to be added below the side windows (above the side armor).
- 19 A double flange for the cab to fighting compartment join needs to be added along with the bolt detail. The bolts clamped the fighting compartment to the forward hull (cab). This flange runs up both sides of the cab and fighting compartment. On the cab side only, the flange runs across the top.
20. A grab handle, base plate & bolt details need to be added to the top flange.
21. The Tamiya driver & RO seats are a bit plain. Properly detailed after-market seats should be added.

## Fighting Compartment (FC) Interior

1. The interior of the fighting compartment, both upper & lower, was covered with an armored liner. This liner ran from just aft of the bolt-up flange (~ 2mm on the kit) to where the back plate meets the floor.

## further reading

*Schutzenpanzer*  
Ryton Publications  
By Bruce Culver & Uwe Feist, 1996

*Kanonenwagen (Sd.Kfz. 251/9)*  
*Nuts & Bolts vol. 6*  
By Detlev Terlisten, 1997

*The Sd.Kfz. 251 Half-Track*  
*Osprey Vanguard 32*  
Osprey Publishing  
Bruce Culver, 1983

*Sd.Kfz. 251 Half-Track*  
*New Vanguard 25*  
Osprey publishing  
Bruce Culver, 1998  
(Re-issue of Old Vanguard 32)

*Sd.Kfz. 251 in Polish Museums*  
*Militaria in detail #1*  
Wydawnictwo Militaria  
By Janusz Ledwoch, 2000

*Sd.Kfz. 251 in Action*  
*Armor Series No. 21*  
Squadron/Signal  
By Charles Kliment, 1981

## web page references

*Hanomag Sd.Kfz. 251*  
<http://www.geocities.com/MotorCity/Pit/3515/251/index.htm>  
Webmaster: Piet Van Hees

*AFV Interiors website*  
*German Sd.Kfz. 251 Semi-track Part 1*  
<http://www.kithobbyist.com/AFVInteriors/251/251a.html>  
*German Sd.Kfz. 251 Semi-track Part 2*  
<http://www.kithobbyist.com/AFVInteriors/251/251b.html>  
Webmaster: Mike Kendall

- The upper liner has a separate piece which covers the upper back corner. Bolt detail also needs to be added to the armor.
2. Tie downs need to be sandwiched between hull exterior & FC armor liners at the upper edge just forward and aft of where the grab rail is attached.
3. Brackets need to be added to the lower armor liners for the de-mounted machine guns.
4. The endplates for the crew rifles are incomplete and need to be reworked. Duplicates of the kit endplate brackets need to be made for the other side of the endplate (inboard & outboard). Brackets need to be

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added to the armor liner halfway along the length of the rifle barrel to support the rifles

5. Clamps need to be added to the tops of the backrest supports.
6. Hinge details need to be added to the seat lockers.
7. Most Ausf Ds utilized wooden benches rather than the leather covered seats supplied in the kit. The kit's interior is actually more correct for an Ausf C. The shape of the seat contour varies in the photos I have seen. I do not know what the rationale for this variance is, possibly manufacturer preference. Wooden slats and support strips need to be added to the seats.
8. The Fire Extinguisher can be detailed with an aftermarket PE bracket.
9. Bolt detail needs to be added to inside of door hinges.
10. The door handles are molded to the inside of the door. They should be shaved off and PE or bent plastic strip used to replicate the 3-D handle.
11. Holders for spare armored glass blocks need to be added forward of the backrests on the lower hull liner. Locations and holder styles can vary.

### Bits & Pieces

Bolt heads can be made from hex shaped strip that was cut to length (thickness) using "The Chopper". Two sizes of hex strip are used for the Sd.Kfz. 251, .5 mm (exterior) and .7 mm (interior). Protruding bolts with nuts can be added using the Grandt line of details.

The list of aftermarket details sets & conversions are for the basic Tamiya Sd.Kfz. 251/1 Ausf. D (35195), and their "Stuka Zu Fuss" (35151) versions. It does not cover sets designed to upgrade Tamiya's 251/9 or 251/1 Ausf. C.