

1/48 SCALE AIRCRAFT SERIES NO.88 FUSELAGE 290mm.

WINGSPAN 288mm.

1/48 傑作機シリーズNO.88
 ドルニエ Do335B-2
 プファイル(重戦闘機型)



HEAVILY ARMED VERSION TAMIYA

DORNIER Do335B-2 PFEIL

Development of the Dornier Do335 started in 1942 when the Luftwaffe issued requirements for an 800km/h class high-speed military aircraft. In order to achieve such speed and maneuverability, the Do335 was equipped with two front/rear mounted 1750hp DB603 liquid-cooled engines. If one of the engines failed, the plane was still able to fly safely. Moreover, the Do335 was fitted with an ejection seat. The first prototype made its maiden flight in October 1943 and preparation for production of the Do335A-0/A-1 fighter-bomber version and A-12 training version was completed. However, in mid-1944 the improved Do335B was developed and a heavily armed version designated B-2 was planned. This version was intended to intercept Allied B-17 and B-24 bombers conducting raids on German soil. Two prototypes designated M13 and M14

were completed and armed with two 20mm guns, a 30mm cannon firing through the spinner in the nose, and two 30mm MK103 cannons mounted on the leading edge of the wings. The leading edge fuel tanks were transferred to outer wings and another fuel tank was mounted in the bomb bay. As weight increased, front landing gear leg was reinforced and a larger tire that rotated 45° when retracting was mounted. A bullet-proof windshield was also mounted. The M13 made its first flight in October 1944 and the M14 was completed in November, but none saw any combat. M13 received a second wing and the 30mm nose cannon. Cannon of the M14 was removed to reduce weight. M13 was destroyed before the end of the war but M14 was captured and evaluated until 1948 by the French Army.

Die Entwicklung der Do335 begann 1942, als die Luftwaffe die Anforderungen für ein Hochgeschwindigkeits-Militärflugzeug der Klasse 800km/h herausgab. Um diese Geschwindigkeit und Manövrierfähigkeit zu erreichen, war die Do335 mit zwei vorne und hinten eingebauten, flüssigkeitsgekühlten DB603 Motoren mit 1750PS ausgerüstet. Fiel einer der Motoren aus, war das Flugzeug immer noch in der Lage, sicher zu fliegen. Darüber hinaus war die Do335 mit einem Schleudersitz ausgestattet. Der erste Prototyp machte im Oktober 1943 seinen Jungflügel und es wurden Vorbereitungen für die Fertigung der Do335A-0/A-1 Jagdbomber-Version und einer A-12 Schulungsversion getroffen. Im Sommer 1944 wurde die verbesserte Do335B entwickelt und eine schwer bewaffnete Version unter der Bezeichnung B-2 war geplant. Diese Version sollte die B-17 und B-24 Bomber der Alliierten abfangen, welche Luftangriffe auf deutschem Boden durchführten. Zwei Prototypen unter der Bezeichnung M13 und

M14 wurden fertiggestellt und mit zwei 20mm Kanonen, einer durch den Spinner der Flugzeugnase feuermnden 30mm Kanone und zwei 30mm MK103 Kanonen, montiert an der Außenkante der Tragflächen. Dazu wurden die Kraftstofftanks von der Außenkante in den äußeren Flügel verlegt und ein weiterer Kraftstofftank wurde im Bombenschacht eingebaut. Da das Gewicht stieg, wurde das Bein des Bugfahrgeräts verstärkt und ein größerer Reifen montiert, welche beim Einfahren um 45° gekippt wurde. Dazu wurde eine kugelsichere Windschutzscheibe eingebaut. Die M13 machte ihren Erstflug im Oktober 1944 und die M14 wurde im November fertiggestellt, aber keine von beiden erlebte einen Kampfeinsatz. Die M13 bekam verlängerte Flügelspitzen und die in der Nase eingebaute 30mm Kanone wurde zur Gewichtseinsparung entfernt. Die M13 wurde noch vor Kriegsende zerstört, aber die M14 wurde von den Französischen Truppen beschlagnahmt und bis 1948 ausgewertet.

Le développement du Dornier Do335 débuta en 1942 lorsque la Luftwaffe émit une requête pour un appareil ayant une vitesse de l'ordre de 800km/h. Pour atteindre cet objectif et obtenir une excellente maniabilité, le Do335 fut équipé de 2 moteurs DB603 de 1750cv montés en tandem. Si l'un d'eux tombait en panne, l'avion pouvait encore voler en toute sécurité. Le Do335 possédait également un siège éjectable. Le premier prototype fit son baptême de l'air en octobre 1943 et la production des Do335A-0/A-1 chasseur-bombardier et A-12 d'entraînement fut préparée. En été 1944, la version améliorée Do335B fut développée et un modèle B-2 lourdement armé fut prévu. Ce dernier devait intercepter les bombardiers B-17 et B-24 alliés qui conduisaient des raids sur l'Allemagne. Deux prototypes M13 et M14 ar-

més de 2 canons de 20mm dans le nez, d'un de 30mm tirant à travers l'hélice et de 2 armes MK103 montées sur le bord d'attaque des ailes furent construits. Les réservoirs placés à cet endroit furent transférés dans les parties externes des ailes et un autre fut chargé dans la soute à bombes. A cause de l'augmentation du poids, le train d'atterrissage avant fut renforcé et un pneu plus grand pivotant sur 45° en se rétractant fut monté. Le M13 fit son premier vol en octobre 1944 et le M14 fut terminé en novembre mais ils ne participèrent pas aux combats. Le M13 qui reçut des saumons d'ailes agrandis fut détruit avant la fin de la guerre et le M14 dont le canon de 30mm tirant à travers l'hélice avait été démonté pour réduire son poids, fut capturé et évalué jusqu'en 1948 par l'armée française.

機体の前後に配置された2基のエンジンと十字型尾翼など革新的なスタイルを備え、第二次大戦後半に開発が進められたドイツ空軍の双発多用戦闘機がドルニエDo335です。Do335の開発は1942年、ドイツ空軍が航空機メーカー各社に出した800km/h級の高速軍用機の要求仕様に基づいて開始されました。Do335は優れた高速性能と単発機並の運動性能を追求し、胴体の前後に1,750馬力のDB 603液冷エンジンを搭載、一方のエンジンが停止した場合でも安定した飛行が可能で、緊急脱出用の射出座席も備えていました。1943年10月に初飛行した1号機のDo335V-1に続き、戦闘爆撃機型のA-0/A-1、複座練習機型のA-12などの生産準備が進められ、さらに改良型のDo335Bシリーズの開発が1944年夏に開始されました。中でも重戦闘機型として計画されたのがDo335B-2です。連合軍によるドイツ本土爆撃が激しさを増していた当時、ドイツ空軍はB-17やB-24爆撃機の迎撃を任務とする重戦闘機として高速のDo335に期待を寄せていたのです。B-2は試作機番号M13とM14のプロタイプ2

機体の製作が進められましたが、その最大の特徴は機首上部の20mm機関砲2門とプロペラ軸内の30mm機関砲1門という従来の兵装に加え、両翼に各1門追加装備された大型フェアリング付きのMK103 30mm機関砲でした。また内翼前縁にあった燃料タンクは外翼部分に移され、さらにA-0/A-1などでは爆撃機とされていた胴体内部にも燃料タンクが追加装備されています。また重量増加に伴って前脚が強化されてタイヤも大型のものが装着されたため、前車輪は引込み時に45度回転してから機内に収納される方式に変更、風防も防弾ガラスの付いた新型に換装されました。M13は1944年10月に初飛行。そしてM14は同年11月に完成し実戦化が急がれましたが、終戦までにDo335B-2が実戦投入されることはありませんでした。なおM13は翼端を延長した特殊な主翼を備え、M14は重量軽減のためにプロペラ軸内の30mm機関砲を外していたと言われていました。またM13が終戦前にドイツ軍によって爆破処分されたのに対し、M14はフランス軍によって捕獲され、1948年まで試験飛行が繰り返されました。



作る前にかねらず
お読みください。
READ BEFORE ASSEMBLY.
ERST LESEN - DANN BAUEN.
A LIRE AVANT ASSEMBLAGE.

●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. Fall sein 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.

●用意する工具 / Tools recommended /
Benötigtes Werkzeug / Outilsage nécessaire

接着剤 (プラスチック用)

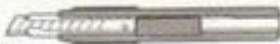
Cement
Kleber
Colle



ニッパー
Side cutters
Seitenschneider
Pince coupante



ナイフ
Modelling knife
Modellermesser
Couteau de modéliste



ピンセット
Tweezers
Pinzette
Pincettes



ピンバイス
Pin vise
Schraubstock
Outil à percer



● 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) (XF-23) / 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)

X-1 ●ブラック / Black / Schwarz / Noir

X-4 ●ブルー / Blue / Blau / Bleu

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-4 ●イエローグリーン / Yellow green / Grüngelb / Vert jaune

XF-5 ●フラットグリーン / Flat green / Matt Grün / Vert mat

XF-15 ●フラットフェッシュ / Flat fish / Fleischfarben Matt / Chair mats

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-24 ●ダークグレイ / Dark grey / Dunkelgrau / Gris foncé

XF-27 ●ブラックグリーン / Black green / Schwarzgrün / Vert noir

XF-49 ●カーキ / Khaki / Khaki / Kak

XF-50 ●フィールドブルー / Field blue / Feldblau / Bleu campagne

XF-56 ●メタリックグレイ / Metallic grey / Grau-Metall / Gris métallé

XF-57 ●バフ / Buff / Lederfarben / Chamois

注意

●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。

●小さなお子様がいる所での工作はやめてください。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があります。

CAUTION

●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.

VORSICHT

●Beim Zusammenbau dieses Bausatzes werden Werkzeuge einschließlich Messer verwendet. Zur Vermeidung von Verletzungen sind besondere Vorsichtsmaßnahmen zu beachten.

●Wenn Sie Kinder unter 10 Jahren beaufsichtigen, lassen Sie die dort befindlichen Anweisungen. Nur Klebstoff und Farben für Plastik verwenden.

●Bausatz von kleinen Kindern fernhalten.

ten. Verhüten Sie, daß Kinder irgendwelche Bauteile in den Mund nehmen oder Plastiktüten über den Kopf ziehen.

PRECAUTIONS

●L'assemblage de ce kit requiert de l'outillage, en particulier des couteaux de modéliste. Manipuler les outils avec précaution pour éviter toute blessure.

●Lire et suivre les instructions d'utilisation des peintures et des colles, si elles sont incluses (non incluses dans le kit). Utiliser uniquement de la colle et des peintures spéciales pour le polymère.

●Ne pas laisser les enfants seuls en bouche ou sucer les pièces, ou passer un sachet vinyle sur la tête.

●このキットは下の2種類のマーキングから1種類選ぶことができます。説明書中では自分の選んだマークの指示に従ってください。

●This kit allows the depiction of two different markings. Select one before starting assembly.

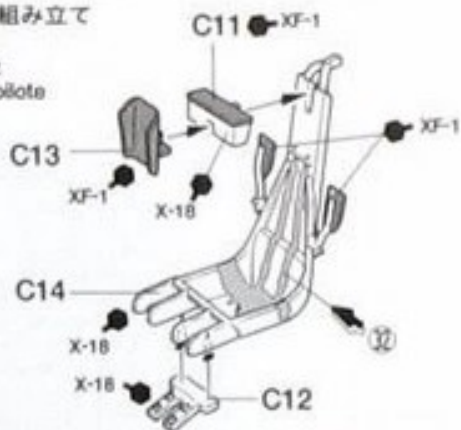
●Mit diesem Bausatz lassen sich zwei verschiedene Markierungen darstellen. Entscheiden Sie sich vor Beginn des Zusammenbaus für eine davon.

●Ce kit inclus 2 décorations différentes. Choisir l'une d'elles avant de débuter l'assemblage.

A **14** 試作機番号 M14
Do335 B-2 M14 W.Nr.230014

B **14** 試作機番号 M14 フランス軍捕獲後
Do335 B-2 M14 W.Nr.230014 captured by French forces

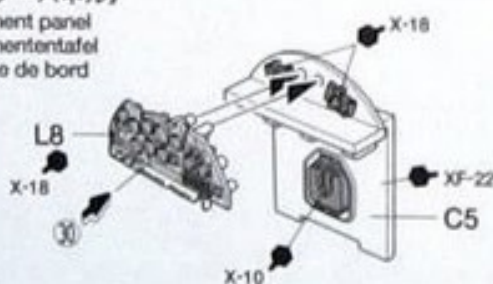
1 シートの組み立て
Pilot seat
Pilotensitz
Siège du pilote



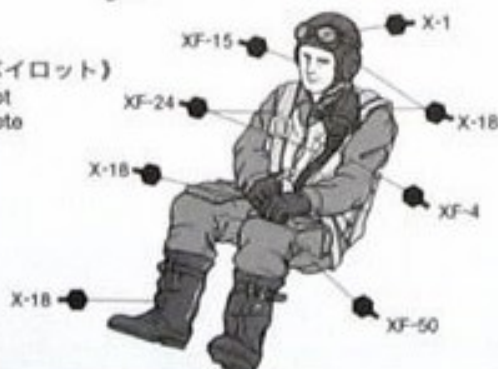
指示の番号のスライドマークをはります。
Number of decal to apply.
Nummer des Abziehbildes, das anzubringen ist.
Numéro de la décalcomanie à utiliser.



(メーターパネル)
Instrument panel
Instrumententafel
Planche de bord



(パイロット)
Pilot
Pilote



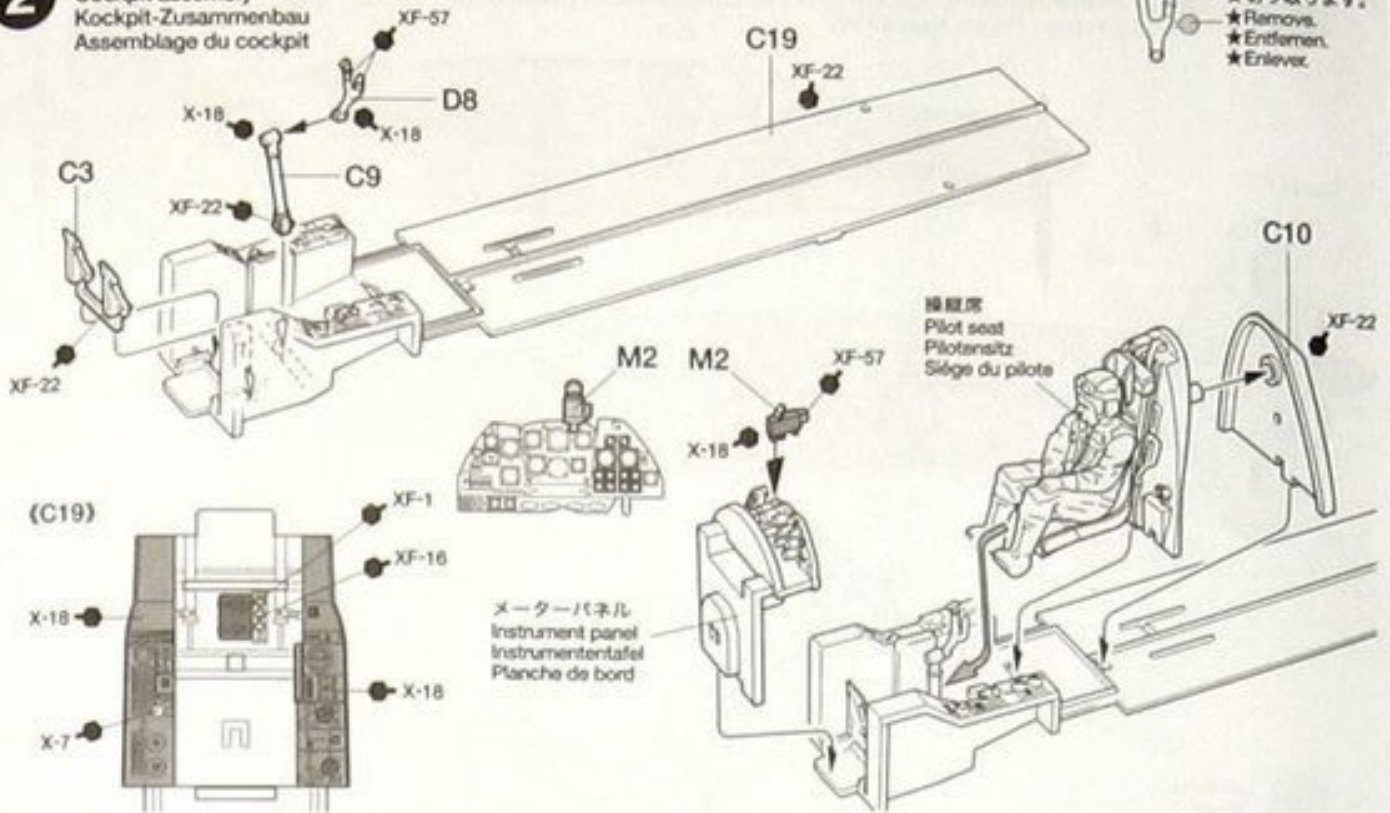
2

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

(D8)



- ★切り取ります。
- ★Removes.
- ★Entfernen.
- ★Enlever.



操縦席
Pilot seat
Pilotensitz
Siège du pilote

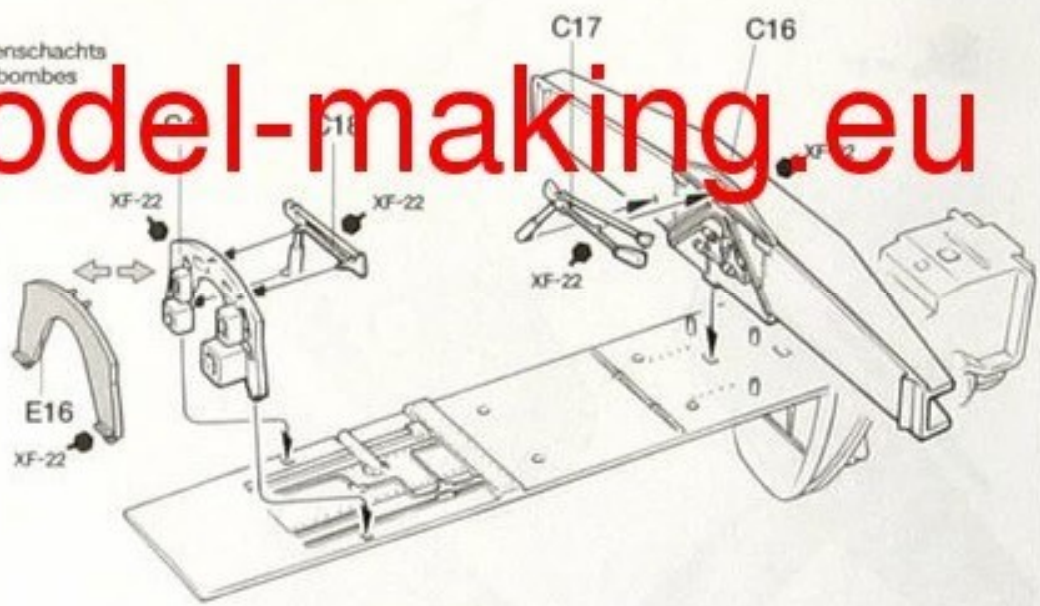
メーターパネル
Instrument panel
Instrumententafel
Planche de bord

3

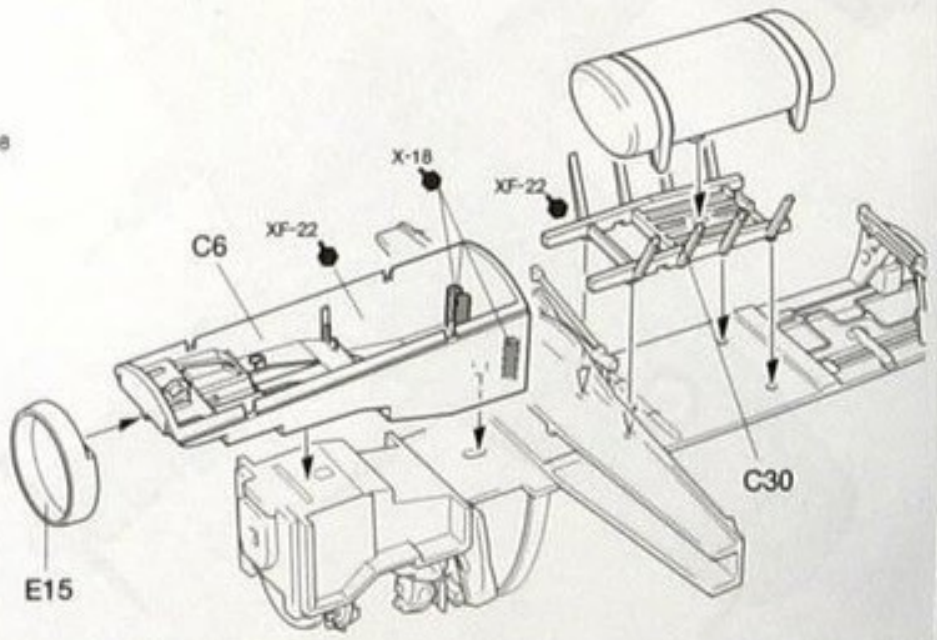
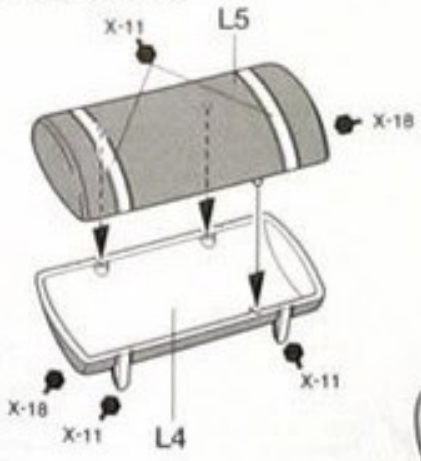
爆弾庫の組み立て
Bomb bay assembly
Zusammenbau des Bombenschachts
Assemblage de la soute à bombes

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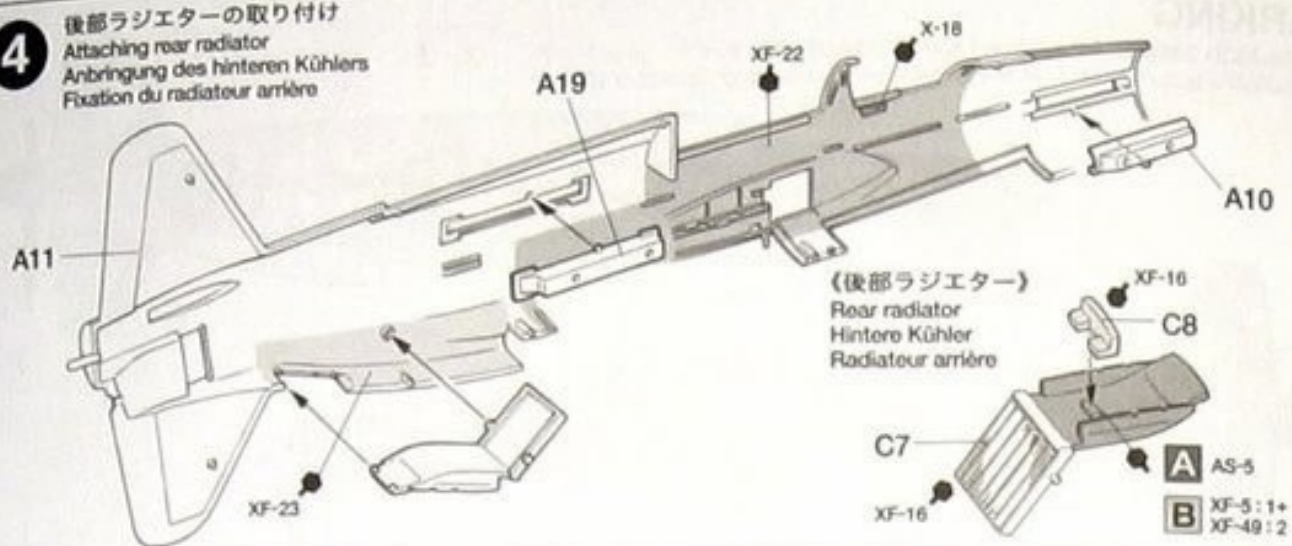
注意 / OT
★爆弾閉状態の場合はC4のかわりにE16を使用し、C17,C18は取り付けません。
★Do not attach C17, C18 and attach E16 instead of C4 for closed bomb bay doors.
★Bei geschlossener Bombenschacht C17,C18 nicht anbringen und E16 anstelle von C4 anbringen.
★Ne pas fixer C17 et C18 et fixer E16 à la place de C4 si les trappes de soute sont fermées.



(500ℓ 増加燃料タンク)
500L fuel tank
500L Kraftstofftank
Réservoir de 500 litres.

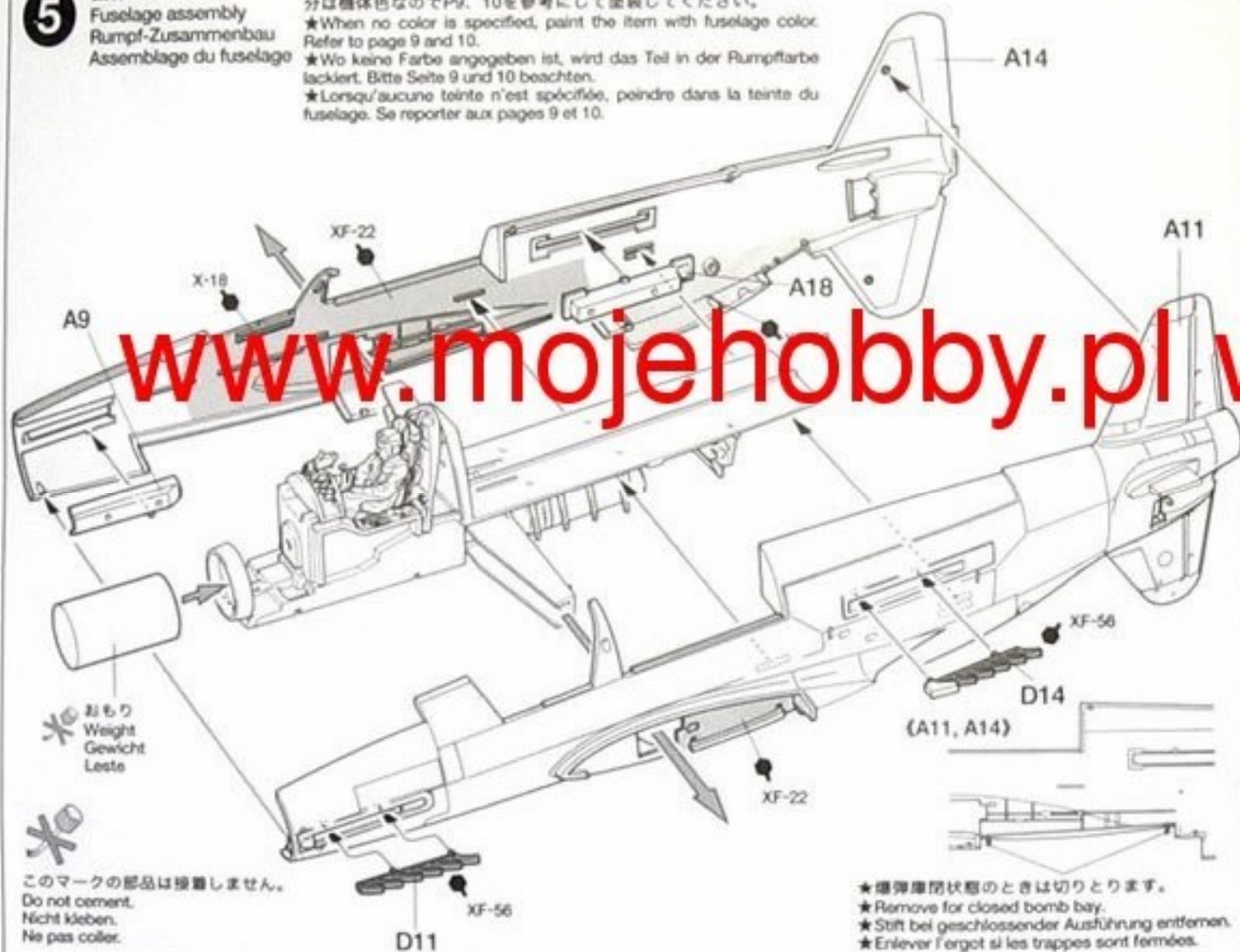


4 後部ラジエターの取り付け
Attaching rear radiator
Anbringung des hinteren Kühlers
Fixation du radiateur arrière



5 機体の組み立て
Fuselage assembly
Rumpf-Zusammenbau
Assemblage du fuselage

★機体色は選んだタイプによって異なります。塗装指示の無い部分は機体色なのでP9、10を参考にして塗装してください。
★When no color is specified, paint the item with fuselage color. Refer to page 9 and 10.
★Wo keine Farbe angegeben ist, wird das Teil in der Rumpffarbe lackiert. Bitte Seite 9 und 10 beachten.
★Lorsqu'aucune teinte n'est spécifiée, peindre dans la teinte du fuselage. Se reporter aux pages 9 et 10.



✖️ おもり
Weight
Gewicht
Leste

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

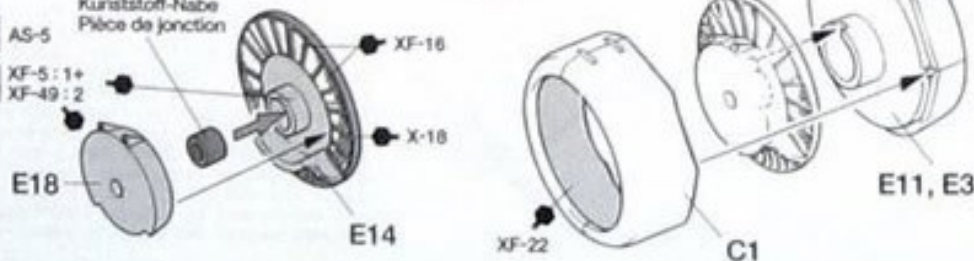
★爆弾庫閉状態のときは切りとります。
★Remove for closed bomb bay.
★Stift bei geschlossener Ausführung entfernen.
★Enlever l'ergot si les trappes sont fermées.

6 前部ラジエターの組み立て
Attaching front radiator
Anbringung des vorderen Kühlers
Fixation du radiateur avant

ポリキャップ
Poly cap
Kunststoff-Nabe
Pièce de jonction

A AS-5

B XF-5:1+
XF-49:2



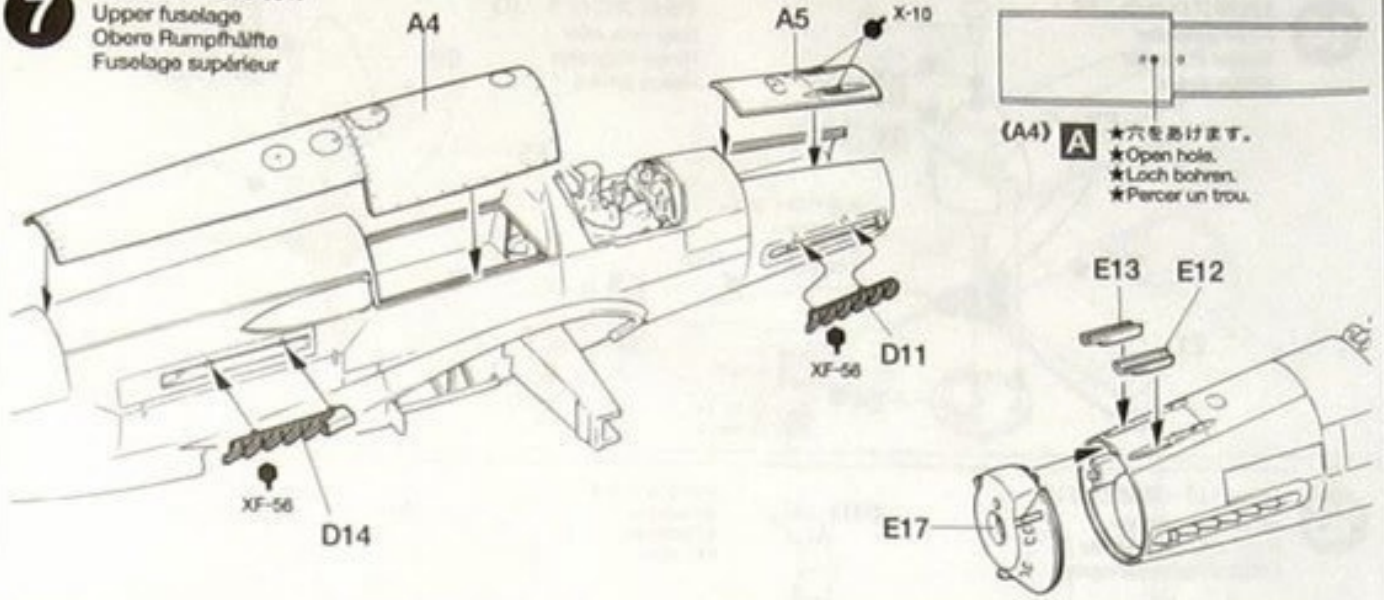
(C1)
★切り取ります。
★Remove.
★Entfernen.
★Enlever.

(フラップ閉状態: E11)
Closed flaps
Geschlossene
Haubenklappe
Volets fermés

(フラップ開状態: E3)
Opened flaps
Geöffnete
Haubenklappe
Volets ouverts

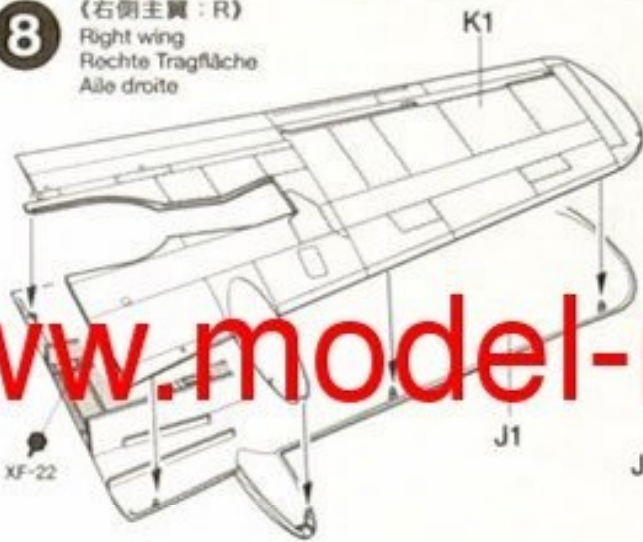
7

機体上部の取り付け
Upper fuselage
Obere Rumpfhälfte
Fuselage supérieur



8

(右側主翼：R)
Right wing
Rechte Tragfläche
Aile droite



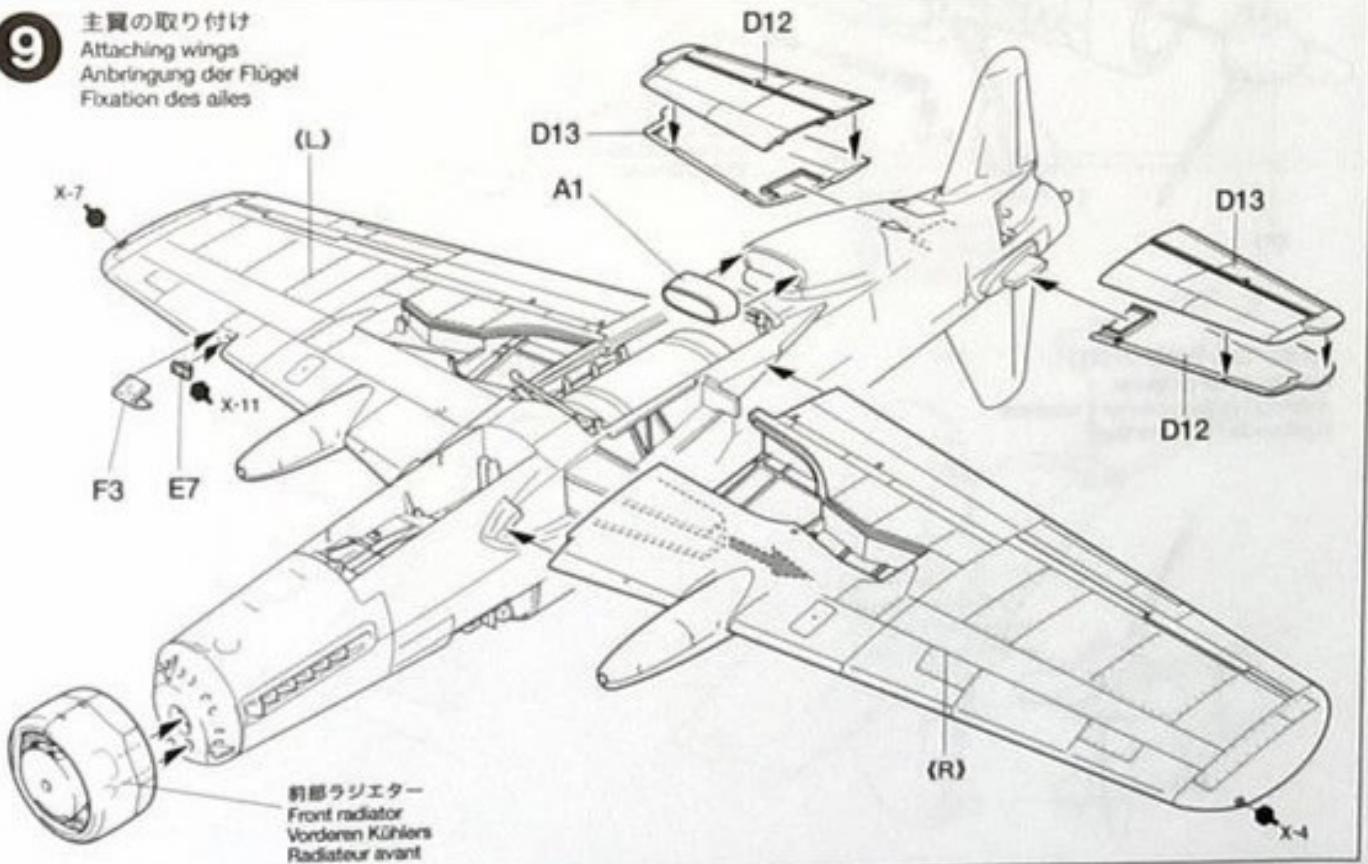
(左側主翼：L)
Left wing
Linke Tragfläche
Aile gauche



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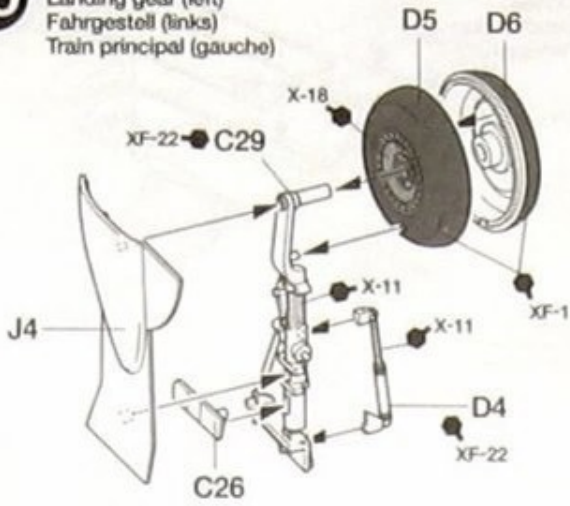
9

主翼の取り付け
Attaching wings
Anbringung der Flügel
Fixation des ailes

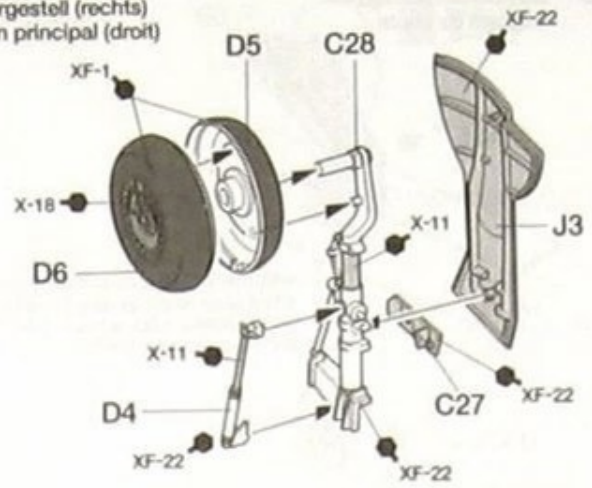


10

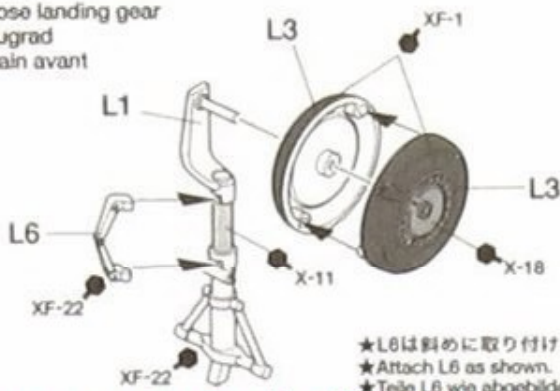
《左側主脚：L》
Landing gear (left)
Fahrgestell (links)
Train principal (gauche)



《右側主脚：R》
Landing gear (right)
Fahrgestell (rechts)
Train principal (droit)



《前脚》
Nose landing gear
Bugrad
Train avant



★L6は斜めに取り付けるので注意しましょう。
★Attach L6 as shown.
★Teile L6 wie abgebildet anbringen.
★Attacher L6 comme indiqué



A (J4) (J3)

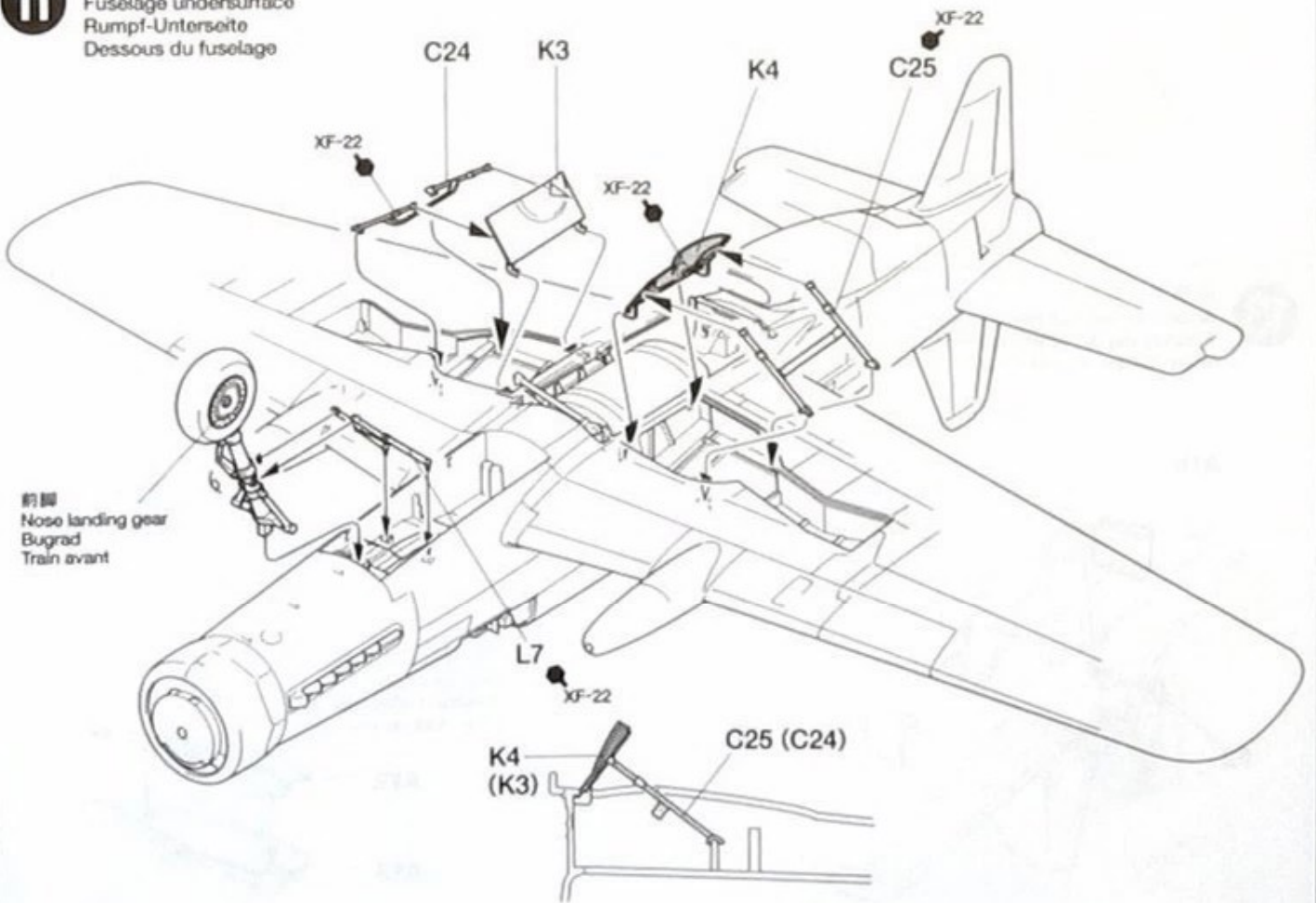


★Aの時だけ貼ります。
★Marking A
★Disposition A

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11

機体下面の組み立て
Fuselage underside
Rumpf-Unterseite
Dessous du fuselage



前脚
Nose landing gear
Bugrad
Train avant

K4 (K3) C25 (C24)

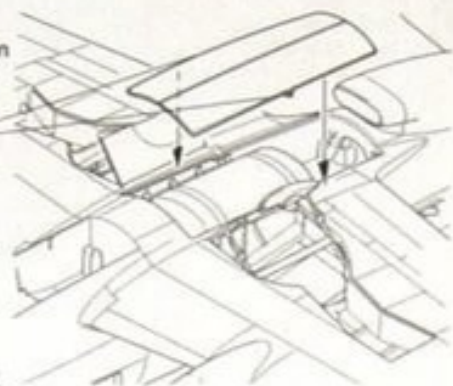
12

爆弾庫とびらの取り付け
Bomb bay doors
Bombenschacht-Türen
Trappes de soute

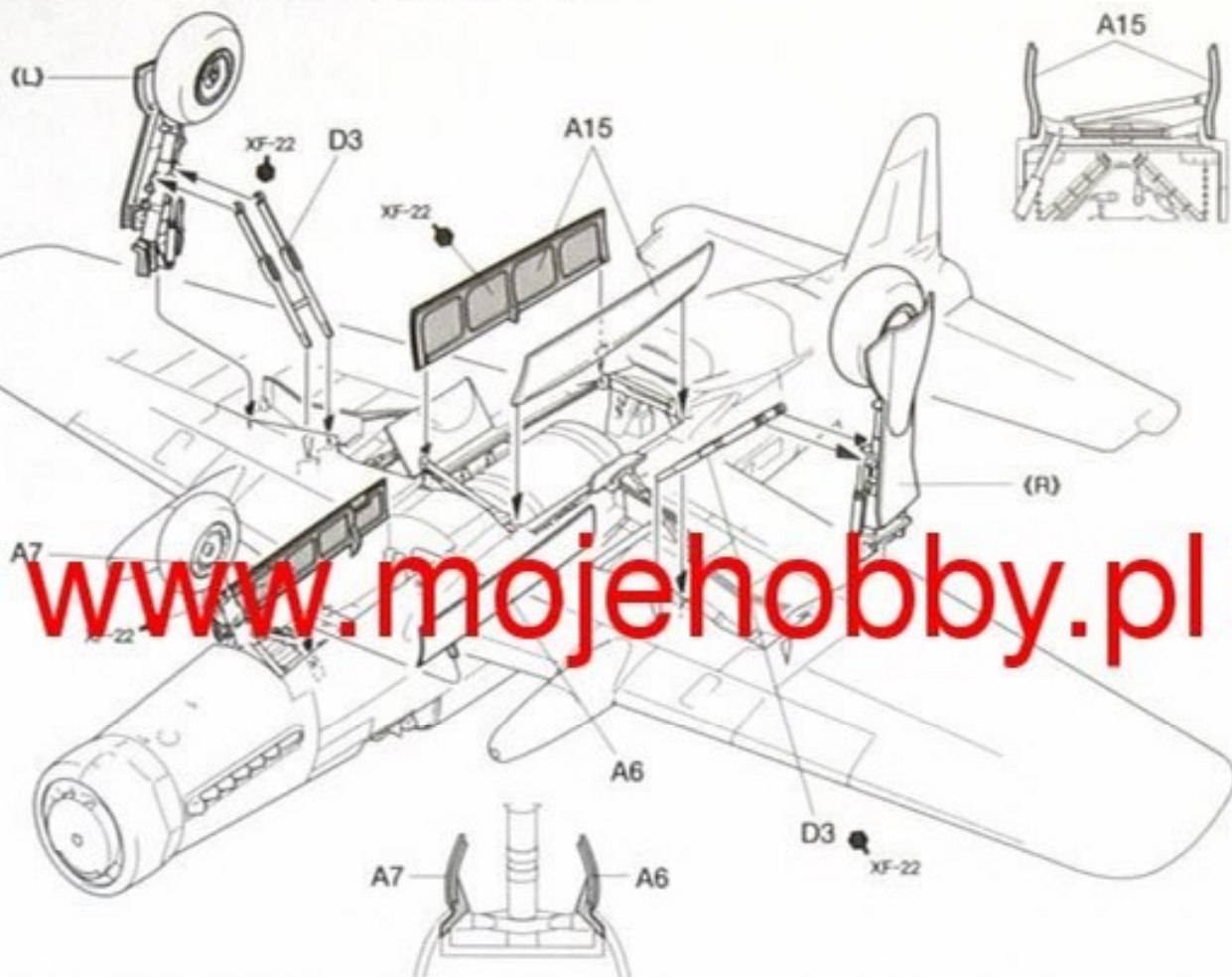
《閉状態》
Closed
Geschlossen
Fermées



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



★閉状態にする場合はA15を2つに分けます。
★Cut apart along the line for opened bomb bay doors.
★Für geöffnete Bombenschacht-Türen längs der Linie trennen.
★Couper le long de la ligne pour les trappes de soute ouvertes.

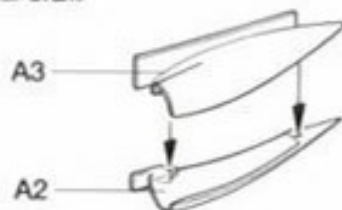
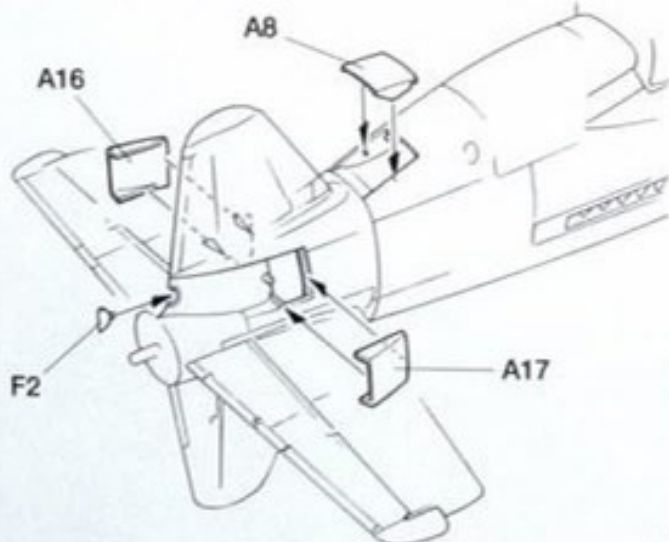


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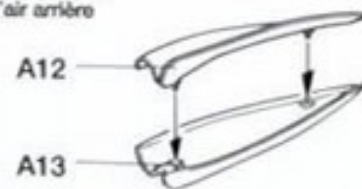
13

後部ラジエーター・フラップの取り付け
Attaching rear radiator flap
Anbringung der Klappen für den Heckkühler
Volets arrière du radiateur

《前側エアインテーク》
Front air intake
Vorderer Lufteinlaß
Prise d'air avant

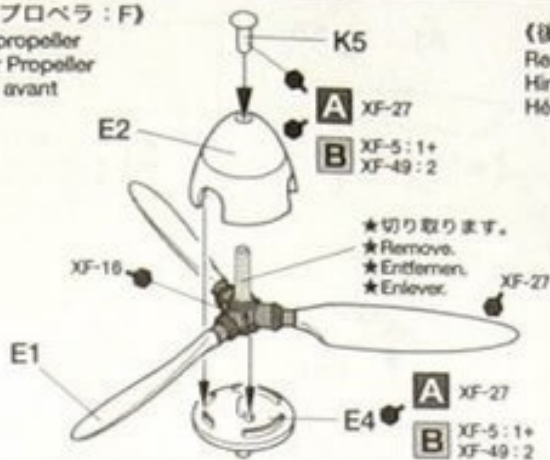


《後側エアインテーク》
Rear air intake
Hinterer Lufteinlaß
Prise d'air arrière

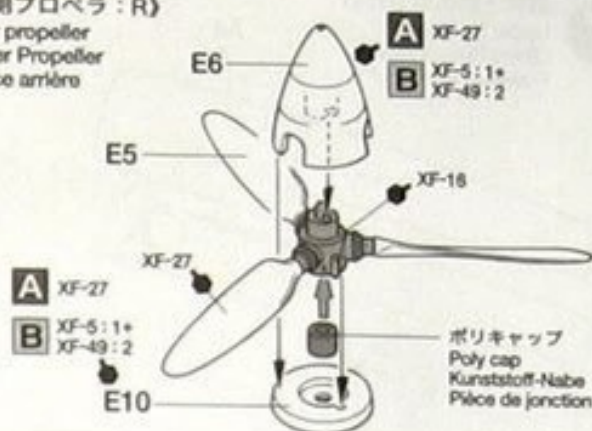


14

《前側プロペラ：F》
Front propeller
Vorder Propeller
Hélice avant



《後側プロペラ：R》
Rear propeller
Hinter Propeller
Hélice arrière



15

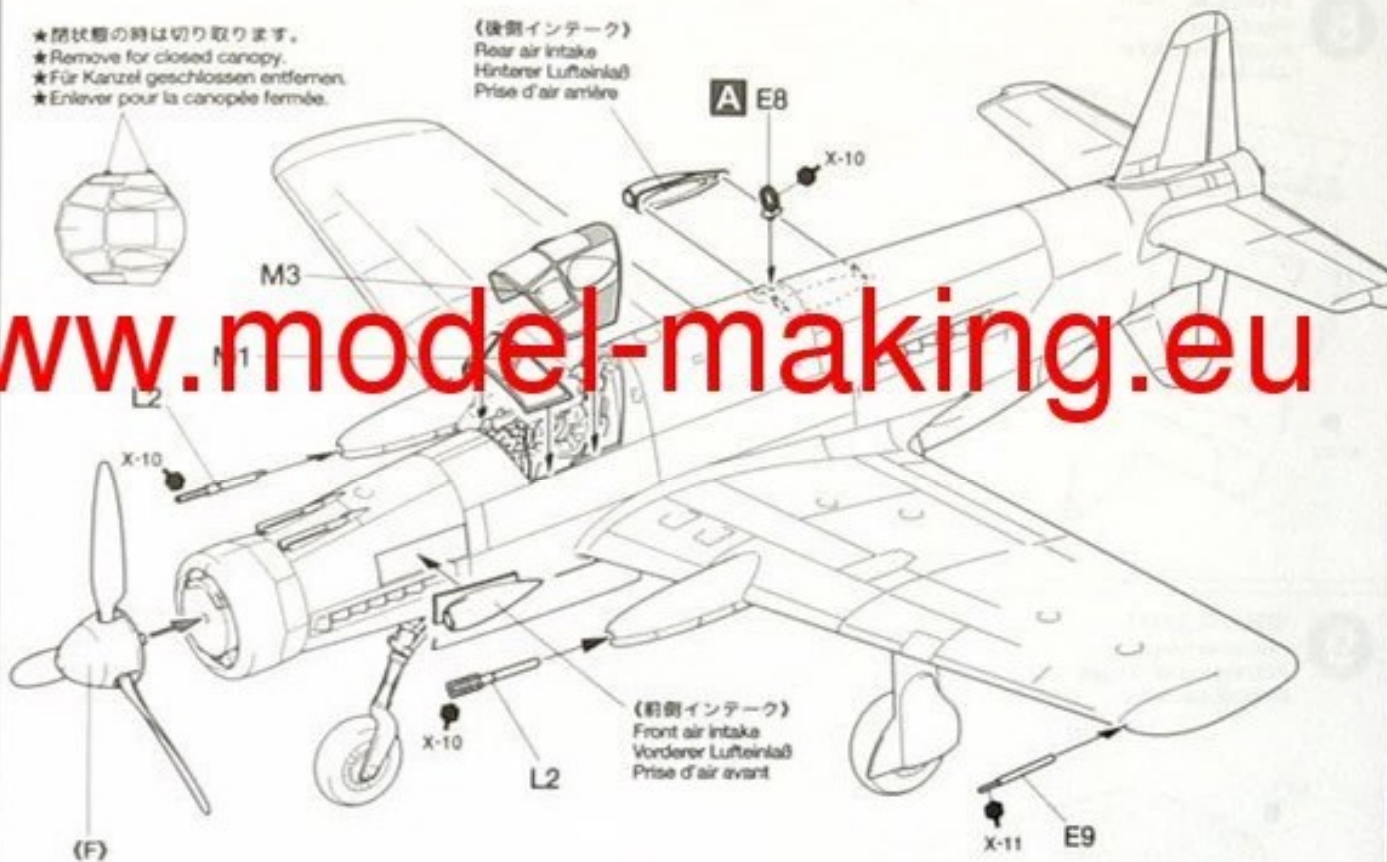
キャノピーの取り付け
Attaching canopy
Kabinendach-Einbau
Fixation de la canopée



不要部品
Not used.
Nicht verwenden.
Non utilisés.
C2, C20, C21, C22, C23,
D1, D2, D9, D10, D7×1,
D8×1, F1, F4, F5

★閉状態の時は切り取ります。
★Remove for closed canopy.
★Für Kanzel geschlossen entfernen.
★Enlever pour la canopée fermée.

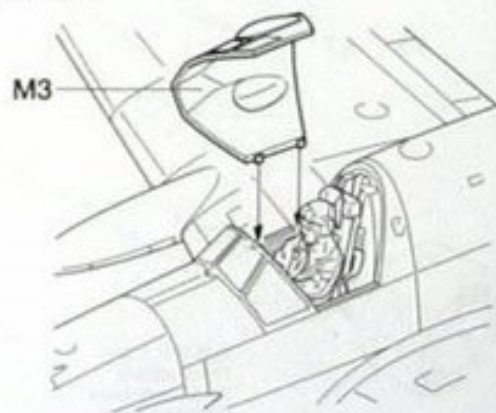
《後側インターク》
Rear air intake
Hinterer Lufteinlaß
Prise d'air arrière



《後側プロペラの取り付け》
Attaching rear propeller
Anbringung des hinteren Propellers
Fixation de l'hélice arrière

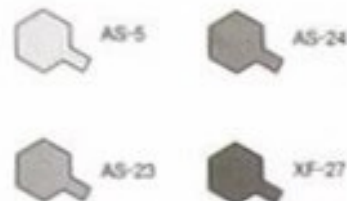


《キャノピー開状態》
Open canopy
Kanzel offen
Canopée ouverte

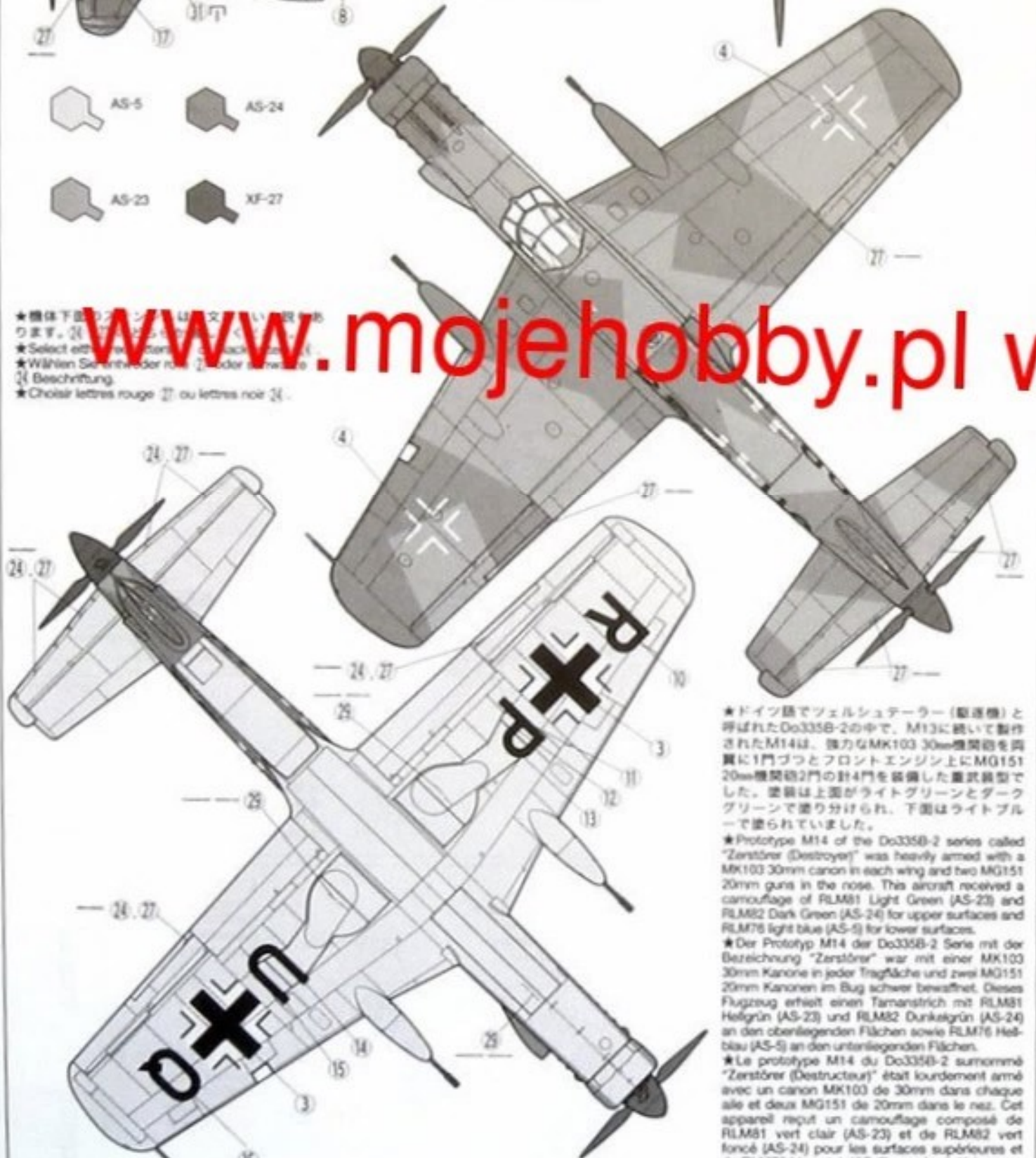


MARKING

A (Do335B-2試作機 M14 (W.Nr230014) 1944年12月 ドイツ・メンゲン)
Do335B-2 prototype M14 (W. Nr230014) Mengen, Germany December 1944



★機体下部の塗装は文面通りになります。④
★Select the correct colors for each part.
★Wählen Sie unten für rot ② oder schwarz ④ Beschriftung.
★Choisir lettres rouge ② ou lettres noir ④.



★ドイツ語でツェルシュテラー (駆逐機) と呼ばれたDo335B-2の中で、M13に続いて製作されたM14は、強力なMK103 30mm機関砲を両翼に1門ずつとフロントエンジン上にMG151 20mm機関砲2門の計4門を装備した重武装型でした。塗装は上面がライトグリーンとダークグリーンで塗り分けられ、下面はライトブルーで塗られていました。

★Prototype M14 of the Do335B-2 series called "Zerstörer (Destroyer)" was heavily armed with a MK103 30mm canon in each wing and two MG151 20mm guns in the nose. This aircraft received a camouflage of RLM81 Light Green (AS-23) and RLM82 Dark Green (AS-24) for upper surfaces and RLM76 light blue (AS-5) for lower surfaces.

★Der Prototyp M14 der Do335B-2 Serie mit der Bezeichnung "Zerstörer" war mit einer MK103 30mm Kanone in jeder Tragfläche und zwei MG151 20mm Kanonen im Bug schwer bewaffnet. Dieses Flugzeug erhielt einen Tarnanstrich mit RLM81 Hellgrün (AS-23) und RLM82 Dunkelgrün (AS-24) an den oberliegenden Flächen sowie RLM76 Hellblau (AS-5) an den unterliegenden Flächen.

★Le prototype M14 du Do335B-2 surnommé "Zerstörer (Destructeur)" était lourdement armé avec un canon MK103 de 30mm dans chaque aile et deux MG151 de 20mm dans le nez. Cet appareil reçut un camouflage composé de RLM81 vert clair (AS-23) et de RLM82 vert foncé (AS-24) pour les surfaces supérieures et de RLM76 bleu clair (AS-5) pour les inférieures.

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B (Do335B-2試作機 M14 (W.Nr230014) 捕獲機 1945年8月 フランス リヨン ブロン飛行場)
 Do335B-2 prototype M14 (W. Nr230014) captured by French forces, Centre d'Essais en Vol
 (Flight Test Center), Lyon-Bron, France August 1945



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★フランス軍に捕獲され、南ドイツのメンゲンで分解整備の後、フランスのリヨンにあるブロン飛行場に運ばれて試験飛行された際のM14です。フランス軍によって1945年8月8日に初飛行、1948年6月まで試験飛行がおこなわれました。この機体はフランス本国で主翼および機体全面がカーキグリーンで再塗装され、フランスの国標マークが描き込まれていました。しかし、前後のプロペラだけはオリジナルのブラックグリーンのようなようです。

★Illustration shows Do335B-2 M14 when it made its first flight at Lyon-Bron airfield after being captured by French forces. Test flights started on August 8th, 1945 and lasted until June, 1948. This aircraft had all its surfaces re-painted in khaki green (XF-51+XF-49:2). It is presumed that the propeller kept its original RLM70 black green (XF-27) color.

★Die Abbildung zeigt die Do335B-2 M14, als sie ihren ersten Flug nach der Beschlagnahme durch die Französischen Truppen auf dem Flugplatz Lyon-Bron machte. Die Testflüge begannen am 8. August 1945 und dauerten bis Juni 1948. Am Flugzeug war die gesamte Oberfläche in Khaki-Grün (XF-51+XF-49:2) gestrichen. Es ist anzunehmen, dass der Propeller seine Original RLM70 schwarzgrüne Farbe (XF-27) beibehielt.

★L'illustration montre le Do335B-2 M14 lors de son premier vol à Lyon-Bron après avoir été capturé par les forces françaises. L'évaluation de cet appareil débuta le 8 août 1945 et se poursuivit jusqu'en juin 1948. A cette période, le M14 avait l'ensemble de ses surfaces repeintes en vert khaki (XF-51+XF-49:2). Il est fort probable que l'hélice avait gardé sa couleur RLM70 vert-noir (XF-27) d'origine.

DORNIER



Do335B-2

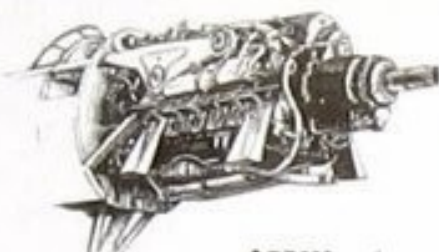
PFEIL

HEAVILY ARMED VERSION



Birth of the Do335

As WWII was getting closer to its end, the Luftwaffe developed many military aircraft with unconventional shapes. One of these was the Dornier Do335 named Pfeil (arrow). The Do335 didn't actually take part in any conflicts but left its mark in aviation history because of its unique appearance. With two propellers and two powerful front and rear tandem-mounted Daimler-Benz DB603 V12 engines, this configuration promised high performances to the Do335. Moreover, a downward vertical fin was mounted giving this plane an even more unique shape. Surprisingly enough, in 100 years of aviation history the Do335 is the only fighter featuring such a configuration.

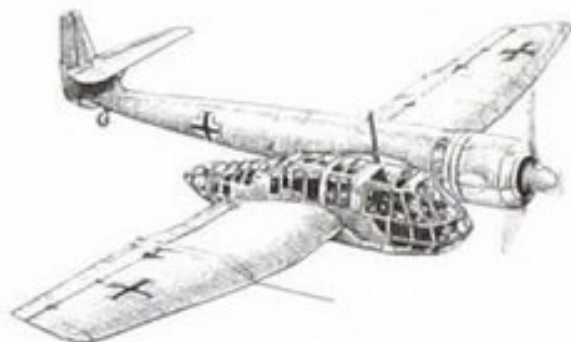


◆DB603 engine

In 1942, Dornier presented design number 231 to meet a requirement issued by the Luftwaffe for a high-speed, unarmed military aircraft. Until this time, Dornier had only produced bombers such as the Do17, Do217 and Do317, hydroplanes and flying

boats. The new proposal was a single-engine aircraft with a unique configuration with two engines. This aircraft was designated Do335. At the time, the Luftwaffe tended to be fond of unconventional or al planes such as the Do335 or the Blohm und Voss Bv-141 (asymmetrical reconnaissance plane).

Dornier's great reputation and experience with designing hydroplane and flying boats, resulted in great expectations for this configuration. Actually, the Do335 was not the first aircraft featuring such a configuration. In 1938, engineer Ulrich Hütter designed the experimental plane



◆Blohm und Voss Bv-141 reconnaissance plane

Gö9, which had a comparable style but the Do335 was the first such designed plane to be developed for military purpose.

Up to this point, everything was favorable to the Do335, but then it was decided to produce variants of this aircraft to fulfill fighter-bomber, fighter, night fighter and reconnaissance missions resulting in development delay. Finally, in October 1943, the first prototype made its maid-



◆Göppingen Gö9

en flight. It was propelled with DB603E engines that made the Dornier Do335 the fastest reciprocating aircraft. Two-seater versions were also developed. Over 35 Do335 were completed.

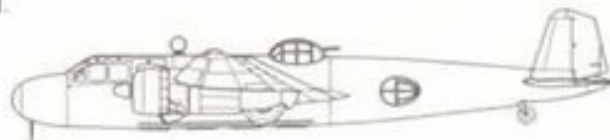
- Do335 V (prototypes) V1-V9 (single-seater).....9 planes
 - Do335 A-0 (pre-production aircraft).....3 planes
 - Do335 A-1 (early production aircraft).....10 planes
 - Do335 A-1 (early production aircraft).....11 planes
 - M13, 14 (B-2 version prototypes).....2 planes
- Some sources state that 40 planes were built, but it is presumed that less than 50 units were produced.

Features and performances

The performances of the Do335 A-1 were as follows:

- Wingspan: 13.8m ●Overall length: 13.9m ●Wing surface: 38.5 m²
- Gross weight: 9.61t ●Crew: 1
- Powerplant: 2 x DB603E engine (1,800hp) ●Top speed: 760km/h
- Maximum ceiling: 11,500m ●Range: 1,470km
- Armament: 1 x MK108 30mm canon / 2 x MG151 20mm guns
1x 500kg bomb

The following drawing allows a size comparison between the Do335 and the Japanese twin engine bombers of WWII. The Do335 was over 1t heavier than Mitsubishi G3M attack-bomber "Nell" (8.3t) and Mitsubishi Ki-21 bomber "Sally" (7.5t) with its 9.61t gross weight. It is now obvious that the Do335 was one of the biggest single-seater planes of WWII.



◆Mitsubishi G3M Type 96 attack-bomber "Nell"



◆Mitsubishi Ki-21 bomber "Sally"



◆Dornier Do335 A-1

Another characteristic of the Pfeil was its high-speed. The Do335 is also the fastest reciprocating aircraft, with a 760km/h top speed at 6,400m. The contemporary Gloster Meteor Mk.I, had a top speed of only 690km/h, even though it was a jet engine fighter, proving that reciprocating propellers of the Do335 were an effective solution.



◆Gloster Meteor Mk.I

Like everything, the Do335 configuration had advantages and inconveniences.

Advantages:

- The tandem configuration lowered drag to allow higher speed.
- If one of the engines malfunctioned or was damaged, the aircraft could still fly safely.

Inconveniences:

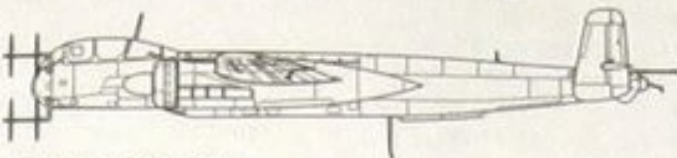
- In case of emergency, crew bail out was difficult.

It became clear that the armament was insufficient for a fighter. The basic armament for the Do335 was composed of one 30mm cannon and two 20mm guns. The 30mm cannon was mounted similarly to the Messerschmitt Me109 or the American Bell P-39 Airacobra, firing through the propeller spinner. Target hitting ration was quite high but the ammunition load for this weapon was only 70 rounds which was clearly insufficient.

The armament of other German twin-engine fighters at this time was as follows:

Heinkel He219 Uhu

Two to four 30mm cannons and two to four 20mm guns



Heinkel He219 Uhu

Focke-Wulf Ta154 Moskito

Two to three 30mm cannons and two 20mm guns

A comparison shows clearly the weakness of the Do335 regarding armament. But the war situation was deteriorating for Germany, the Do335 was then to be used for interception.

Technical characteristics

As stated previously, the Do335 was never used in combat. The few examples completed were used only for training or reconnaissance missions so why is this plane so popular to aviation specialists and fans? One reason is its unique shape, but another is that this aircraft featured many innovations.

1. An ejection seat propelled with compressed air

The propeller placed to the rear made pilot bail out, in case of accident or battle damages, difficult or impossible. To solve this problem, it was decided to equip the plane with an ejection seat propelled with compressed air. While there were other planes equipped with ejection seats, but these were all propelled with rockets.



2. In case of emergency, rear propeller and vertical upper tail could be dropped. In addition, the installation of an ejection seat, rear propeller and vertical upper tail could be dropped in case of emergency. This device obviously increased aircraft gross weight but it was indispensable for the assurance of pilot safety.

3. Hydraulic buffer fitted to lower vertical tail

In order not to damage the rear propeller or lower vertical tail in case of steep angle take off or landing, a hydraulic buffer was mounted to lower vertical tail tip. Moreover, in case of emergency landing, the lower vertical tail could be jettisoned.



4. A folding ladder

Because of the tricycle configuration and large propeller diameter (front 3.5m, rear 3.3m) the cockpit was placed high above the ground. In order to board the plane, a ladder was fitted to the left wing root trailing edge. This ladder could be folded and stored thanks to a crank handle placed on the upper part of the compartment left

wing root trailing edge. This feature allowed the pilot to board and get off the plane without the help of mechanics.

5. A unique front and rear engine cooling system.

Front and rear DB603 engines were identical but their cooling systems were quite unique. The front engine had the same system as the Focke-Wulf Fw190D (and Ta152) whereas the rear engine cooling system was moved to the lower part of the fuselage. Moreover, a thin bullet-proof armor was fitted to the front engine radiator.



◆ Front engine circular radiator

◆ Fuselage air intake

Derivatives

The Do335 was finally intended to fulfill bombers interception mission. For this reason, the Do335 had to become a night fighter and two-seater versions were developed:

- A-6 Radar equipped
- A-10, A-12 A-1 Modified as two-seaters.

For night fighter versions, basically the A6, the addition of two 20mm guns were planned. Even with this addition, the German authorities feared that the Do335 firepower would not be sufficient and many other derivatives were planned. None were built as the war came to an end.

Do335B series

As the evolution of Do335A series, B version development started in summer 1944. The first planned version, the B-1, which was a single seat fighter version, was an A-0/A-1 with the same armament of one 30mm MK103 cannon firing through the spinner and two 20mm MG151 guns. The only improvement was a bulletproof canopy and a reinforced front landing gear. In order to intercept the Allied bombers, a heavily armed version, designated B-2, was developed. Two prototypes of the B-2 version, designated M13 and M14, were completed. They were equipped with one additional 30mm MK103 cannon on each wing. The reason was quite effective against bombers, each of them was fed with 70 rounds. The additional guns on the Do335 B-2 were mounted in large fairings placed on the leading edge of wings. The M14 prototype had its 30mm gun that fired through the spinner removed in order to reduce weight. M13 was destroyed just before the end of the war in May 1945 but the M14 was captured by American and French forces at Dornier's facility in the suburbs of Sigmaringen in south of Germany. It was then transferred to France where it was evaluated until 1948. The other versions of B series that were planned were the B-3 with more powerful engines, the B-4 reconnaissance version, the B-6 and B-7 night fighter two-seater versions and B-8 version, but as the war came to an end, the planes were never built.

Survivor

Today, only one example of the Do335 remains. This aircraft, which is a Do335 A-0 one-seater, is currently stored at the Paul Garber Facility in Washington, D.C., U.S.A. After restoration was completed, this plane was dismantled and stored. Fortunately, this unique plane is planned to be displayed to the public when the museum's new building, under construction at Dulles airport, is completed.

(Various features)

● MK103 30mm gun

This powerful gun developed for bomber interception could fire with an initial speed of 860m/s armor-piercing shells and explosive shells at a rate of 420 rounds/min.

● Cockpit

A canopy with two tear drop shaped bulges to allow the pilot to see backward was mounted.

● Loop antenna

● Rear propeller and vertical upper tail

Rear propeller and vertical upper tail could be dropped in case of emergency to assure pilot safety when bailing out.

● MG151 20mm gun

● Front landing gear

Front landing gear leg was reinforced and a larger tire that rotated 45° when retracting was mounted.

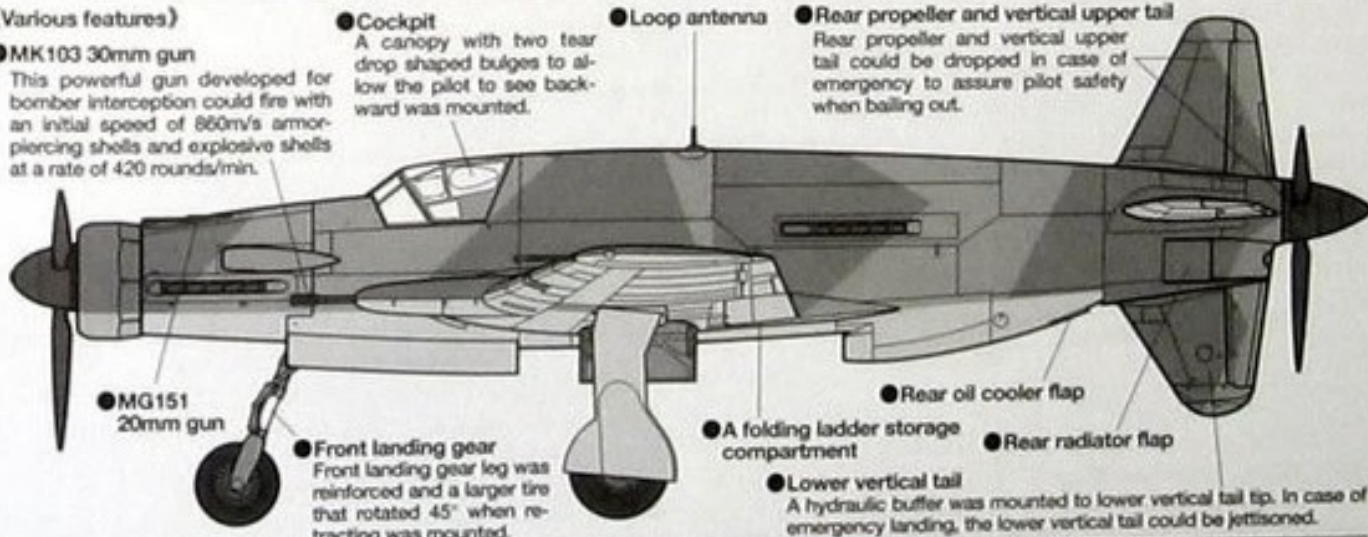
● A folding ladder storage compartment

● Lower vertical tail

A hydraulic buffer was mounted to lower vertical tail tip. In case of emergency landing, the lower vertical tail could be jettisoned.

● Rear oil cooler flap

● Rear radiator flap



DORNIER Do335B-2 PFEIL

HEAVILY ARMED VERSION

1/48 SCALE AIRCRAFT SERIES NO.88

★この図は95%縮小図です。原寸に戻すには105%拡大してください。
★This is a reduced drawing (95%). Use a photocopier to enlarge (105%).

AS-24 ダークグリーン
Dark Green
Dunkelgrün
Vert foncé

AS-23 ライトグリーン
Light Green
Hellgrün
Vert clair

XF-27
ブラックグリーン
Black green
Schwarzgrün
Vert noir

AS-5 ライトブルー
Light Blue
Hellblau
Bleu Clair

AS-23 ライトグリーン
Light Green
Hellgrün
Vert clair

AS-24 ダークグリーン
Dark Green
Dunkelgrün
Vert foncé

AS-5 ライトブルー
Light Blue
Hellblau
Bleu Clair

AS-23 ライトグリーン
Light Green
Hellgrün
Vert clair

XF-27
ブラックグリーン
Black green
Schwarzgrün
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AS-24 ダークグリーン
Dark Green
Dunkelgrün
Vert foncé

AS-24 ダークグリーン
Dark Green
Dunkelgrün
Vert foncé

AS-23 ライトグリーン
Light Green
Hellgrün
Vert clair

XF-27
ブラックグリーン
Black green
Schwarzgrün
Vert noir



1/48 ドルニエ Do335B-2
プファイル (重戦闘機型)
迷彩パターン三面図

