

1/48 SCALE AIRCRAFT SERIES NO.97

★WINGSPAN 149mm. FUSELAGE 205mm.

★READY TO ASSEMBLE PRECISION MODEL KIT ★MODELING SKILLS HELPFUL IF UNDER 10 YEARS OF AGE



1/48 傑作機シリーズNO.97

ハインケル He162 A-2 “サラマンダー”



TAMIYA

HEINKEL He162 A-2 “SALAMANDER”

The revolutionary German Heinkel He 162 went from development stage to deployment in the remarkably short period of seven months. In September 1944, with Germany suffering under continual day and night Allied bombings, the German Air Ministry issued a call for proposals for a simple to control and easy to produce single-engine jet fighter code named Volksjäger (People's Fighter). Among the conditions to be met was a top speed over 750km/h, flight endurance over 30 minutes and takeoff distance of 500m. As many as 7 companies, including Messerschmitt and Arado, submitted proposals in the required 5 days. In the end, Heinkel's P.1073 proposal was chosen because it promised an easily mass-producible jet that could be constructed in a relatively short time. Indeed, a prototype model made a successful test flight in early December, a mere three months after the project began. The first

Die Deutsche Heinkel He 162 brauchte vom Entwicklungsstadium bis zur Auslieferung nur knappe 7 Monate. Als im September 1944 Deutschland schwer unter den Bombardierungen der Alliierten litt, forderte das Deutsche Luftwaffen-Ministerium Vorschläge für einen ebenso leicht steuerbaren wie herzustellenden, einmotorigen Düsenjäger mit dem Code-Namen "Volksjäger". Gemäß den zu erfüllenden Vorgaben sollte eine Höchstgeschwindigkeit von mehr als 750km/h und eine Flugdauer von mehr als 30 Minuten erreicht werden. Nicht weniger als 7 Firmen unterbreiteten Vorschläge, aber Heinkel wurde mit deutlichem Vorsprung ausgewählt, da hier am ehesten eine schnelle Entwicklung zu erwarten war. In der Tat machte bereits 3 Monate nach Aufnahme der Arbeiten an dem Projekt ein Prototyp einen erfolgreichen Testflug. Das erste Serienmodell, genannt He 162A-2, war mit zwei 20mm MG151

La durée entre le début de la conception et l'entrée en service du chasseur allemand Heinkel He162 ne dépassa pas 7 mois. En septembre 1944, alors que l'Allemagne croulait sous les bombes, le Ministère de l'Air Allemand lança un appel d'offres pour un chasseur monoréacteur simple à produire et à piloter désigné Volksjäger (Chasseur du Peuple). Bien que destiné à des pilotes inexpérimentés, sa vitesse devait excéder 750 km/h. Son autonomie devait être supérieure à 30 minutes pour pouvoir approcher ses cibles. Pas moins de sept constructeurs y répondirent, la proposition de Heinkel étant retenue principalement du fait du développement rapide promis. De fait, un prototype vola trois mois seulement après le lancement du projet. Le premier modèle de série

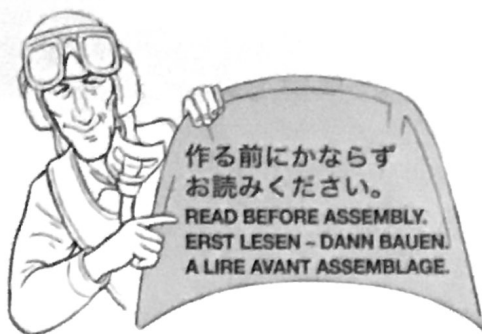
第二次大戦末期、計画開始から部隊配備までわずか7カ月という驚異的なスピードで実用化されたのが、ドイツ空軍の単発ジェット戦闘機ハインケルHe162です。ドイツ本土への激しい空襲が続いていた1944年9月、ドイツ空軍は本格的なジェット戦闘機Me262の生産を急がせると共に、構造が簡単で生産性の高い軽量戦闘機、いわゆる国民戦闘機の開発を決定したのです。その要求仕様はジェットエンジンを一基搭載し、最大速度750km/h以上、航続時間30分以上など厳しいものでした。これに対し7社が設計案を提出。すでに自主開発を進めていたハインケル社の案が採用されました。ハインケル社は1939年8月に世界初のジェット推進飛行を成功させた先駆者でしたが、その技術を活かす機会は与えられていませんでした。そのためこの計画に全力で取り組んだのです。開発作業は急ピッチで進められ、3カ月後の12月上旬には早くも原形1号機の初飛行に成功。7段の軸流圧縮機を備えるBMW003エンジンにより、高度6,000mで最大速度838km/hと連合

production model, designated He 162A-2, featured a BMW003 engine capable of top speeds of 838km/h and was produced from mid-January 1945. It was armed with two 20mm MG151 machine guns. The He 162's striking design located the engine nacelle on top of the fuselage, behind the cockpit. This layout necessitated the use of an ejector seat, a relatively new innovation at the time. An existing unit, I./JG1, had its Focke-Wulf Fw190's replaced with He 162's and was dispatched to Leck airfield near the Danish border in late March 1945. With little over 1 month of active duty, the only known combat victory of a He 162 Volksjäger was the unconfirmed downing of a British Hawker Typhoon. Although contributing little to the outcome of the war, the groundbreaking He 162 formed the basis for military jet fighter development for decades to come.

Maschinenkanonen bewaffnet und wurde ab Mitte Januar 1945 hergestellt. Die auffällige Konstruktion der He 162 verfügte über eine Triebwerks-Gondel, die oben auf dem Rumpf unmittelbar hinter dem Cockpit angeordnet war. Diese Auslegung machte die Verwendung eines Schleudersitzes erforderlich, zu jener Zeit eine ziemlich beachtliche Neuerung. Eine vorhandene Einheit, die I./JG1, bekam ihre Focke Wulfs Fw190 durch He 162 ersetzt und wurde gegen Ende März an den Flugplatz Leck nahe der Dänischen Grenze verlegt. Bei insgesamt weniger als einem Monat aktivem Dienst war der einzige Luftsieg eines He 162 Volksjägers der unbestätigte Abschuss einer Britischen Hawker Typhoon. Auch wenn sie den Ausgang des Kriegs nicht mehr beeinflusste, bildete die bahnbrechende He 162 die Grundlage für die Entwicklung militärischer Düsenjäger in den darauf folgenden Jahrzehnten.

désigné He162A-2 était armé de deux mitrailleuses MG151 de 20mm et fut produit à partir de mi-janvier 1945. La conception était avant-gardiste avec le réacteur installé en nacelle sur le fuselage, derrière le cockpit. Cette disposition nécessitait l'utilisation d'un siège éjectable, une innovation à cette époque. Une unité existante, le I./JG1 troqua ses Focke-Wulf Fw190 contre des He162 et s'installa sur l'aérodrome de Leck près de la frontière danoise fin mars 1945. En un seul petit mois d'opérations, le tableau de chasse du He162 Volksjäger se limita à une seule victoire non confirmée sur un Hawker Typhoon Britannique. Bien qu'il n'influe en rien sur la fin des hostilités, le He162 inspira beaucoup le développement des jets de combat des décennies suivantes.

軍のレシプロ戦闘機をはるかに上回る高速性能を実現したのです。同時に大規模な生産体制が整えられ、翌1945年1月中旬には生産1号機が完成。最初の量産型は20mm機関砲MG151を2門搭載し、He162 A-2と名付けられました。He162は胴体背部にエンジンを搭載する大胆なレイアウトを採用して設計を簡略化。資源節約のため主翼や垂直尾翼などは木製とし、コクピット直後にエンジン吸気口が位置するため、火薬式の射出座席を採用していました。部隊配備はすでにFw190を装備していた第1戦闘航空団第I飛行隊を機種転換する方法で迅速に行われ、終戦間際の3月末に実働態勢に入りました。そして1カ月余りという短い戦歴の中で、イギリス空軍の戦闘爆撃機タイフーンを撃墜した記録も残されています。大戦終結時にHe162は240機が完成し、さらに800機以上が生産過程にありました。実戦で活躍する機会はないに訪れませんでした。He162は先駆的なジェット戦闘機として戦後の航空機技術の礎となったのです。



●このキットは組み立てモデルです。作る前に必ず説明書を最後までお読みください。また小学生などの低年齢の方が組み立てる時は、保護者の方もお読みください。
●接着剤や塗料は、必ずプラスチック用をお使いください。(別売)
●Read carefully and fully understand the instructions before commencing assembly. A supervising adult should also read the instructions if a child assembles the model.

●Bevor Sie mit dem Zusammenbau beginnen, sollten Sie alle Anweisungen gelesen und verstanden haben. Falls ein Kind das Modell zusammenbaut, sollte ein beaufsichtigender Erwachsener die Bauanleitung ebenfalls gelesen haben.
●Bien lire et assimiler les instructions avant de commencer l'assemblage. La construction du modèle par un enfant doit s'effectuer sous la surveillance d'un adulte.

注意 ●このキットは組み立てモデルです。作る前に必ず説明書を最後までお読みください。また小学生などの低年齢の方が組み立てる時は、保護者の方もお読みください。また接着剤や塗料は、必ずプラスチック用をお使いください。(別売) ●工具の使用には十分注意してください。特にナイフ、ニッパーなどの刃物によるケガや事故に注意してください。●接着剤や塗料は使用する前にそれぞれの注意書きをよく読み、指示に従って正しく使用し、使用する時は換気に十分注意してください。●小さなお子様のいる所での作業はやめてください。小さな部品の飲み込みや、ビニール袋をかぶっての窒息などの危険な状況が考えられます。

VORSICHT ●Bevor Sie mit dem Zusammenbau beginnen, sollten Sie alle Anweisungen gelesen und verstanden haben. Fall sein Kind das Modell zusammenbaut, sollte ein beaufsichtigender Erwachsener die Bauanleitung ebenfalls gelesen haben. ●Beim Zusammenbau dieses Bausatzes werden Werkzeuge einschließlich Messer verwendet. Zur Vermeidung von Verletzungen ist besondere Vorsicht angebracht. ●Wenn Sie Farben und/oder Kleber verwenden (nicht im Bausatz enthalten), beachten und befolgen Sie die dort beiliegenden Anweisungen. Nur Klebstoff und Farben für Plastik verwenden. ●Bausatz von kleinen Kindern fernhalten. Verhüten Sie, daß Kinder irgendwelche Bauteile in den Mund nehmen oder Plastiktüten über den Kopf ziehen.

CAUTION ●Read carefully and fully understand the instructions before commencing assembly. A supervising adult should also read the instructions if a child assembles the model. ●When assembling this kit, tools including knives are used. Extra care should be taken to avoid personal injury. ●Read and follow the instructions supplied with paint and/or cement, if used (not included in kit). Use plastic cement and paints only. ●Keep out of reach of small children. Children must not be allowed to put any parts in their mouths, or pull vinyl bag over their heads.

PRECAUTIONS ●Bien lire et assimiler les instructions avant de commencer l'assemblage. La construction du modèle par un enfant doit s'effectuer sous la surveillance d'un adulte. ●L'assemblage de ce kit requiert de l'outillage, en particulier des couteaux de modélisme. Manier les outils avec précaution pour éviter toute blessure. ●Lire et suivre les instructions d'utilisation des peintures et ou de la colle, si utilisées (non incluses dans le kit). Utiliser uniquement une colle et des peintures spéciales pour le polystyrène. ●Garder hors de portée des enfants en bas âge. Ne pas laisser les enfants mettre en bouche ou sucer les pièces, ou passer un sachet vinyl sur la tête.

PAINTS REQUIRED

● 塗装指示のマークです。タミヤカラーのカラーナンバーで指示しました。
This mark denotes numbers for Tamiya Paint colors.

- AS-5 ●ライトブルー(Luftwaffe) / Light blue (Luftwaffe) / Hellblau (Luftwaffe) / Bleu Clair (Luftwaffe)
- AS-23 ●ライトグリーン(ドイツ空軍) / Light Green (Luftwaffe) / Hellgrün (Luftwaffe) / Vert clair (Luftwaffe)
- AS-24 ●ダークグリーン(ドイツ空軍) / Dark Green (Luftwaffe) / Dunkelgrün (Luftwaffe) / Vert foncé (Luftwaffe)

- AS-12 ●シルバーメタル / Bare-Metal Silver / Blank-Metall Silber / Métal Nu
- X-1 ●ブラック / Black / Schwarz / Noir
- X-7 ●レッド / Red / Rot / Rouge
- X-10 ●ガンメタル / Gun metal / Metall-Grau / Gris acier
- X-11 ●クロームシルバー / Chrome silver / Chrom-Silber / Aluminium chromé
- X-18 ●セミグロスブラック / Semi gloss black / Seidenglanz Schwarz / Noir satiné
- XF-1 ●フラットブラック / Flat black / Matt Schwarz / Noir mat

- XF-7 ●フラットレッド / Flat red / Matt Rot / Rouge mat
- XF-10 ●フラットブラウン / Flat brown / Matt Braun / Brun mat
- XF-15 ●フラットフレッシュ / Flat flesh / Fleischfarben Matt / Chair mate
- XF-16 ●フラットアルミ / Flat aluminum / Matt Aluminium / Aluminium mat
- XF-22 ●RLMグレイ / RLM grey / RLM-Grau / Gris R.L.M.
- XF-23 ●ライトブルー / Light blue / Hellblau / Bleu clair
- XF-55 ●デッキタン / Deck tan / Deck-Braun / Havane
- XF-56 ●メタリックグレイ / Metallic grey / Grau-Metallic / Gris métallisé
- XF-63 ●ジャーマングレイ / German grey / Deutsches Grau / Gris Panzer
- XF-65 ●フィールドグレイ / Field grey / Feldgrau / Gris campagne

RECOMMENDED TOOLS

《用意する工具》
Tools recommended
Benötigtes Werkzeug
Outillage nécessaire

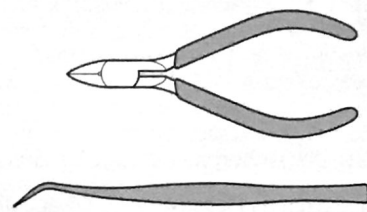
接着剤
(プラスチック用)
Cement
Kleber
Colle

ナイフ
Modeling knife
Modellermesser
Couteau de modéliste



ニッパー
Side cutters
Seitenschneider
Pince coupante

ピンセット
Tweezers
Pinzette
Précettes

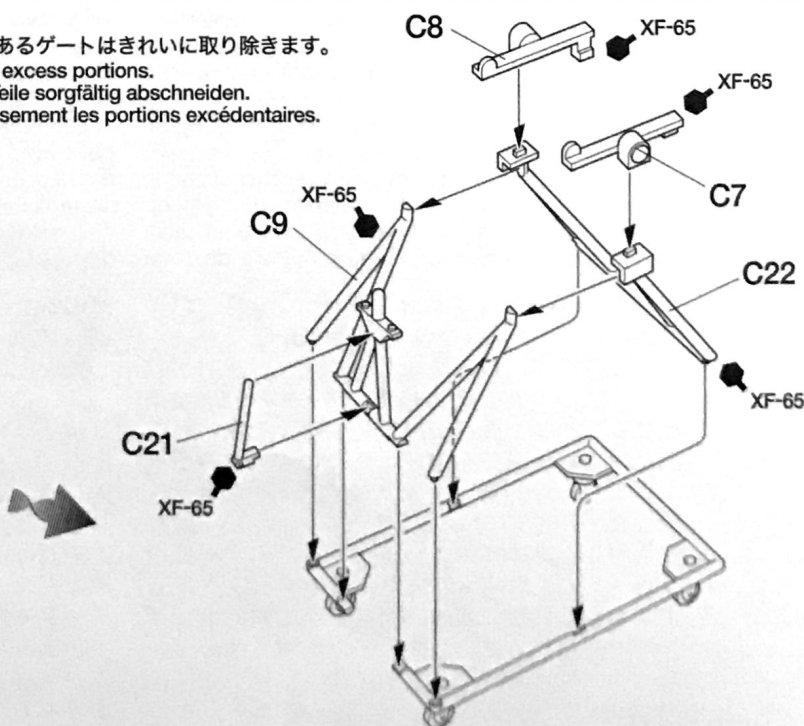
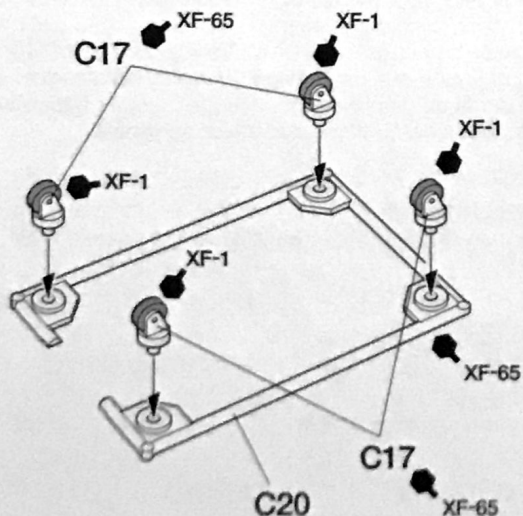


ASSEMBLY

●マーキングにより、塗装が異なります。塗装図および、P8~10のマーキングを参照し組み立てる機体を選んでください。また塗装指示の無いパーツは機体色です。(透明部品は除く)
●Before assembly, select markings referring to P8 - 10 and separate Finishing Guide. Painting and some equipment will vary according to the markings. When no color is specified, paint the item with fuselage color.
●Entscheiden Sie sich vor dem Zusammenbau unter Bezug auf S8 - 10 und auf die separate Fertigstellungsrichtlinie für eine Art der Markierung. Die Lackierung und einige Ausrüstungsgegenstände sind entsprechend der gewählten Markierung unterschiedlich. Wo keine Farbe angegeben ist, das Teil in der Rumpffarbe lackieren.
●Avant de commencer l'assemblage, choisir une des decorations en se referant aux pages 8 a 10 car la peinture ainsi que certains équipements different. Lorsqu'aucune teinte n'est specifiée, peindre dans la teinte du fuselage.

1 エンジン台車の組み立て
Engine dolly
Triebwerks-Transportwagen
Chariot du réacteur

★部品の接着面にあるゲートはきれいに取り除きます。
★Carefully cut off excess portions.
★Überstehende Teile sorgfältig abschneiden.
★Enlever soigneusement les portions excédentaires.



2

コックピット部品の組み立て
Cockpit parts assembly
Cockpit-Zusammenbau
Assemblage d'éléments du cockpit



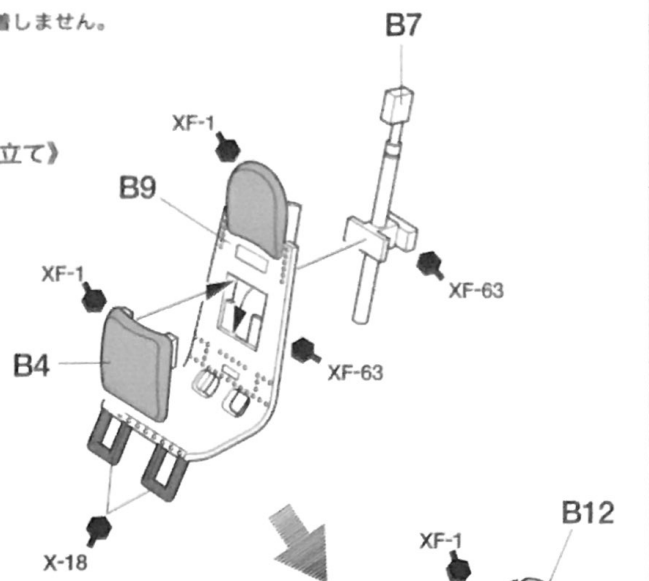
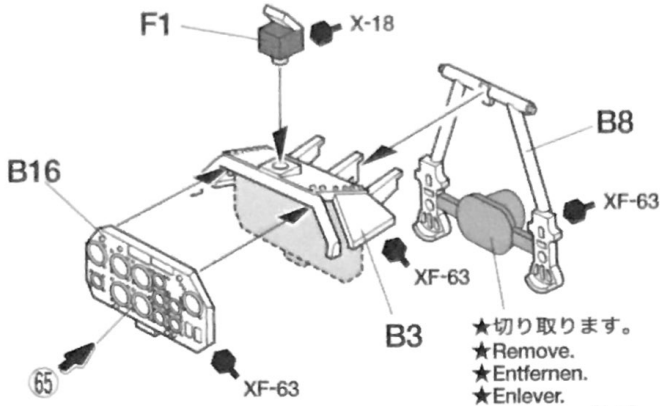
このマークの部品は接着しません。
Do not cement.
Nicht kleben.
Ne pas coller.

《メーターパネルの組み立て》

Instrument panel
Instrumententafel
Tableau de bord

《射出座席の組み立て》

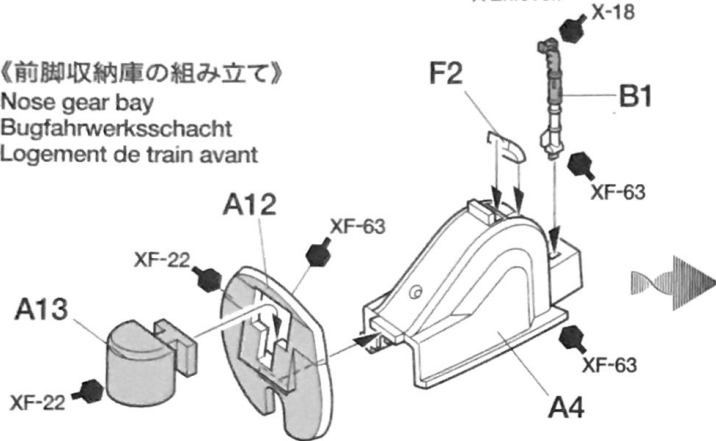
Ejector seat
Schleudersitz
Siège éjectable



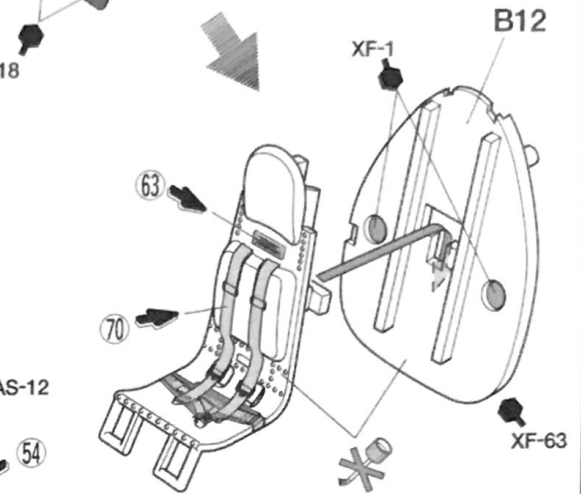
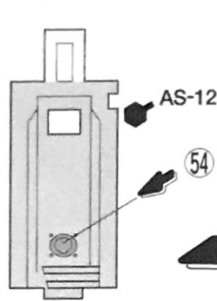
★切り取ります。
★Remove.
★Entfernen.
★Enlever.

《前脚収納庫の組み立て》

Nose gear bay
Bugfahrwerksschacht
Logement de train avant



《A4》



指示の番号のスライドマークをはります。
Number of decal to apply.
Nummer des Abziehbildes, das anzubringen ist.
Numéro de la décalcomanie à utiliser.

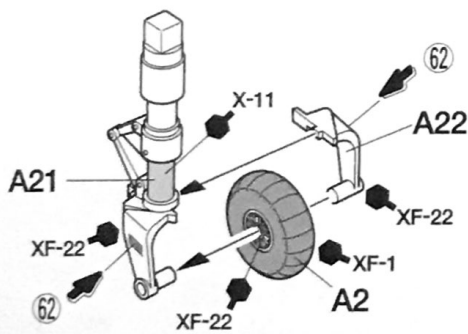
3

脚の組み立て
Landing gear assembly
Zusammenbau des Fahrwerks
Assemblage du train d'atterrissage

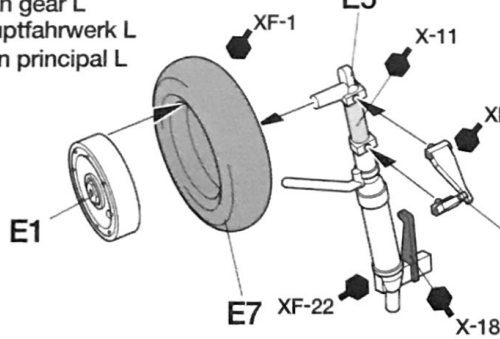
★E1,E7の色は機種によって異なります。8~10ページおよび塗装図を参考にしてください。
★Colors of E1 and E7 differ depending on each aircraft. Refer to P.8 - 10 and separate Finishing Guide.
★Die Farben von E1 und E7 sind bei jedem Flugzeug unterschiedlich. Beachten Sie S.8-10 und die Fertigstellungs-Anleitung.
★La teinte de E1 et E7 diffère selon l'avion. Se reporter au page 8-10 et au Guide de Finition séparé.

《前脚》

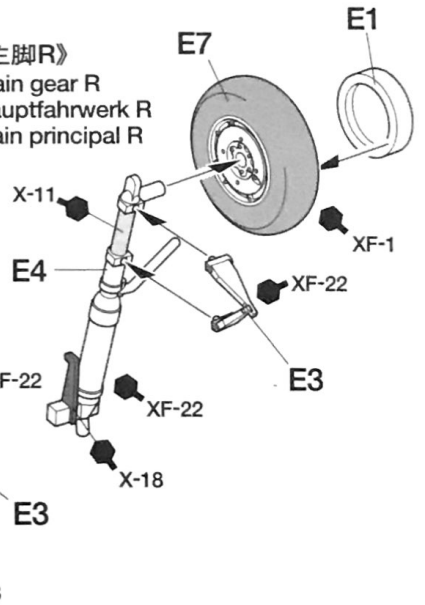
Nose gear
Bugfahrwerk
Train avant



《主脚L》
Main gear L
Hauptfahrwerk L
Train principal L

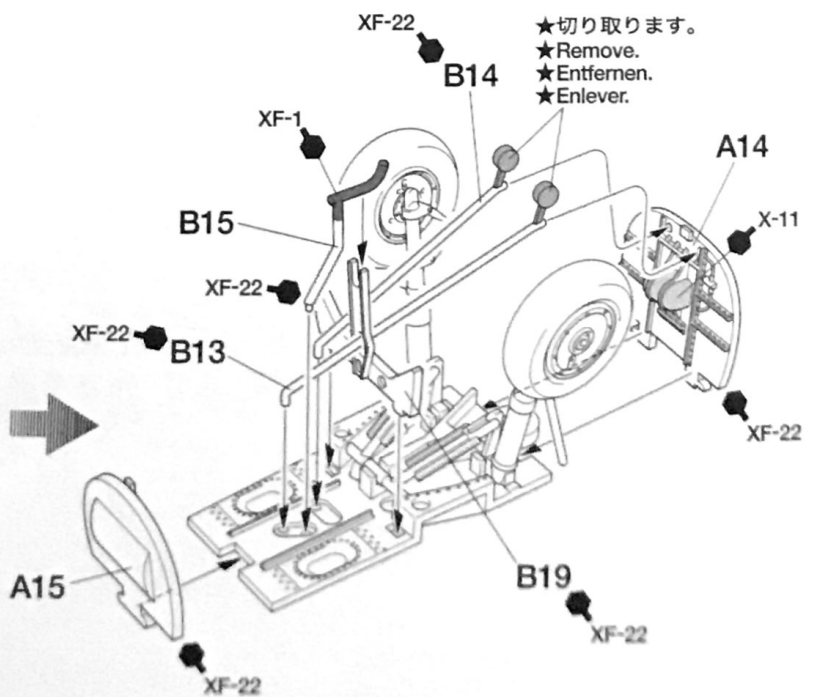
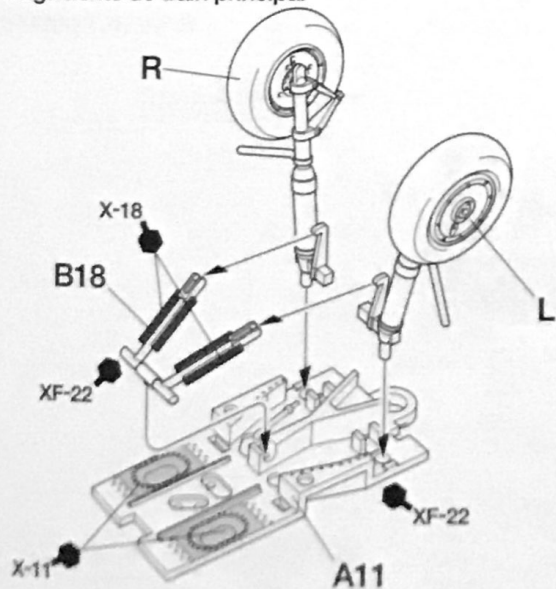


《主脚R》
Main gear R
Hauptfahrwerk R
Train principal R



4

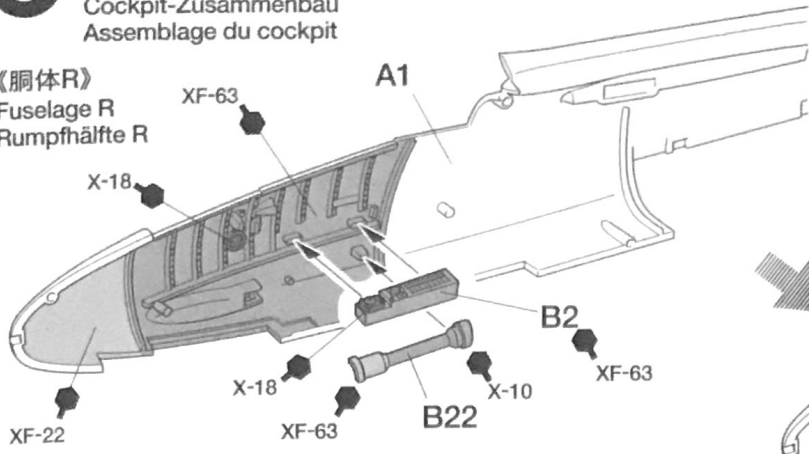
主脚収納部の組み立て
Main gear bay
Schacht des Hauptfahrwerks
Logements de train principal



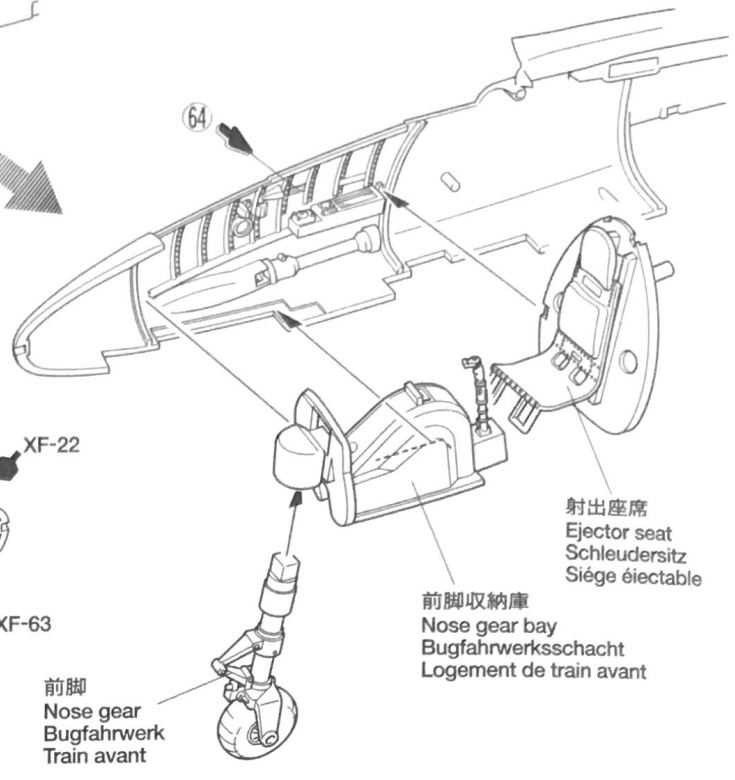
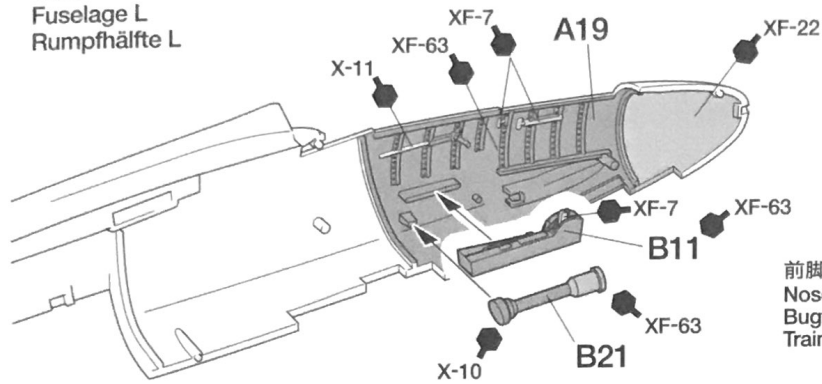
★切り取ります。
★Remove.
★Entfernen.
★Enlever.

5 コックピットの組み立て
Cockpit assembly
Cockpit-Zusammenbau
Assemblage du cockpit

《胴体R》
Fuselage R
Rumpfhälfte R

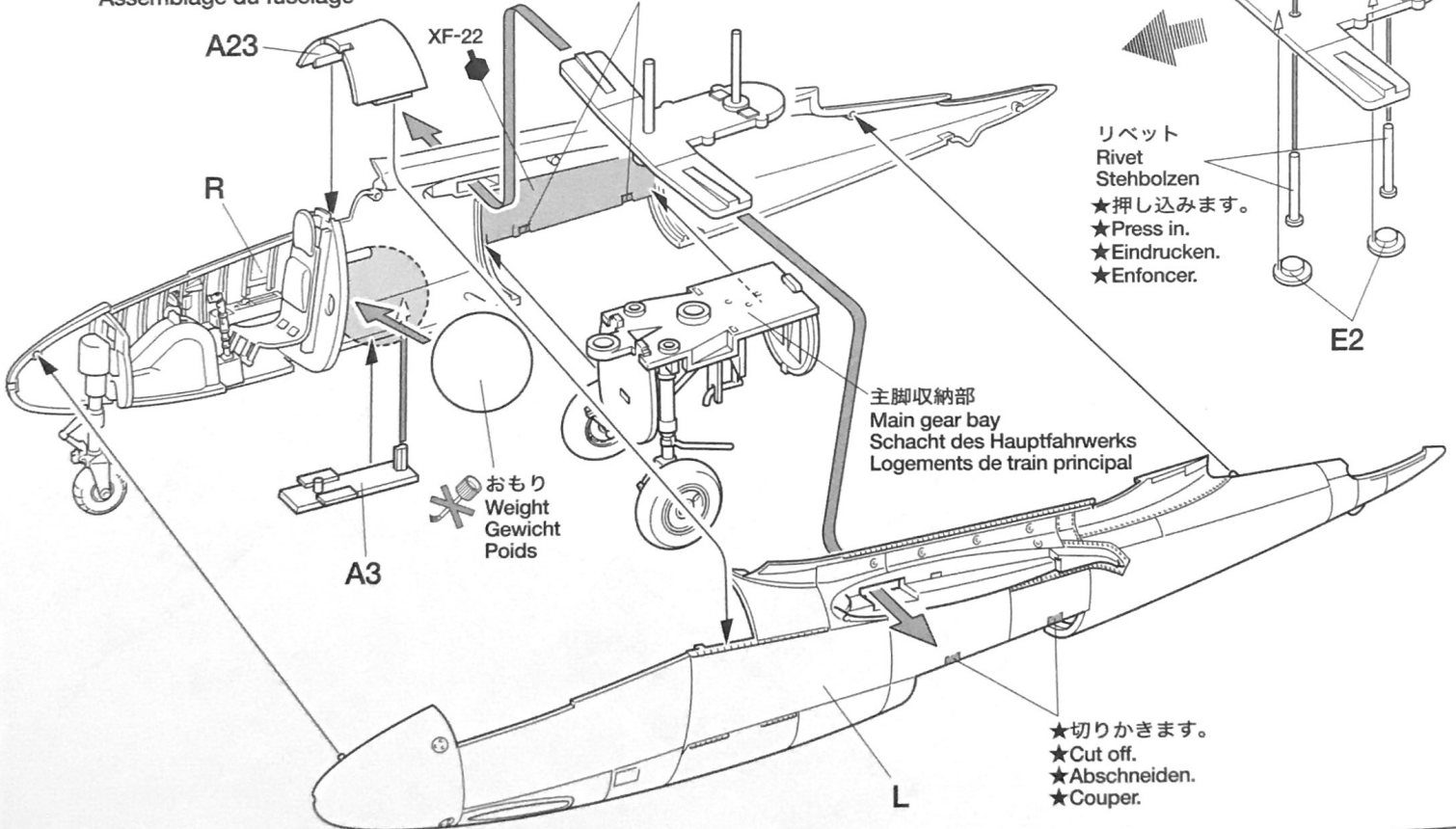


《胴体L》
Fuselage L
Rumpfhälfte L



6 胴体の組み立て
Fuselage assembly
Rumpf-Zusammenbau
Assemblage du fuselage

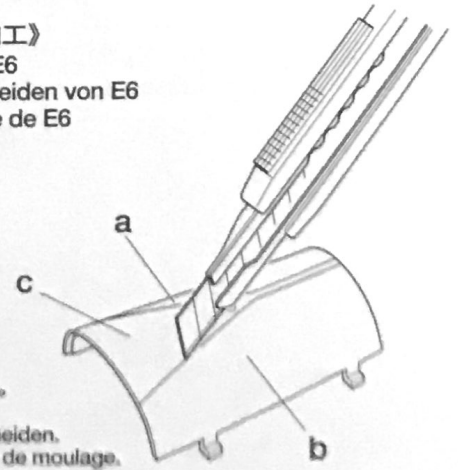
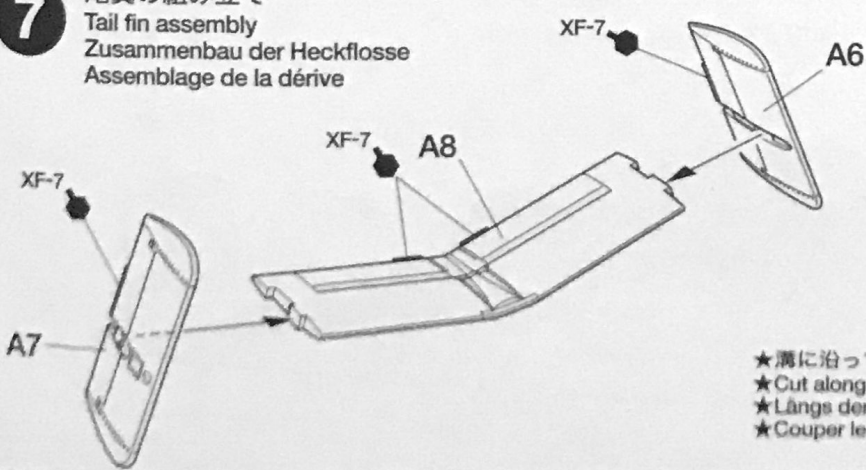
- ★切りかきます。
- ★Cut off.
- ★Abschneiden.
- ★Couper.



- リベット
- Rivet
- Stehbolzen
- ★押し込みます。
- ★Eindrücken.
- ★Enfoncer.

7 尾翼の組み立て
Tail fin assembly
Zusammenbau der Heckflosse
Assemblage de la dérive

《E6の加工》
Cutting E6
Ausschneiden von E6
Découpe de E6



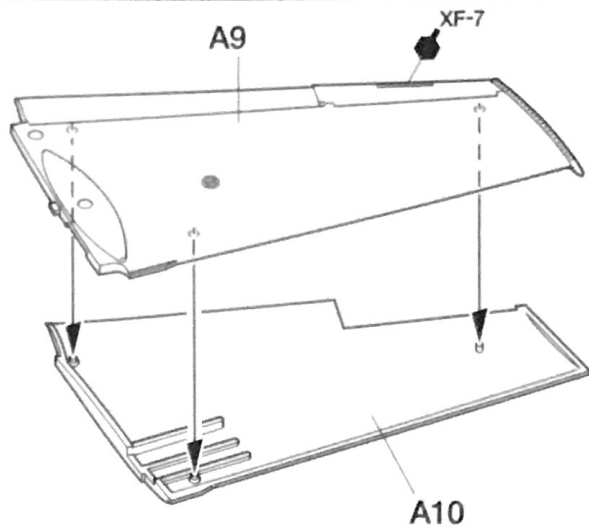
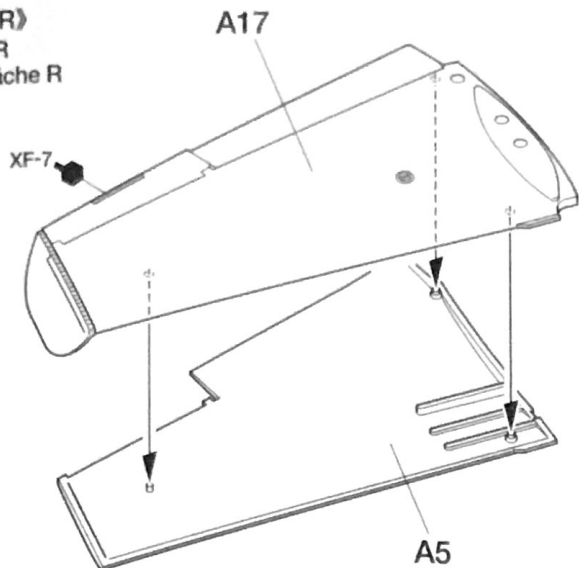
- ★溝に沿って切り離します。
- ★Cut along mold line.
- ★Längs der Prägelinie schneiden.
- ★Couper le long de la ligne de moulage.

8

主翼の組み立て
Wing assembly
Flügel-Zusammenbau
Assemblage de l'aile

《主翼L》
Wing L
Tragfläche L
Aile L

《主翼R》
Wing R
Tragfläche R
Aile R

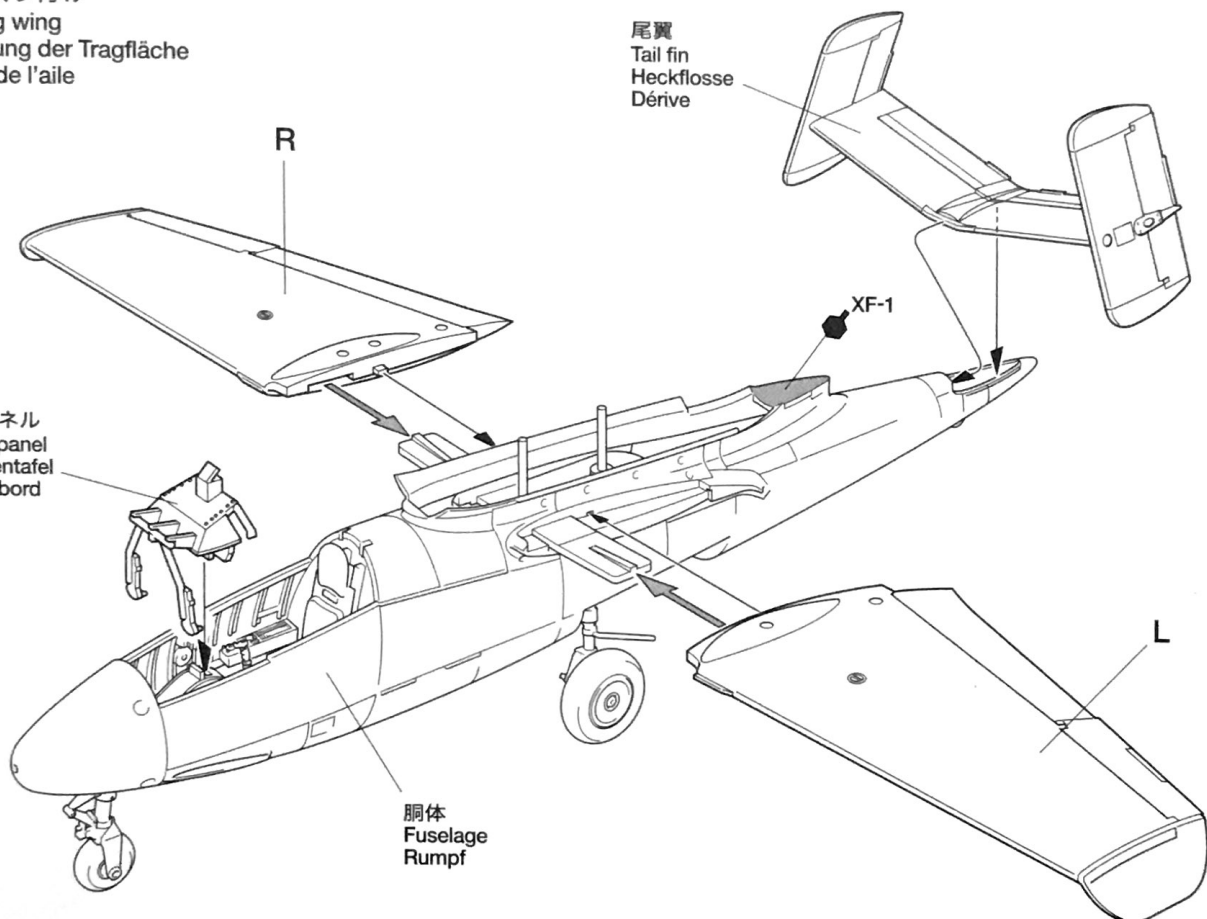


9

主翼の取り付け
Attaching wing
Befestigung der Tragfläche
Fixation de l'aile

尾翼
Tail fin
Heckflosse
Dérive

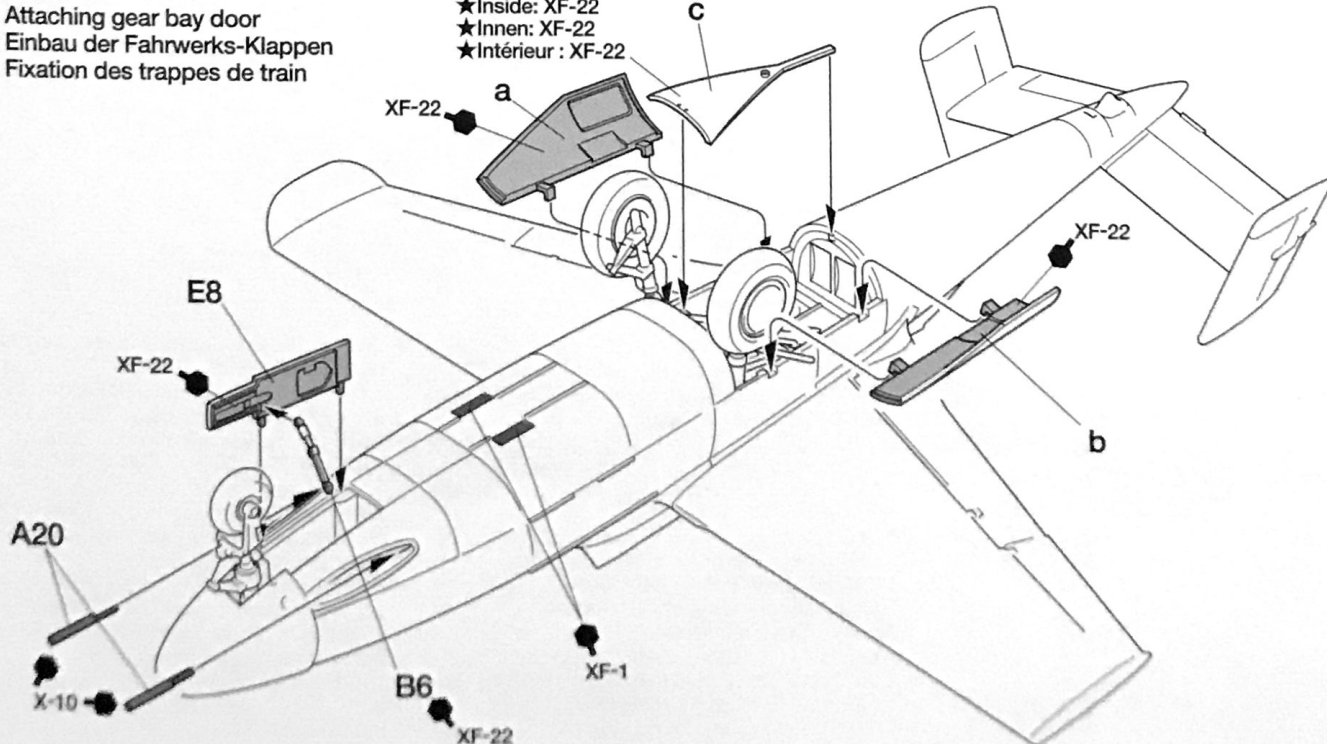
メーターパネル
Instrument panel
Instrumententafel
Tableau de bord



10

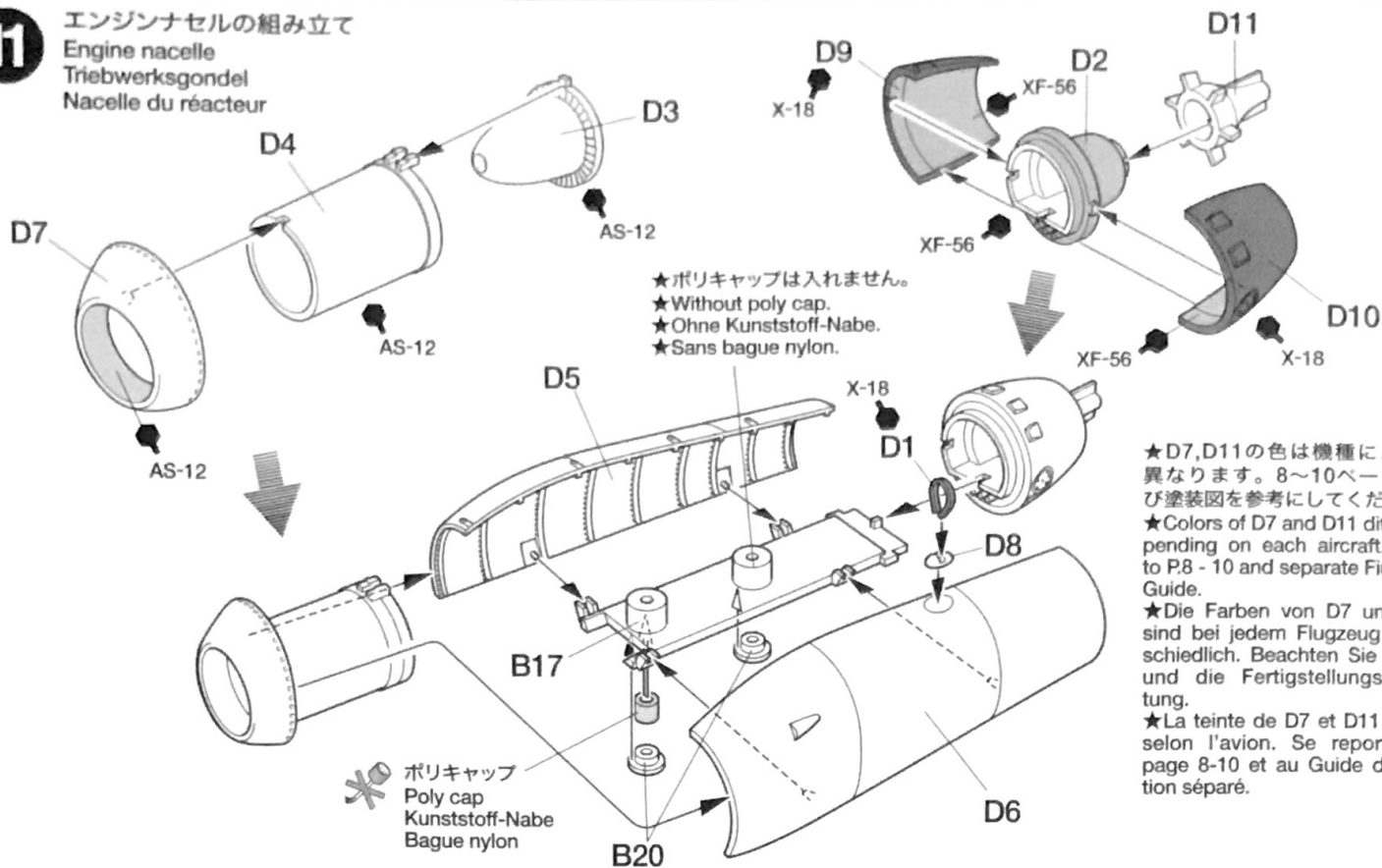
脚カバーの取り付け
Attaching gear bay door
Einbau der Fahrwerks-Klappen
Fixation des trappes de train

★裏側はXF-22。
★Inside: XF-22
★Innen: XF-22
★Intérieur: XF-22



11

エンジンナセルの組み立て

Engine nacelle
Triebwerks gondel
Nacelle du réacteur

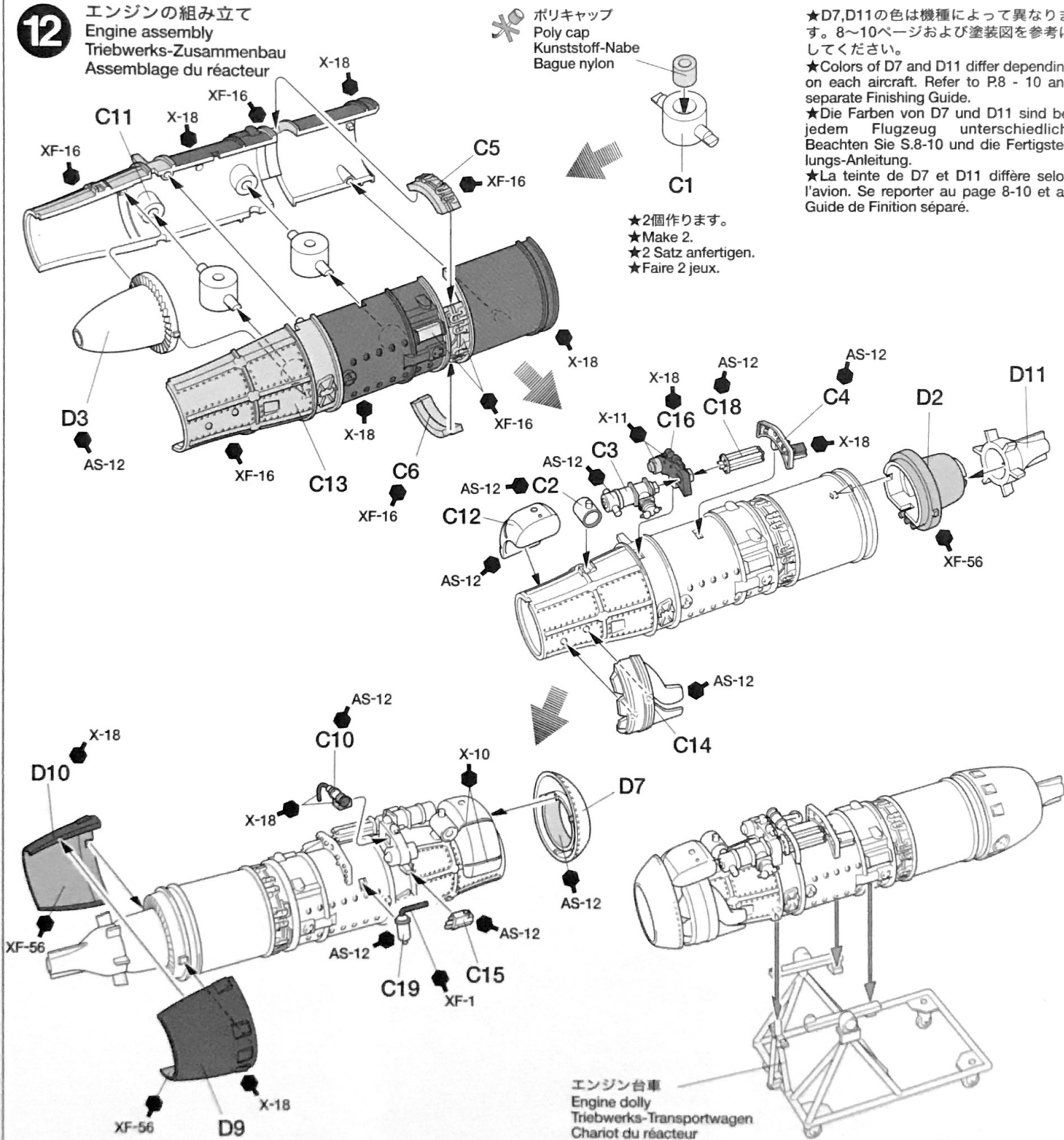
★D7,D11の色は機種によって異なります。8~10ページおよび塗装図を参考にしてください。
★Colors of D7 and D11 differ depending on each aircraft. Refer to P8 - 10 and separate Finishing Guide.

★Die Farben von D7 und D11 sind bei jedem Flugzeug unterschiedlich. Beachten Sie S.8-10 und die Fertigstellungs-Anleitung.

★La teinte de D7 et D11 diffère selon l'avion. Se reporter au page 8-10 et au Guide de Finition séparé.

12

エンジンの組み立て

Engine assembly
Triebwerks-Zusammenbau
Assemblage du réacteur

★D7,D11の色は機種によって異なります。8~10ページおよび塗装図を参考にしてください。

★Colors of D7 and D11 differ depending on each aircraft. Refer to P8 - 10 and separate Finishing Guide.

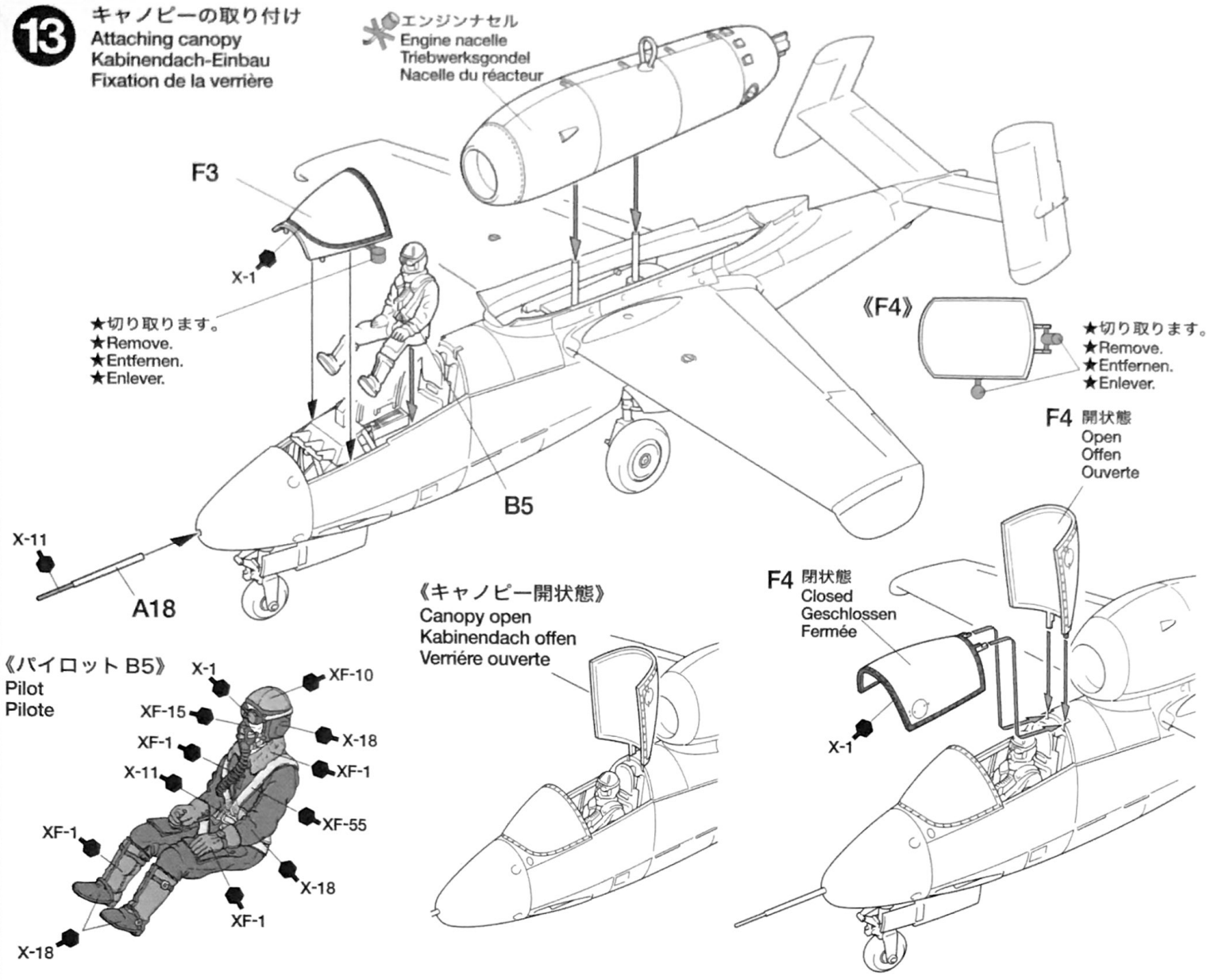
★Die Farben von D7 und D11 sind bei jedem Flugzeug unterschiedlich. Beachten Sie S.8-10 und die Fertigstellungs-Anleitung.

★La teinte de D7 et D11 diffère selon l'avion. Se reporter au page 8-10 et au Guide de Finition séparé.

エンジン台車
Engine dolly
Triebwerks-Transportwagen
Chariot du réacteur

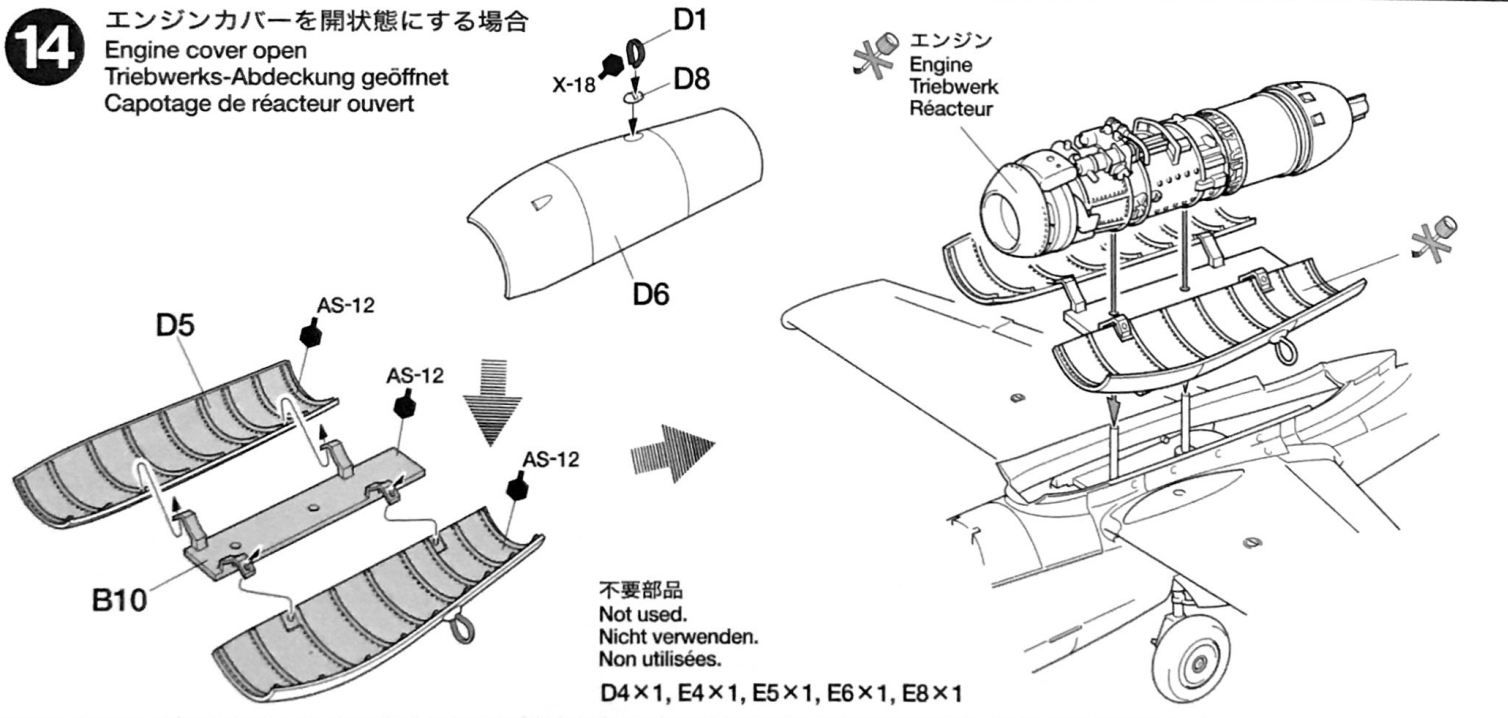
13 キャンプーの取り付け
Attaching canopy
Kabinendach-Einbau
Fixation de la verrière

✳ エンジンナセル
Engine nacelle
Triebwerks gondel
Nacelle du réacteur



14 エンジンカバーを開状態にする場合
Engine cover open
Triebwerks-Abdeckung geöffnet
Capotage de réacteur ouvert

✳ エンジン
Engine
Triebwerk
Réacteur



PAINTING

《ハインケル He162 A-2 の塗装》

終戦間際の1945年3月末から実戦配備されたHe162は、上面に濃淡2色のグリーンを使った迷彩が施され、下面はライトブルーで塗装されていました。生産性を優先させたことや大戦末期の混乱もあり、塗装パターンは一律ではありませんでしたが、生産初期は下面色が胴体側面まで回り込んでいた機体が多かったようです。第1戦闘航空団の機体はすべて機首両側に赤い矢印が描かれ、指揮官機では機首に黒、白、赤の帯が描かれていました。また機体番号は部隊によって色分けされ、白が第1、赤が第2、黄色が第3の各中隊を示しました。機体内部を始め、各部の塗装は組み立て図中に●マークとタミヤカラーの色番号で指示してあります。

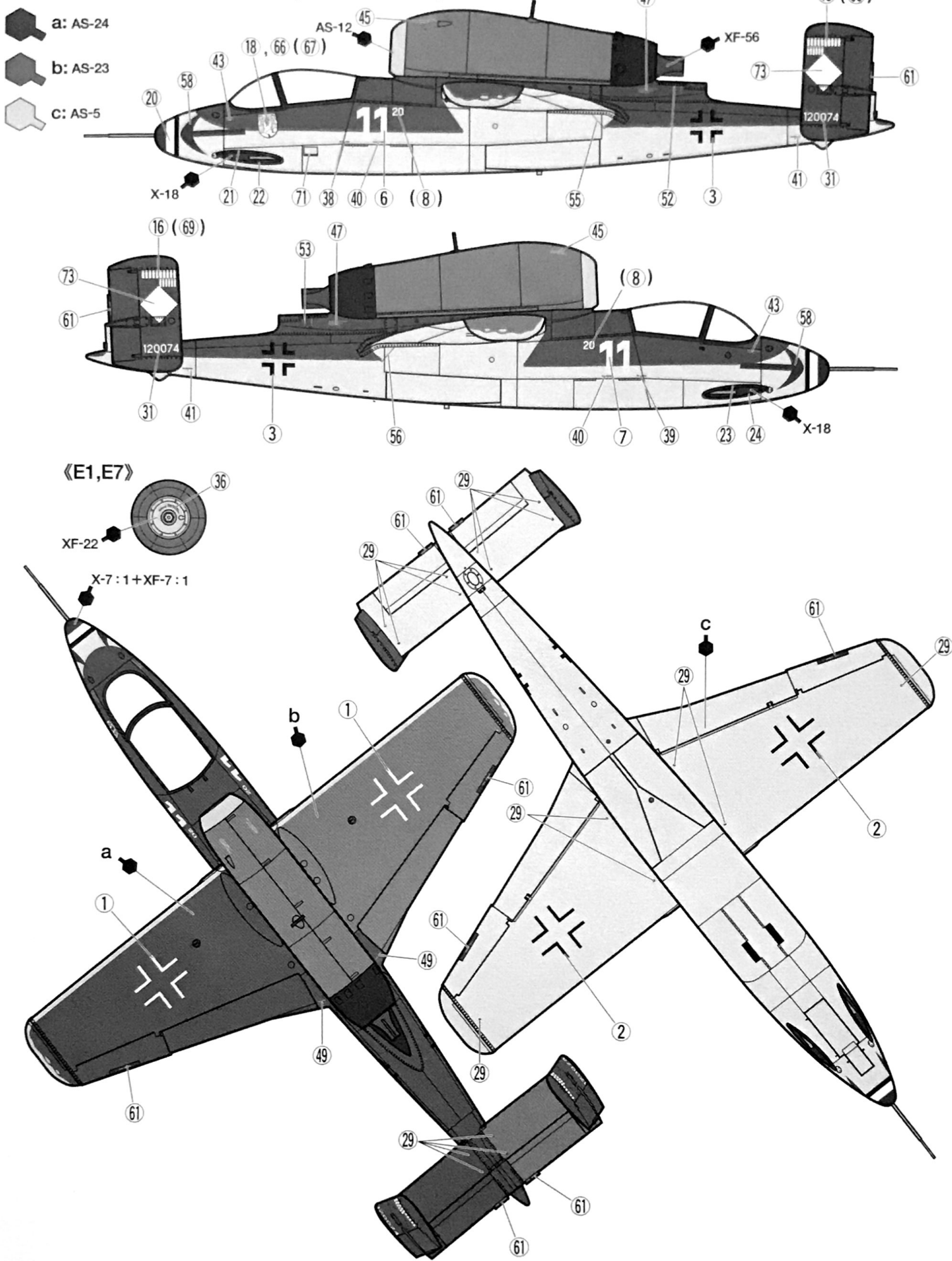
Painting the Heinkel He 162A-2

He 162's deployed for operations are believed to have featured 2-color camouflage incorporating RLM 81 Brown Violet and 82 Light Green on the upper surface, with a 76 Light Blue underside. Upheavals towards the end of the war meant that standards were nearly impossible to enforce, though it appears that most early models featured light blue on the sides of the fuselage as well. Units belonging to I/JG1 displayed red arrows on the side, with officers' planes featuring concentric black, white and red bands on the nose. Refer to instruction manual for guide to painting cockpit and other details. The ● mark indicates numbers for Tamiya Paint colors. **Lackierung der Heinkel He 162A-2** Man nimmt an, dass die zum Einsatz ausgelieferten He 162 an der Oberseite einen zweifarbigen Tarnanstrich aus RLM 81 Braun-Violett und 82 hellgrün hatten, dazu die Unterseite in 76 Hellblau. Die sich gegen Ende des Kriegs überstürzenden Ereignisse bewirkten, dass irgendwelche Vorgaben praktisch nicht einzuhalten waren, daher scheint es so, als ob

die meisten früheren Modelle auch an den Rumpfsseiten Hellblau aufwiesen. Die zum I/JG1 gehörigen Einheiten zeigten zwei rote Pfeile an der Seite, wobei die Flugzeuge von Offizieren konzentrische, schwarz-weiß-rote Streifen an der Nase trugen. Beachten Sie die Bauanleitung als Hilfe beim Lackieren des Cockpits und anderer Details. Die ● Markierung gibt die Nummer der Tamiya-Lackfarben an. **Peinture du Heinkel He 162A-2**

Les He162 utilisés en opération portaient probablement un camouflage deux tons constitué de RLM 81 Brun Violet et 82 Vert Clair sur les surfaces supérieures et 76 Bleu Clair en dessous. Le chaos de fin de guerre rendit toute standardisation impossible mais il semble que la plupart des premiers modèles de série avaient également les flancs du fuselage bleu clair. Les exemplaires du I/JG1 arboraient des flèches rouges sur les côtés et des cercles concentriques noir, blanc et rouge sur le nez pour les machines des officiers. Se reporter au manuel d'instructions pour peindre le cockpit et autres détails. Le symbole ● indique la référence de peinture Tamiya à utiliser.

B 第1戦闘航空団第3飛行中隊長 エミール デムート少尉 搭乗機 1945年5月 レック飛行場
3/JG1, Oberleutnant Emil Demuth, May 1945 Leck, Germany



APPLYING DECALS

《スライドマークのはりかた》

- ①はりたいマークをハサミで切りぬきます。
- ②マークをぬるま湯に10秒ほどひたしてからタオル等の布の上におきます。
- ③台紙のはしを手で持ち、貼るところにマークをスライドさせてモデルに移してください。
- ④指に少し水をつけてマークをぬらしながら、正しい位置にずらしします。
- ⑤やわらかい布でマークの内側の気泡をおし出しながら、おしつけるようにして水分をとります。

DECAL APPLICATION

1. Cut off decal from sheet.
2. Dip the decal in tepid water for about 10 sec. and place on a clean cloth.
3. Hold the backing sheet edge and slide decal onto the model.
4. Move decal into position by wetting decal with finger.
5. Press decal gently down with a soft cloth until excess water and air bubbles are gone.

ANBRINGUNG DES ABZIEHBILDES

1. Abziehbild vom Blatt ausschneiden.
2. Das Abziehbild ungefähr 10 Sek. in lauwarmes Wasser tauchen, dann auf sauberen Stoff legen.
3. Die Kante der Unterlage halten und das Abziehbild auf das Modell schieben.
4. Das Abziehbild an die richtige Stelle schieben

und dabei mit dem Finger das Abziehbild naßmachen.

5. Das abziehbild mit weichem Stoff ganz andrücken, bis kein überflüssiges Wasser und keine Luftblasen mehr vorhanden sind.

APPLICATION DES DECALCOMANIES

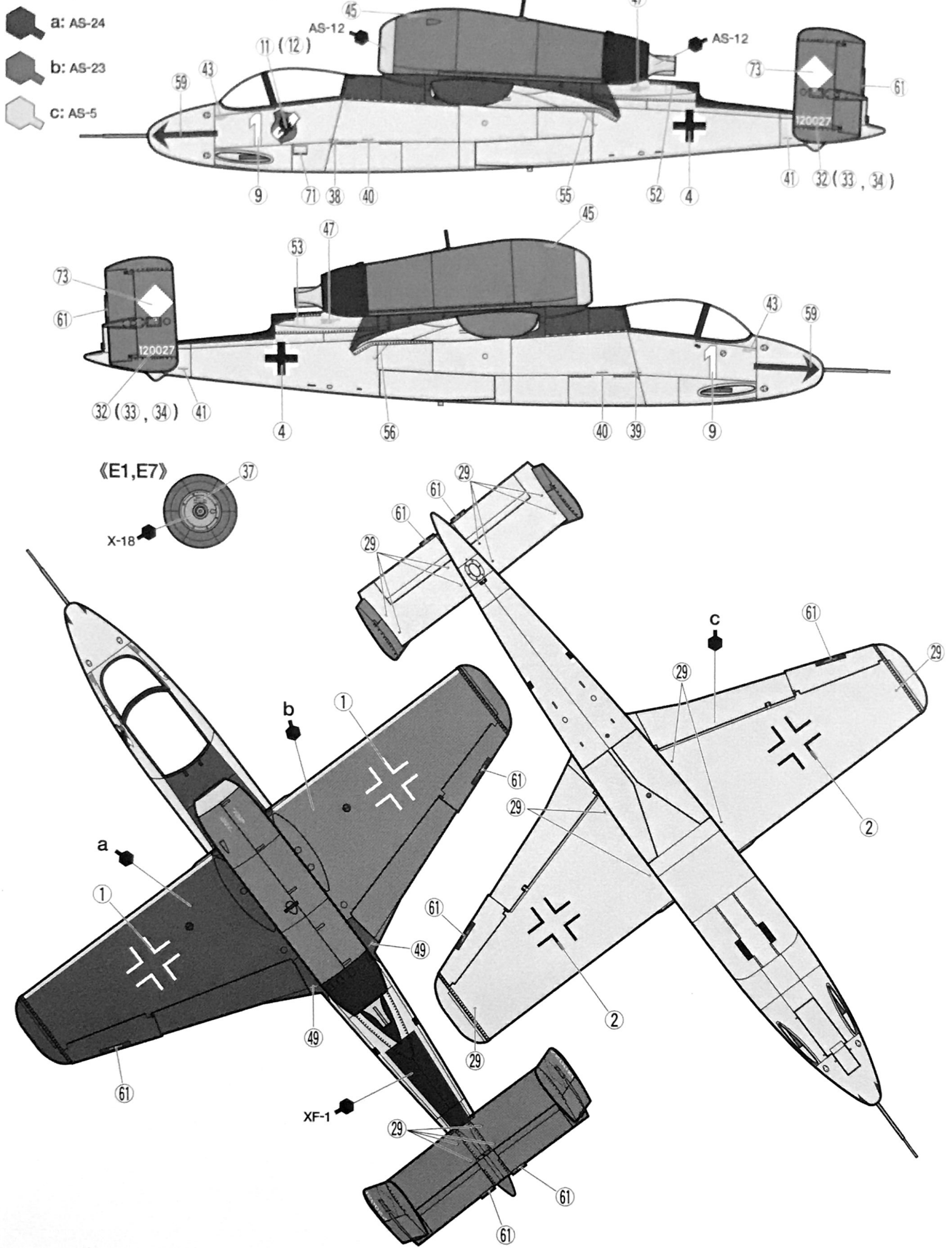
1. Découpez la décalcomanie de sa feuille.
2. Plongez la décalcomanie dans de l'eau tiède pendant 10 secondes environ et poser sur un linge propre.

3. Retenez la feuille de protection par le côté et glissez la décalcomanie sur le modèle réduit.

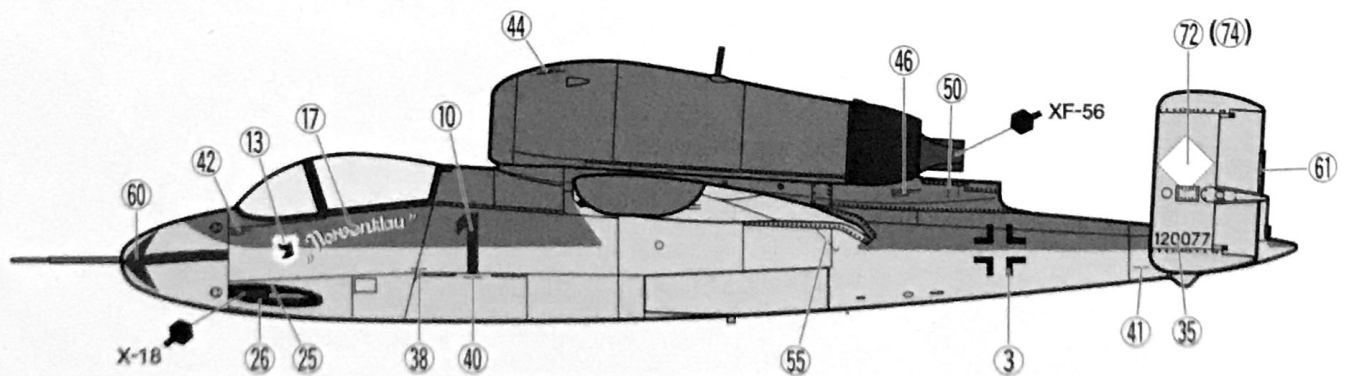
4. Placez la décalcomanie à l'endroit voulu en la mouillant avec un de vos doigts.

5. Pressez doucement la décalcomanie avec un tissu doux jusqu'à ce que l'eau en excès et les bulles aient disparu.




C 第1戦闘航空団第1中隊所属 ルドルフ シュミット少尉 搭乗機 1945年5月 レック飛行場
 1/JG1, Leutnant Rudolf Schmitt, May 1945 Leck, Germany

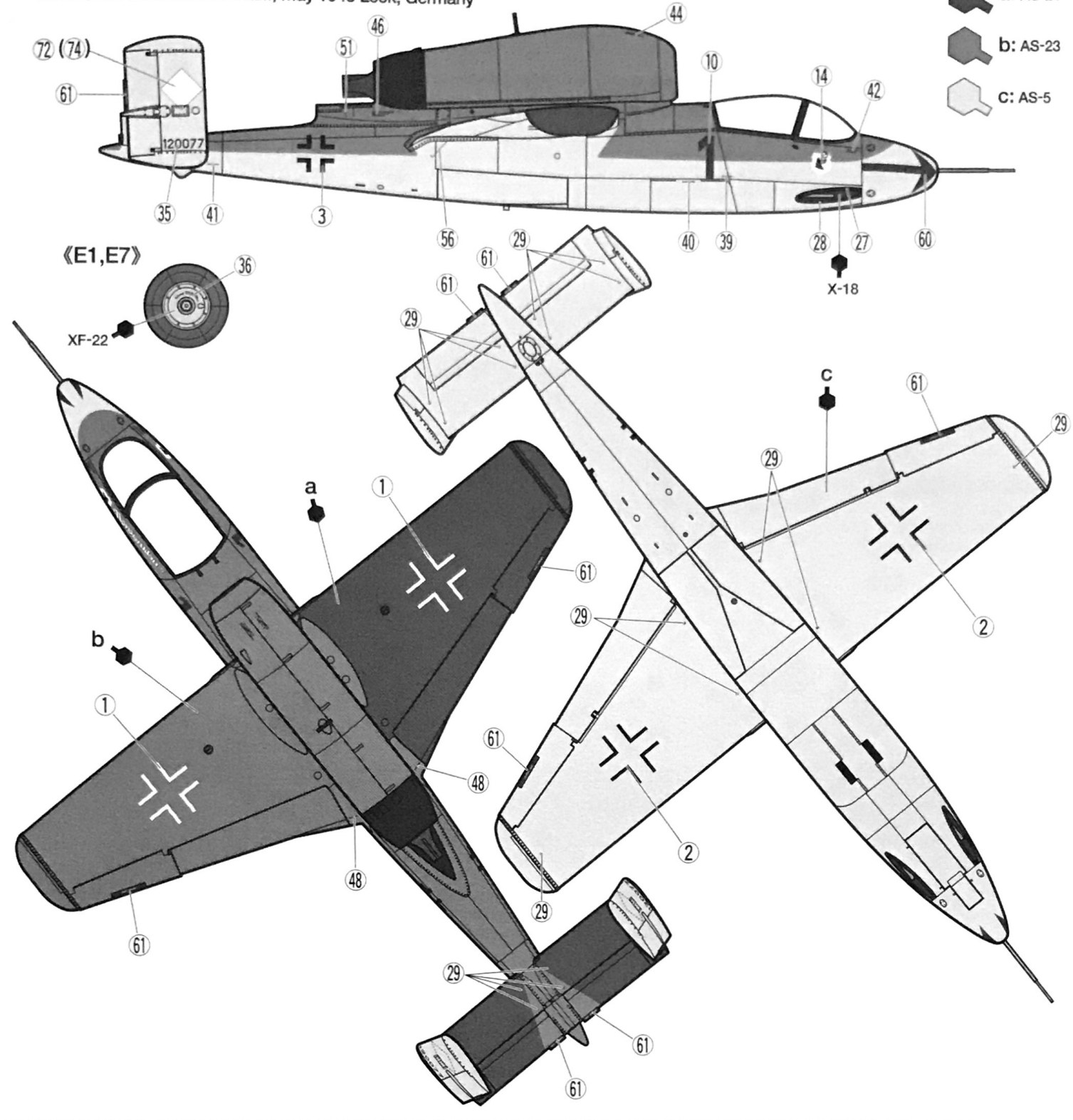


D 第1戦闘航空団第2中隊所属ゲルハルト ハンフ少尉搭乗機 1945年5月 レック飛行場
 2/JG1, Leutnant Gerhard Hanf, May 1945 Leck, Germany



D 第1戦闘航空団第2中隊所属ゲルハルト ハンフ少尉搭乗機 1945年5月 レック飛行場
2/JG1, Leutnant Gerhard Hanf, May 1945 Leck, Germany

-  a: AS-24
-  b: AS-23
-  c: AS-5



部品請求について

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When purchasing Tamiya replacement parts, please take or send this form to your local Tamiya dealer so that the parts required can be correctly identified and supplied. Please note that specifications, availability and price are subject to change without notice.

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0006467D & E Parts (1 pc.)
9006455F Parts
5700071Weight
9446025Metal Parts Bag
9496077Decal
9806092Instructions

HEINKEL He162 A-2 "SALAMANDER"

1/48 傑作機シリーズ
ハインケルHe162 A-2
"サラマンダー"



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HEINKEL He162 A-2 "SALAMANDER"

★図を参考に機体のマーキングや塗装をおこなってください。塗装は筆塗りやスプレー塗装でもおこなえますが、エアブラシを使うと細かい塗装がうまくおこなえます。

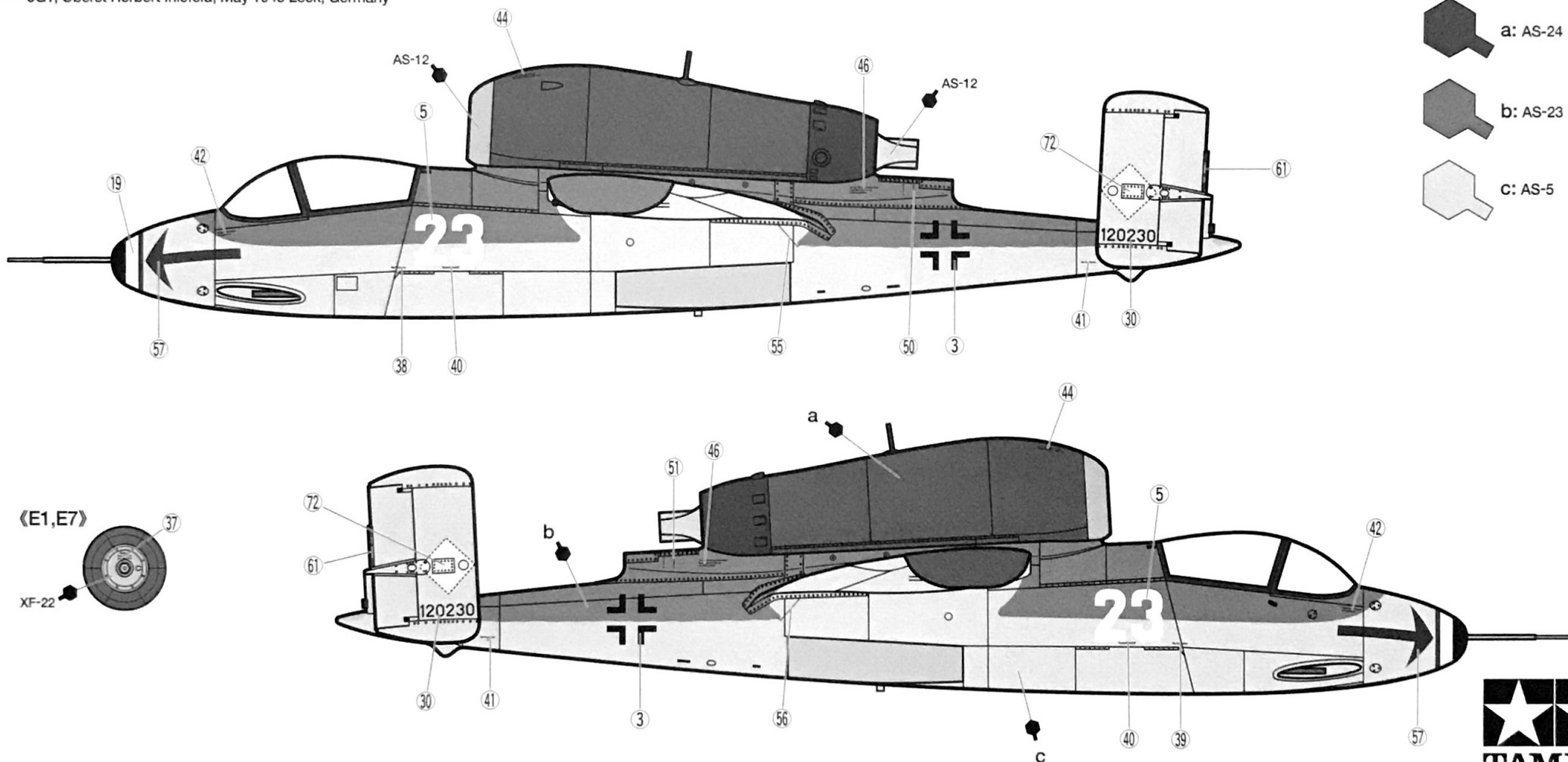
★Paint aircraft and apply markings referring to the illustrations. Use brush and/or spray paint for painting. Airbrush is recommended for fine finish.

★Lackieren Sie das Flugzeug und bringen Sie die Markierungen gemäß den Abbildungen an. Verwenden Sie Pinselbemalung und/oder Sprayfarbe zum Lackieren. Für eine feine Oberfläche wird Airbrush empfohlen.

★Peindre l'avion et apposer les marquages en se référant aux illustrations. Utiliser des pinceaux et/ou un aérographe pour la peinture. L'aérographe permet une meilleure finition.

ハインケル He162 A-2 "サラマンダー"

A 第1戦闘航空団司令 ヘルベルト イーレフェルト大佐 搭乗機 1945年5月 レック飛行場
JG1, Oberst Herbert Ihlefeld, May 1945 Leck, Germany

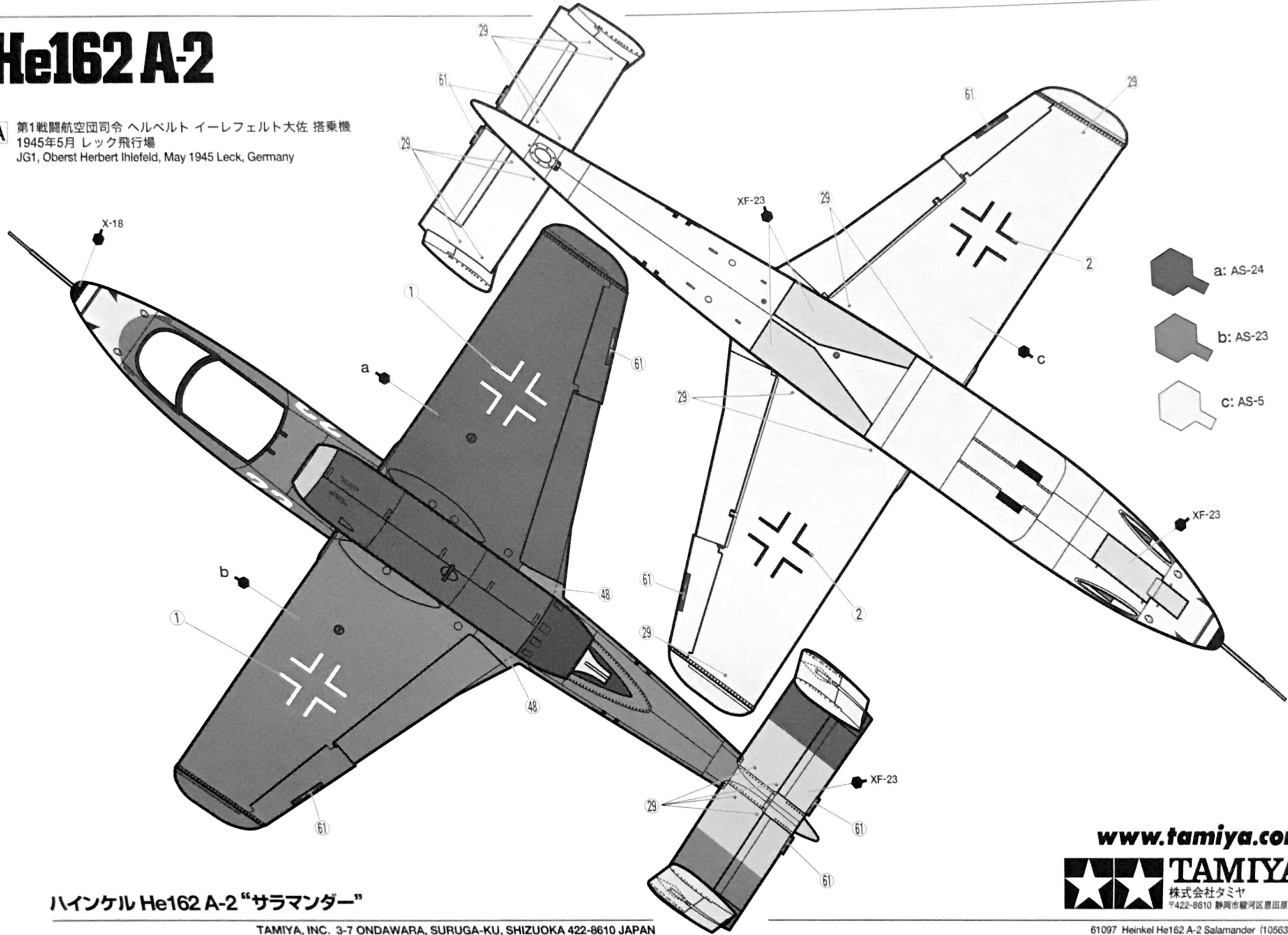


《E1,E7》

XF-22

He162 A-2

A 第1戦闘航空団司令 ヘルベルト イーレフェルト大佐 搭乗機
1945年5月 レック飛行場
JG1, Oberst Herbert Ihlefeld, May 1945 Leck, Germany



ハインケル He162 A-2 “サラマンダー”

TAMIYA, INC. 3-7 ONDAWARA, SURUGA-KU, SHIZUOKA 422-8610 JAPAN

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株式会社タミヤ
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61097 Heinkel He162 A-2 Salamander (1056334)

HEINKEL



He162 A-2

“SALAMANDER”

1/48 ハイネル He-162 A-2
“サラマンダー”

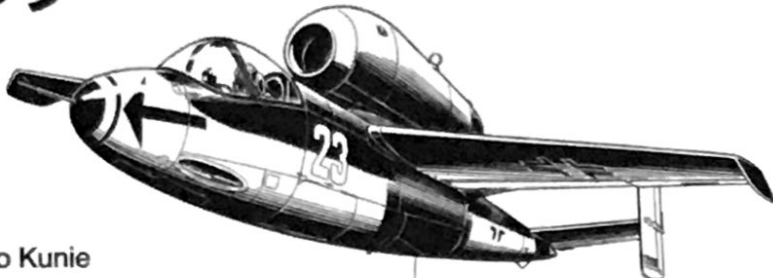
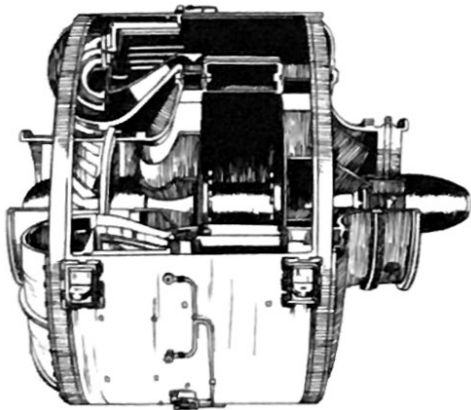


Illustration : Takao Kunie

●Two World Records

On June 20, 1939, at the Peenemünde proving grounds, on the Baltic coast of Germany, a Heinkel He 176 prototype rocket-powered plane succeeded in making a 50-second long flight. This marked the first flight in history of an aircraft propelled by a rocket engine. At the same time, the Heinkel company scientist Hans von Ohain was putting the finishing touches on his HeS3b engine. Featuring thrust of approximately 450kg, this engine used gasoline for fuel and employed a centrifugal force air compressor. The engine was mounted in the He 178, a small test plane measuring just 7.5m by 7.2m. The He 178 featured wooden wings mounted high on the fuselage, conventional tail wheel landing gear, jet intake on the nose and exhaust on the rear. On the morning of August 27th, 1939, the He 178 made the world's first successful jet-powered flight.



◆Heinkel He S3 Jet Engine

●Rival Jet Development (Heinkel He 280)

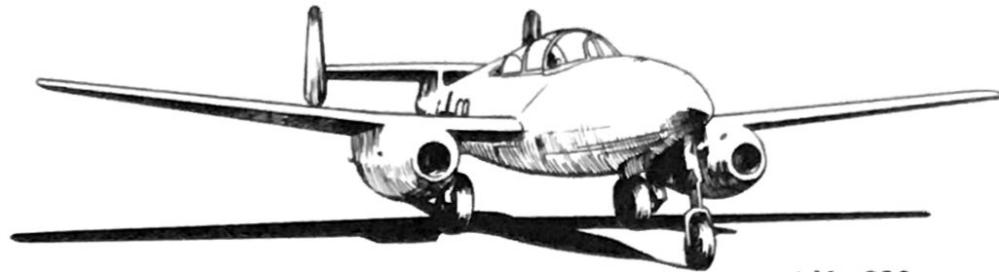
Despite these groundbreaking achievements in aviation history, the German military initially showed little interest in the Heinkel company's research. However, Luftwaffe officer Ernst Udet's interest in jet technology was piqued, and he directed the Air Ministry's development wing to commission jet engine development from BMW and Junkers. Messerschmitt had also been tasked with developing a jet-capable aircraft in January 1939, but no similar order was given to Heinkel, which began development of the He 280 under its own initiative. The He 280, which measured 10m by 12m and weighed 4.3t, featured twin engines mounted under the wings, cockpit located in the center of fuselage, twin vertical tail fins and tricycle style landing gears. It was also the first aircraft to feature an ejector seat, which has since become a staple on modern jet fighters.

The new HeS8a engine was ready in time to be loaded into the second test model of the He 280. The plane had its first successful flight on March 30, 1941, and was demonstrated to Udet and other officers on April 5th. The plane exhibited an impressive top speed of 700km/h, finally convincing Udet of the value of jets, and earning his praise for Dr. Heinkel. In spite of this, the Air Ministry chose not to adopt the He 280, with Udet's subsequent suicide robbing Heinkel of his most powerful patron. Heinkel was eventually ordered to cancel the He 280 project and concentrate on bomber construction.

●Messerschmitt Me 262

Meanwhile, the Messerschmitt engine proved weaker than originally planned, leading the company to scrap the idea of a single-engine fight-

er. In its place, plans for the twin-engine P1065 were drawn up, and the first prototype was completed in late 1940. With the BMW 003 engine still not ready for practical use, the Jumo 210 reciprocating engine was installed in the nose to prepare the Me 262 for its first test flights in spring of 1941. The BMW 003 engine, with thrust of 550kg, still short of the intended goal, was finally installed in the plane for its first test flight as a true jet powered aircraft. During this flight on March 25, 1942, the BMW 003 failed, with the pilot avoiding disaster thanks to the nose-mounted Jumo 210, which had been retained as a backup engine. The turbojets were replaced with the more reliable Jumo 004, and the V3 third prototype had a successful jet flight on July 18, 1942, one year and three months after the He 280. The V4 and V6 models were fitted with Jumo 004B engines, which were 100kg lighter and had an improved thrust of 800kg. These planes performed demonstration flights for Adolf Hitler, who ordered them designed as fighter bombers.

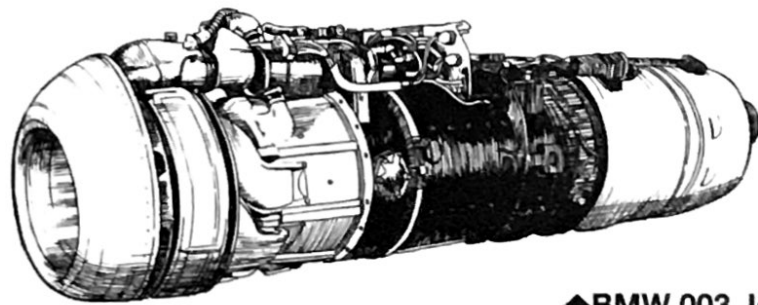


◆He 280

The experimental wing Erprobungskommando 262 was set up in December 1943, with a production schedule established by March 1944. By late June 1944, the first operational jet fighters were assigned to a fighter-bomber unit, “Erprobungskommando Schenk”, under Major Wolfgang Schenk. The unit, which featured Me 262's carrying two wing-mounted 250 kg bombs, was sent to France to test the plane's fighter-bomber capabilities against the advancing Allied forces. In late 1944, Hitler finally consented to refocus production on the fighter variant in November, and JG7 was formed. By this time, however, Germany was under continual day and night bombing from the Allies, and conditions were extremely unfavorable for developing a new weapon. From March 1945, Me 262's from JG7, armed with 4 MK108 30mm machine guns and 24 R4M air-to-air rockets, served as fighter interceptors, concentrating their efforts against Allied bombers. Although too late and too few in numbers to have an impact on the outcome of the war, the Me 262's superior speed and technology helped it to down a number of enemy aircraft.

●Development of the He 162 Volksjäger (Spatz)

On September 10th, 1944, the German Air Ministry issued a call for proposals for a simple-to-construct, lightweight single engine jet fighter code named Volksjäger (People's Fighter). The specifications were to include a single BMW 003 jet engine, top speed of 750km/h, takeoff distance of 500m, armament of two 30mm MK108 machine guns carrying 80 to 100 rounds, plus two 20mm MG151/20 machine guns with 200 to 250 rounds, flight endurance of 30 minutes at sea level and a wireless radio that would be operational even in bad weather. The Air Ministry included the unusual condition that all submissions must be received within 3 to 5 days to receive consideration.



◆BMW 003 Jet Engine

As many as 7 companies, including Messerschmitt and Arado, submitted proposals in the required 5 days. In the end, Heinkel's P.1073 proposal was chosen because it promised an easily mass-producible jet that could be constructed in a relatively short time. The German Air Ministry project code named “Salamander” (after the legendary fire lizard) ordered production capacity of 1,000 planes a month to be reached by April 1945. Heinkel quickly began converting their existing design for the Spatz “sparrow” into the Volksjäger, which was designated the He 162. Plans were completed by the end of October, with the first prototype VI taking a test flight a mere 1 month later; a phenomenally short design and development period.

On December 6th, 1944 the He 162 had its first test flight at the hands of Heinkel's chief test pilot Gotthold Peter, who had piloted the He 219 night fighter during its inaugural flight. Immediately taking the plane to full throttle, Peter reached a top speed of 840km/h at an altitude of 6,000m. At that point strong vibrations combined with defective glue bond caused one of the wooden landing gear doors to fall off. Nevertheless, Peter was able to land safely after a flight of 20 minutes in dura-

tion. Four days later the second demonstration flight took place in front of an audience of Nazi and Air Ministry officials. As Peter was making a low altitude flyby at a speed of 740km/h, his right wing started to peel off, dropping an aileron. As the spectators watched in horror, the He 162 pitched into the ground killing Peter. The urgent need for quick development combined with the adverse conditions of wartime production most likely led to the design deficiencies which caused this accident.

The second prototype (He 162 M2) was equipped with bent down wing tip extensions to improve lateral stability. Models M3 to M6 were completed from January 1945, had twin MK108 cannon on-board, and were designated He 162A-1. However, models M7 onward were fitted with MG151/20 instead, and were designated He 162A-2.



◆He 162A-2

●Airframe Structure

The fuselage was constructed of a steel frame covered with metal skin panels for a semi-monocoque structure. The tip of the nose, as well as landing gear covers, were made of wood. The bubble type canopy was located towards the front of the fuselage, and the main fuel tank was positioned inside the fuselage to the rear of the cockpit.

Inside the cockpit was a new style ejector seat powered by explosive cartridges. The instrument panel and controls were designed for simplicity, with armor plate covering the top and a Revi16B gunsight above. Below the instrument panel was the nose wheel bay fairing, with a clear window for visually checking the wheel's position.



◆Heinkel Co. Ejector Seat

The BMW 003E engine was located on top of the fuselage, centered between the wings. The engine nacelle was bolted to the fuselage, and featured engine panels that could be opened to the left, right and rear.

Single piece straight type wings featured main spars, ribs and skin panels made of wood, due to lack of strategic materials. Integral fuel tanks in each wing augmented the main fuselage tank. The wings featured an area of 11.16 square meters, and were angled upwards by 3 degrees. Wing tips were turned down by 55 degrees, and were made of metal. Ailerons and flaps were wood, and moved by means of a hydraulic actuator. As a measure against stalling, triangular spoilers were installed on the leading edges of the wing roots, with the corresponding trailing edges curved downward. The horizontal tail fins featured 14 degree dihedral angle and were constructed of metal both inside and out to withstand the heat of the jet blast. Twin vertical tail fins were another design element necessary to avoid the jet exhaust. The fins were made of wood, with the rudder constructed of metal.

The tricycle type landing gears retracted into the fuselage by means of hydraulics, and released via a spring system. The front gear used a 380x150mm tire, while the main gears used the same 660x190mm size tires as the Bf109K.

The BMW 003E engine was a variant of the BMW 003A, altered to be attached from the bottom, as on the He 162. It had an axial compressor, and differed from the Jumo 004B in that it had a ring-type combustion chamber and weighed significantly less at 570kg. Thrust was also lower at 800kg. Top speed at sea level was 790km/h, and reached 840km/h at an altitude of 6,000m. The engine was also enabled to increase thrust to 920kg for a 30 second spurt, temporarily upping speed to 900km/h at 6,000m height. Similar to the Jumo 004B, the engine housed a Riedel starter, which could be operated in the absence of electric power by means of a pull starter. For fuel, the engine used the standard Luftwaffe 87 octane B4, but it was planned to use J2 jet fuel later.

●Combat History

In order to meet the production demands of Project Salamander, the German Air Ministry ordered domestic furniture makers to construct the wings and other simple wooden parts, while remaining construction was done at Heinkel and Junkers factories. By the end of the war, Heinkel had built 190 planes, while Junkers had constructed 48, with more than 800 units in various stages of production.

In January 1945, the first mass production model was completed, marking the beginning of large-scale production. At the same time, Experimental Wing 162 was formed for the purpose of carrying out field testing, and was to serve as the basis for an operational combat unit. However, in its urgency to deploy the new planes to combat, the Luftwaffe decided to convert an existing unit to their use. Consequently, I./JG1 was equipped with He 162's and dispatched to Leck airfield near the Danish border in late March.

Hampered by fuel shortages, design defects and unyielding Allied attacks, the flyers based at Leck faced extreme difficulties in bringing their new weapon to bear. In May 1945, just prior to the end of the war in Europe, Lieutenant Schmitt of 1st Staffel claimed to have downed a British Hawker Typhoon in the skies over Rostock, site of a Heinkel factory. If true, that would mark the only known combat victory of a He 162 Volksjäger. A second fighter group designated II./JG1 was organized at Rostock in April, and arrived at Leck on May 4th, but was too late to take part in actual combat.

●Characteristics and Assessment

Reports from wartime field testing indicate that, while overall maneuverability was good, the plane had a tendency to shake when making a left-hand roll turn. An attempt was made to remedy this by enlarging the vertical fins, and a 55 degree anhedral angle was added to the wing tips as well. Also, the concentration of weight on the main landing gears caused the rear of the plane to sag. An iron ballast piece was bolted into the tip of the nose to offset this effect.

After the war, the Allies spent 2 weeks examining and testing the He 162, which convinced them that, while flying at low speed was difficult, with poor lateral and longitudinal stability, steering was smooth and reliable. During these tests, horizontal velocity of 904km/h was reached at 12,600m, while taking the plane into a dive allowed a speed of up to 940 km/h. However, at this speed the rudders began to shake violently, meaning that if the plane went into a spin, it could only be recovered with great difficulty. While the front and side fields of vision were very good, the positioning of the engine almost completely blocked the rear view, another handicap that could be deadly for inexperienced pilots. Nonetheless, the plane had the potential to be an extremely potent weapon in the hands of experienced pilots, and the Allies judged that had the He 162 become fully operational in large numbers, it would have posed a serious threat.

British pilots, testing a large number of German planes after the war, further observed that, while requiring a long runway for takeoff, the He 162 possessed excellent handling and did not suffer from left/right vibration, meaning that it possessed firing stability that surpassed most other planes of the time. However, roll instability was a persistent problem, and was the cause of a fatal crash during testing at Farnborough that cost the lives of the pilot and several ground crew.

Except for the unusual positioning of the engine, virtually all design elements of the He 162, the bubble canopy located on fuselage front, ejector seat, tricycle style landing gears and high mounted wings, became standard features of subsequently developed low-speed jet planes.

■Specifications

Length: 9.05m, Wingspan: 7.20m, Height: 2.60m
 Engine: BMW 003E (800kg thrust) x 1
 Crew: 1 pilot
 Empty Weight: 1,633kg Total Weight: 2,805kg
 Top Speed: 790km/h (sea level), 838km/h (alt. 6,000m)
 Flying Time: 48 minutes (alt. 6,000m)
 Operational Flight Ceiling: 11,000m
 Flying Range: 620km (alt. 6,000m)
 Rate of Climb: 19.2m/s (sea level), 9.9m/s (alt. 6,000m)
 Armament: He 162A-1: MK108 30mm machine gun x 2 (50 rounds each),
 He 162A-2: MG151/20 20mm machine gun x 2 (120 rounds each)
 Fuel Tank: Main tank (fuselage): 635L, Auxiliary tank (inside wing): 345L
 Heinkel Co. ejector seat, wireless radio, FuG24 wireless transmitter, FuG25a identification friend or foe system, may be fitted with two RI 502 takeoff assist rockets (500kg thrust)