1/48 SCALE AIRCRAFT SERIES NO.87 ★FUSELAGE 221mm. WINGSPAN 264mm.

1/48 傑作機シリーズNO.87 メッサーシュミット Me262 A-1a

TAMIYA

# MESSERSCHMITT Me262 A-1a

Development of the Me262, the first practical use jet-powered fighter in the world, started in 1939. On July 18th 1942, Me262V3 made its first flight with two Junkers Jumo 004 jet engines. After prototypes featuring nose-housed landing gear and improved Jumo004B engines, the first production model of the Me262 was completed. Capable of 870km/h top speed, the Me262 featured 18.5 degree receding wings. With Allied bombing raids on the German homeland were rapidly intensifying, the Luftwaffe proposed the hastened deployment of the revolutionary Me262 A-1a jet fighter/interceptor. However, Hitler issued strict contrary orders prioritizing the deployment of the A-2a fighter/bomber version of the Me262. Despite these orders, a few A-1a assigned to Me262 test/training units (Ekdo 262) were deployed to intercept and successfully shot down Allied Mosquitoes and Spitfires. On September 1944, the first practical unit was organized and on November 4th, full-scale production of the Me262 A-1a was permitted at last. Me262 A-1a fighters were assigned to units such as JG7 (organized based on Ekdo 262) and KG(J)54 (re-organized from bomber unit to fighter unit). On April 1945, just before the end of WWII, Lieutenant General Galland organized an elite unit of ace piloted A-1a's known as JV44. Although the Luftwaffe was on its last wing, ace flown Me262 A-1a Fighters packed with deadly armaments of four Mk108 30mm cannons, as well as W.Gr21 and R4M air-to-air rockets continued to threaten Allied aircraft until the end of war.

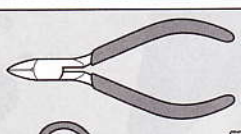
Die Entwicklung der Me262, des ersten im Einsatz befindlichen Düsenjägers der Welt, begann 1939. Die Me262V3 flog mit zwei Junkers Jumo 004 Düsentriebwerken am 18. Juli 1942 zum ersten Mal. Das erste Serienmodell wurde mit einem Bugradfahrgestell und verbesserten Jumo 004B Triebwerken fertiggestellt. Die Me262 wies 18.5 Grad gepfeilte Flächen auf und erreichte eine Höchstgeschwindigkeit von 870km/h. Durch zunehmende alliierte Luftangriffe auf Deutschland wünschte sich die Luftwaffe eine beschleunigte Entwicklung des revolutionären Me262 A-1a Düsen-Abfangjägers. Hitler gab jedoch genau die entgegengesetzte Anweisung, den Schwerpunkt auf die Entwicklung der A-2a Jagdbomber-Version zu legen. Trotz dieses Befehls wurden einige A-1a an Test- und Übungseinheiten (Ekdo 262) als Abfangjäger ausgeliefert, die auch mit Abschüssen der alliierten Mosquitos und Spitfires erfolgreich waren. Im September 1944 wurde die erste echte Einsatzgruppe zusammengestellt und am 4. November wurde endlich die Produktion im großen Umfang gestattet. Die Me262 A-1a kamen zu Einheiten wie der JG7 (aufgebaut auf Ekdo262) und KG(J)54 (umgebildet von Bomber- zu Jagdstaffel). Unmittelbar vor Kriegsende im April 1945 organisierte Generalleutnant Galland in der JV44 eine Elite-Einheit mit Fliegerassen. Obwohl die Luftwaffe völlig am Boden war, blieben die von den Assen geflogenen Me262A-1a, gespickt mit tödlicher Bewaffnung von vier Mk108 30mm Kanonen und W.Gr21 sowie R4M Raketen, bis zum letzten Kriegstag eine Bedrohung für jedes alliierte Flugzeug.

"Il vole comme s'il était poussé par des anges" – Tel fut le sentiment de l'ace Adolf Galland lorsque le 22 mai 1943 il pilota pour la première fois le prototype du Me262, premier chasseur à réaction au monde à entrer en service. Son développement débuta en 1939 et le 18 juillet 1942, le Me262V3, propulsé par 2 réacteurs Junkers Jumo 004, fit son vol d'essai. D'autres prototypes comme le V5 à train tricycle et le V6 à réacteurs Jumo004B furent construits avant le début de la production de ce chasseur haute vitesse pouvant atteindre les 870km/h et possédant des ailes en flèche à 18,5 degrés. Lorsque les raids aériens alliés sur le sol Allemand s'intensifièrent, la Luftwaffe proposa le déploiement rapide de la version d'interception Me262 A-1a mais Hitler donna des ordres stricts donnant priorité à la version chasseur/bombardier A-2a. Les quelques A-1a assignés à l'unité d'évaluation et d'entraînement "Erprobungs Kommando 262(Ekdo 262)", participèrent à des missions d'interception et montrèrent leur supériorité en abattant des Mosquito et des Spitfire alliés. En Septembre 1944, la première unité d'active, "Kommando Nowotny" fut formé et le 4 novembre, la pleine production du Me262 A-1a fut lancée. Ils furent versés aux escadrilles JG7, formée à partir du Ekdo 262, et KG(J)54, unité de bombardement transformée en escadrille de chasse. En avril 1945, des aces furent réunis au sein de la JV44 d'Adolf Galland et malgré le declin de la Luftwaffe, ces Me262 A-1a pilotés par des experts menaçèrent les avions alliés avec leurs 4 canons Mk108 de 30mm et leurs roquettes air-air W.Gr21 et R4M jusqu'à la fin de la guerre.

「まるで天使に押されているようだ」。104機撃墜のエースであり戦闘機隊総監も務めたアドルフ・ガーランド中将が1943年5月、初めてMe262に試乗した時の感想です。世界初の実用ジェット戦闘機となったこのMe262は、メッサーシュミット社によって1939年に開発が始められました。1942年7月にはユンカースJumo004ジェットエンジン2基を搭載したMe262V3が初飛行に成功。さらに前脚式の降着装置を備えたV5や、エンジンを改良型のJumo004BとしたV6などが開発され、前縁で18.5度の後退角を持つ主翼など洗練された機体デザインと相まって、Me262は870km/hという高速性能と優れた飛行性能を示したのです。そして初期量産型Me262 A-0の空軍への納入が開始された1944年4月当時、連合軍によるドイツ本土爆撃は激しさを増しており、革新の迎撃戦闘機Me262 A-1aの早急な部隊配備が待ち望まれていました。しかし1944年5月、ヒトラーの指令によりMe262は一転して戦闘爆撃機型A-2aの量産が優先され、本来の戦闘機としての実戦配備は大きく遅れることとなったのです。その中でMe262の戦術研究やパイロット養成を目的とする262実験隊に配備された僅かな機数のA-1aは、連合軍偵察機の迎撃にも度々発進、強敵モスキートやスピットファイアを撃墜するなど、その実力の片鱗を示しました。そして1944年9月にはA-1aを装備する初の実戦部隊、ノヴォトニー隊が編制され、押し寄せる連合軍爆撃機に対して奮戦。さらにドイツ本土への激しい空襲が続く同年11月にはついにMe262の戦闘機としての生産がヒトラーより全面的に許可されたのです。Me262 A-1aは262実験隊を基幹として編制された第7戦闘航空団や、爆撃隊から戦闘機隊へと改編された第54爆撃航空団などに配備され、終戦間近の1945年4月にはガーランド中将がエースパイロットを集めて編制したA-1a装備の精鋭部隊、JV44(第44戦闘団)が活動を開始。大戦末期の弱体化したドイツ空軍の中で、第7戦闘航空団やJV44の熟練搭乗員が操縦するMe262は持ち前の高速性能と4門の30㎜機関砲、そして強力なW.Gr21やR4M空対空ロケット弾"オルカン"などの重武装により、連合軍機にとって最大の脅威となったのです。

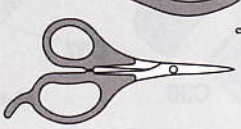
## RECOMMENDED TOOLS

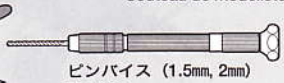
●用意する工具
●Tools recommended
●Benötigtes Werkzeug
●Outillage nécessaire


ニッパー
Side cutters
Seitenschneider
Pince coupante


ナイフ
Modeling knife
Modelliermesser
Couteau de modéliste

接着剤
(プラスチック用)
Cement
Kleber
Colle


デカールバサミ
Scissors
Schere
Ciseaux


ピンバイス (1.5mm, 2mm)
Pin vise
Schraubstock
Outil à percer


ピンセット
Tweezers
Pinzette
Précelles

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●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.

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-3 | ●グレイグリーン(Luftwaffe) / Gray Green (Luftwaffe) / Graugrün (Luftwaffe) / Gris Vert (Luftwaffe) |
| AS-4 | ●グレイバイオレット(Luftwaffe) / Gray Violet (Luftwaffe) / Grauviolett (Luftwaffe) / Gris Violet (Luftwaffe) |
| AS-5 | ●ライトブルー（ドイツ空軍） / Light blue (Luftwaffe) / Hellblau (Luftwaffe) / Bleu Clair (Luftwaffe) |
| AS-12 | ●シルバーメタル / Bare-Metal Silver / Blank-Metall Silber / Métal Nu |
| AS-17 | ●濃緑色(IJA) / Dark Green (IJA) / Dunkelgrün (IJA) / Vert Foncé (IJA) |
| 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-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 |
| X-25 | ●クリヤーグリーン / Clear green / Klar-Grün / Vert translucide |
| X-27 | ●クリヤーレッド / Clear red / Klar-Rot / Rouge translucide |
| X-31 | ●チタンゴールド / Titanium gold / Titan-Gold / Or Titanium |
| XF-1 | ●フラットブラック / Flat black / Matt Schwarz / Noir mat |
| XF-3 | ●フラットイエロー / Flat yellow / Matt Gelb / Jaune 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-22 | ●RLMグレイ / RLM grey / RLM-Grau / Gris R.L.M. |
| XF-50 | ●フィールドブルー / Field blue / Feldblau / Bleu campagne |
| 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-57 | ●バフ / Buff / Lederfarben / Chamois |
| XF-63 | ●ジャーマングレイ / German grey / Deutsches Grau / Gris Panzer |
| XF-64 | ●レッドブラウン / Red brown / Rotbraun / Rouge brun |

## ⚠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。
●小さなお子様の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な状況が考えられます。

## ⚠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 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.

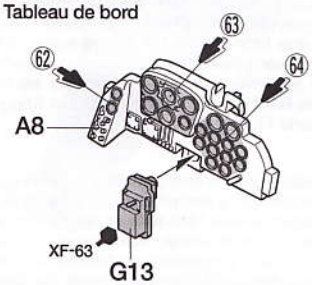
## ⚠PRECAUTIONS

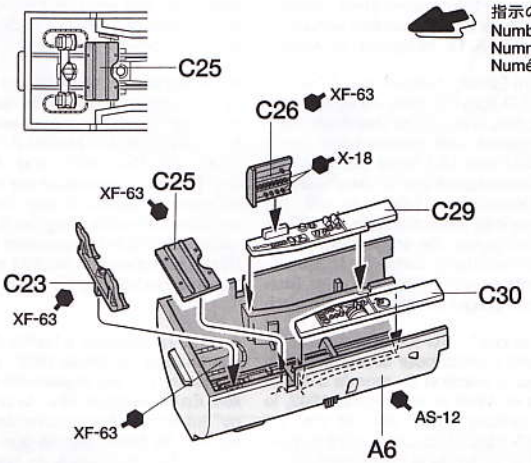
●L'assemblage de ce kit requiert de l'outillage, en particulier des couteaux de modélisme. Manier les outils avec précaution pour éviter toute blessure.
●Lire et suivre les instructions d'utilisation des peintures et ou de la colle, si utilisées (non incluses dans le kit). Utiliser uniquement une colle 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.

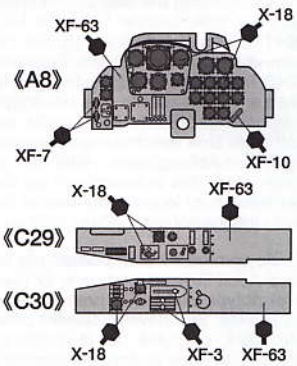
## 1 コクピットの組み立て / Cockpit / Kockpit

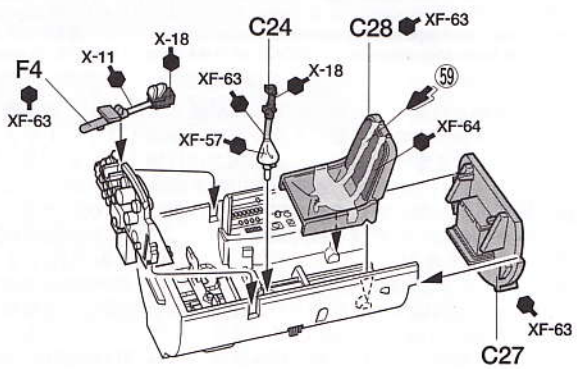
指示の番号のスライドマークをはります。
Number of decal to apply.
Nummer des Abziehbildes, das anzubringen ist.
Numéro de la décalcomanie à utiliser.

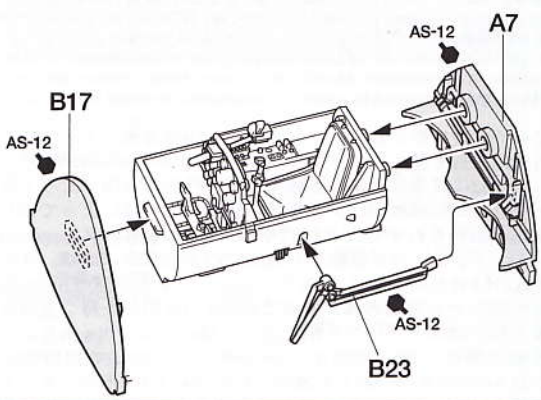
《メーターパネル》
Instrument panel
Instrumententafel
Tableau de bord



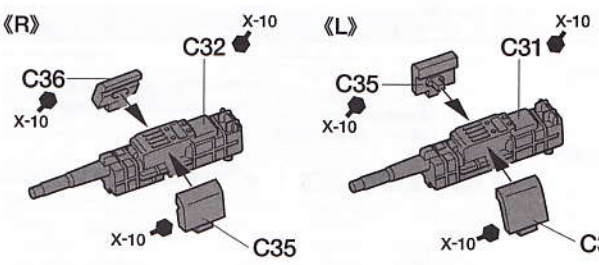



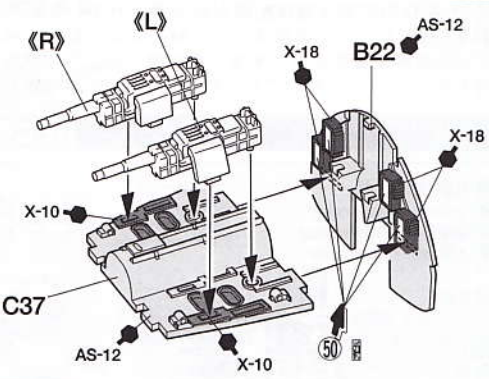



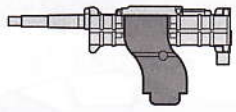



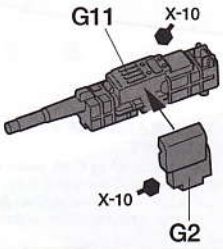

## 2 MK108 30㎜機関砲の取り付け-1 / MK108 30mm cannons / MK108 30mm Kanonen / Canons MK108 30mm

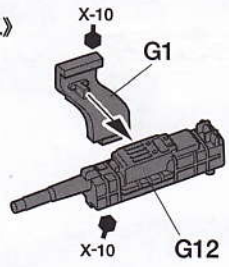


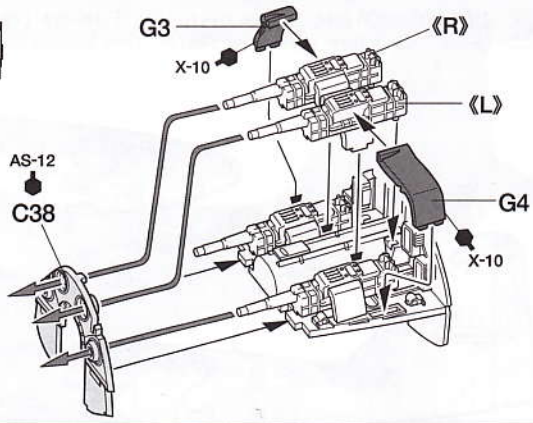



## 3 MK108 30㎜機関砲の取り付け-2
MK108 30mm cannons
MK108 30mm Kanonen
Canons MK108 30mm



《R》


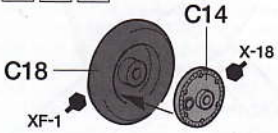

《L》


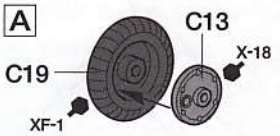



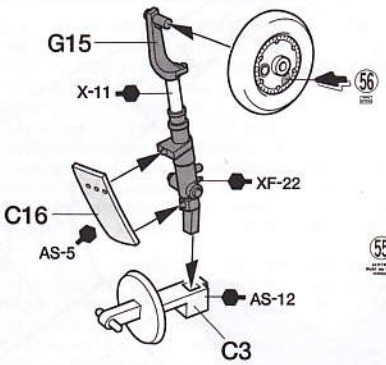

●このキットは4種類の機体が選択できます。8, 9, 10ページまたは別紙塗装図を参考に A B C D から1つ選び、後の指示に従ってください。
●Refer to pages 8, 9, 10, and separated painting guide and select from markings A, B, C, or D. Follow instructions for each type during construction.
●Die Seiten 8, 9, 10 und die getrennte Lackieranleitung beachten, zwischen den Markierungen A, B, C oder D wählen. Beim Zusammenbau die Anleitung für den entsprechenden Typ einhalten.
●Se référer aux pages 8, 9 et 10 ainsi qu'au guide de peinture fourni séparément et choisir entre les décorations A, B, C et D. Suivre les instructions indiquées au cours de la construction pour chacune d'elles en fonction de votre choix.

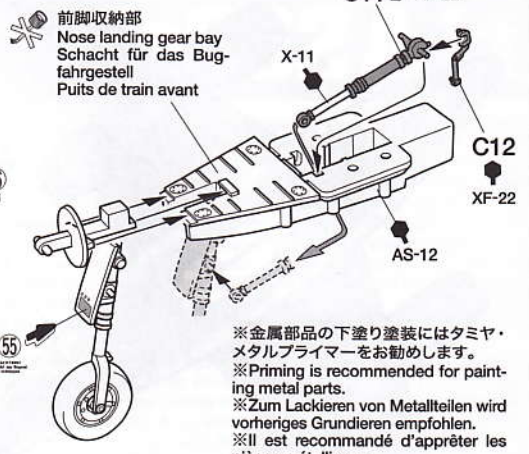
## 4 前脚の組み立て
Nose landing gear
Bugrad
Train avant


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

B C D



A


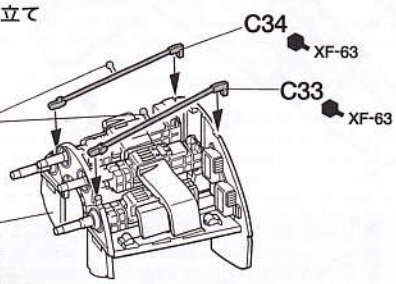




※金属部品の下塗り塗装にはタミヤ・メタルプライマーをお勧めします。
※Priming is recommended for painting metal parts.
※Zum Lackieren von Metallteilen wird vorheriges Grundieren empfohlen.
※Il est recommandé d'apprêter les pièces métalliques.

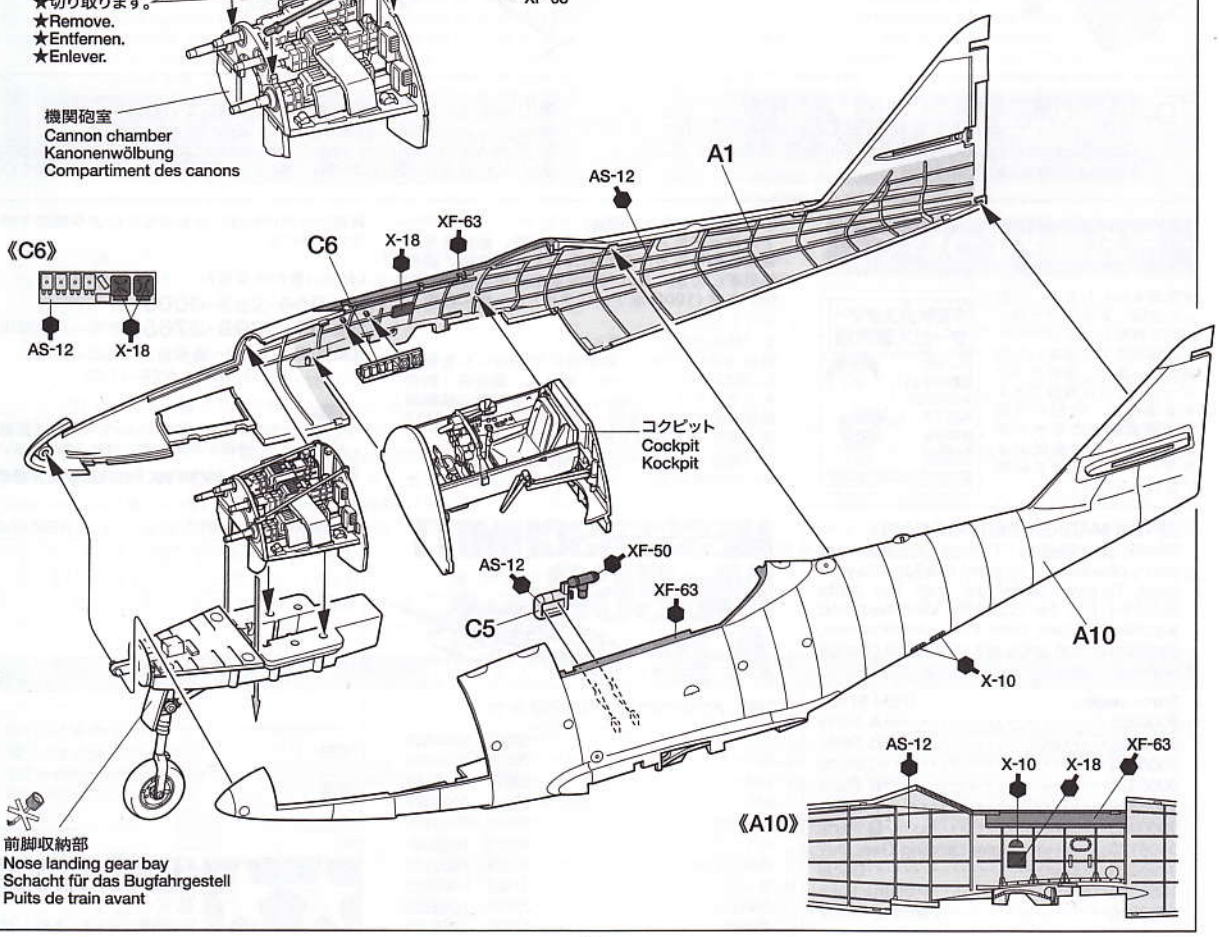
## 5 機体の組み立て
Fuselage
Rumpf


●塗装指示のないプラスチック部品は機体色です。
●When no color is specified, paint the item with fuselage color.
●Wenn keine Farbe angegeben ist, das Teil in Rumpffarbe lackieren.
●Si aucune teinte n'est spécifiée, peindre dans la couleur du fuselage.

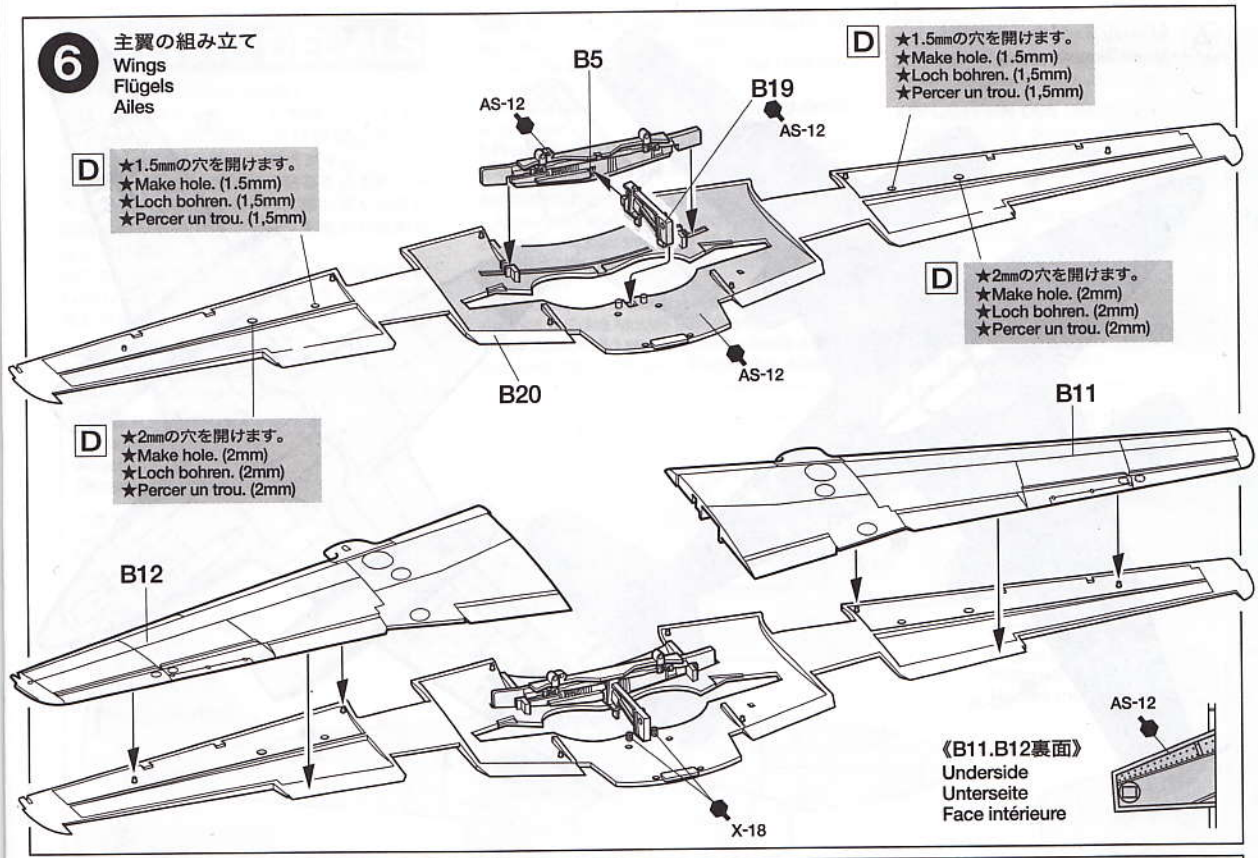



★切り取ります。
★Remove.
★Entfernen.
★Enlever.

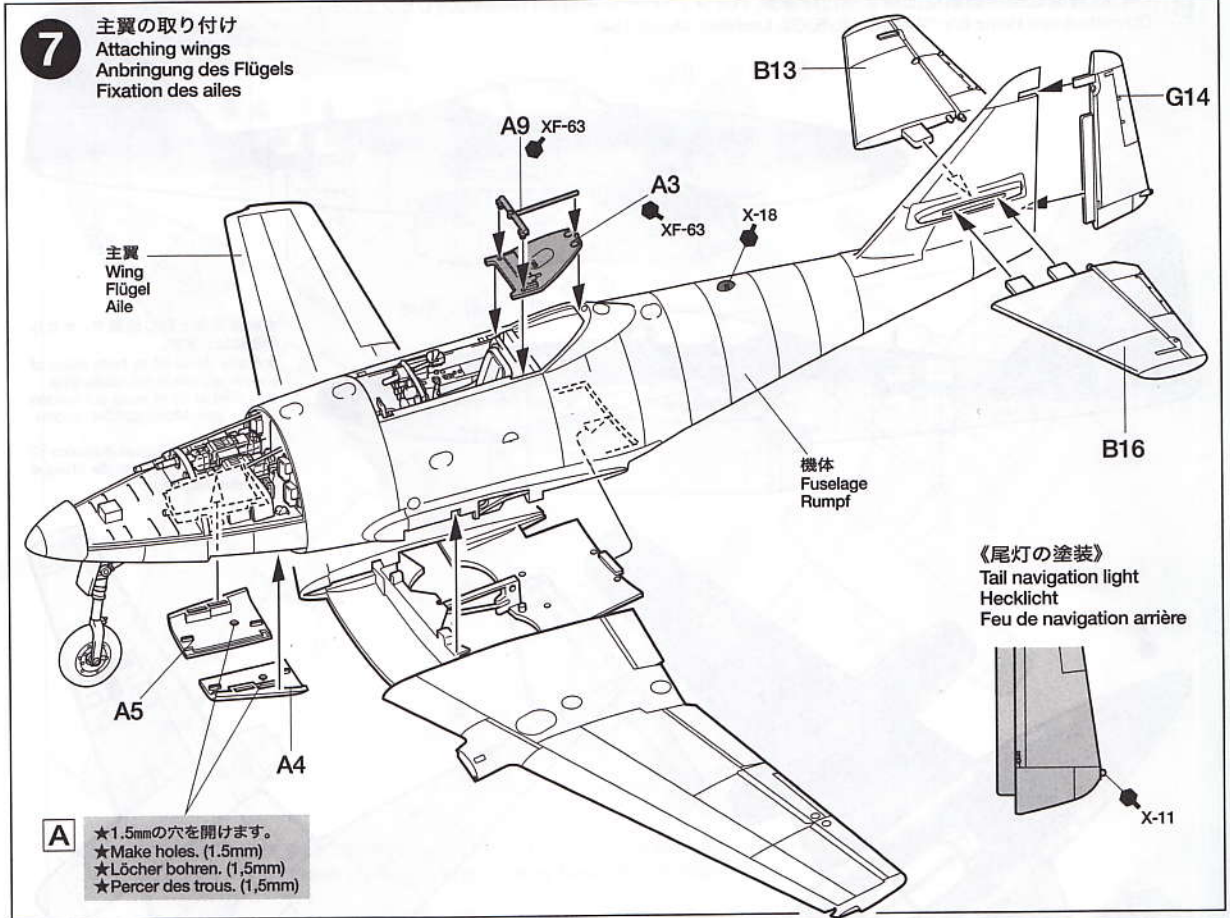
機関砲室
Cannon chamber
Kanonenwölbung
Compartiment des canons



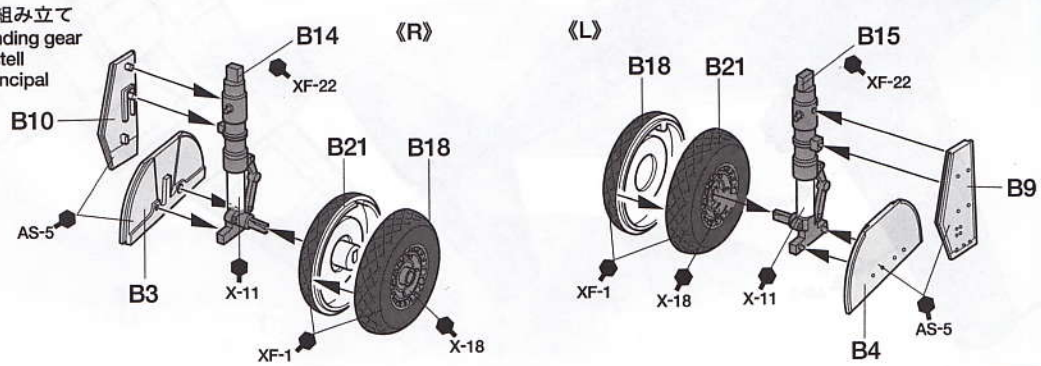
## 6 主翼の組み立て
Wings
Flügels
Ailes



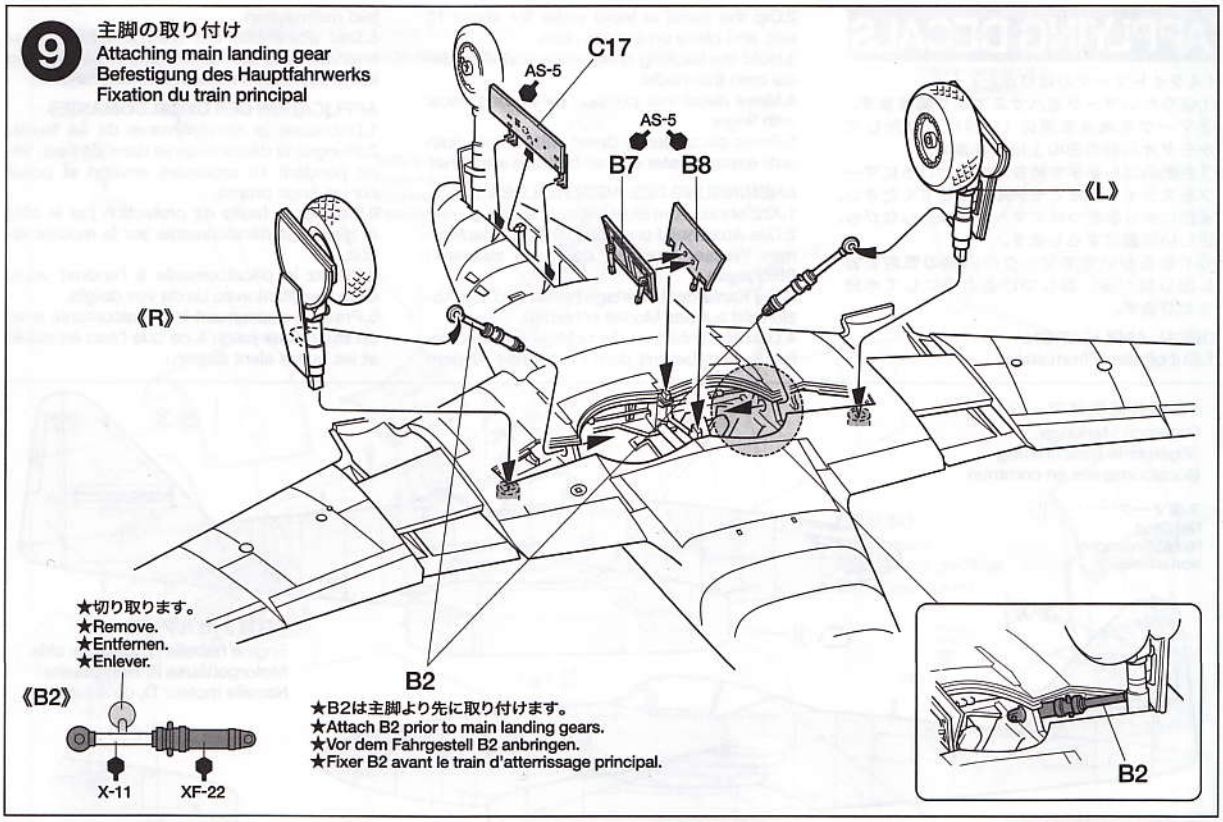

## 7 主翼の取り付け
Attaching wings
Anbringung des Flügels
Fixation des ailes



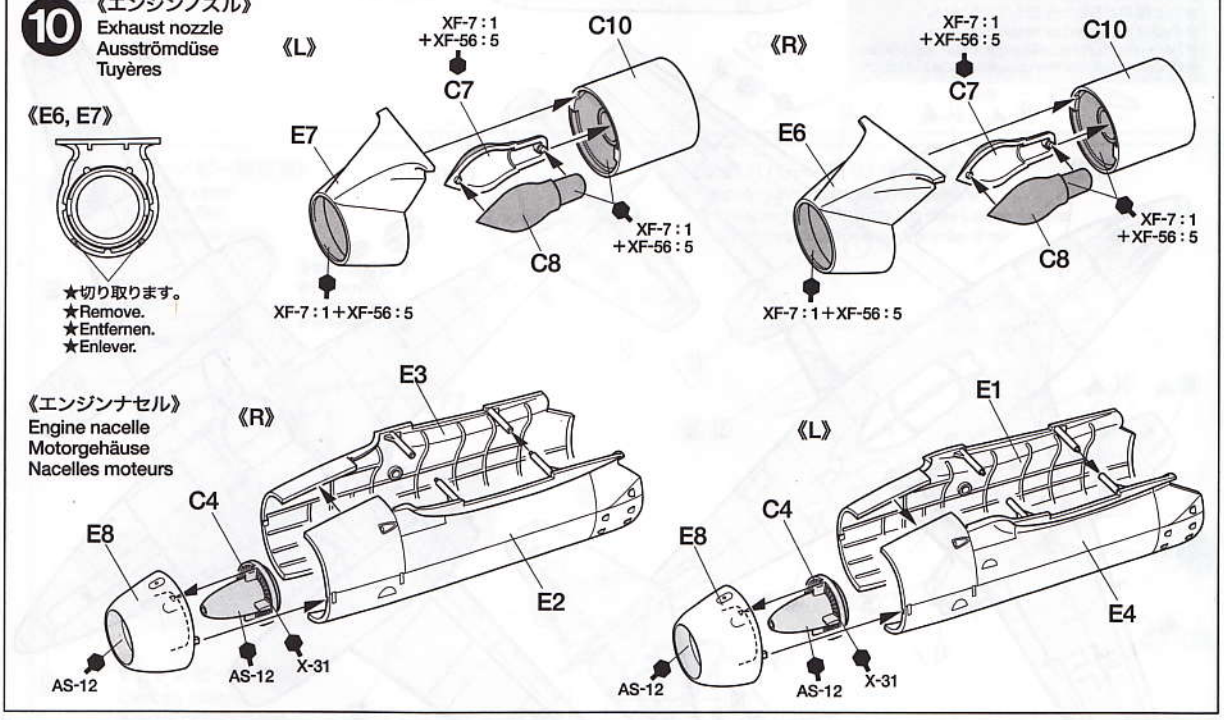

## 8 主脚の組み立て
Main landing gear
Fahrgestell
Train principal



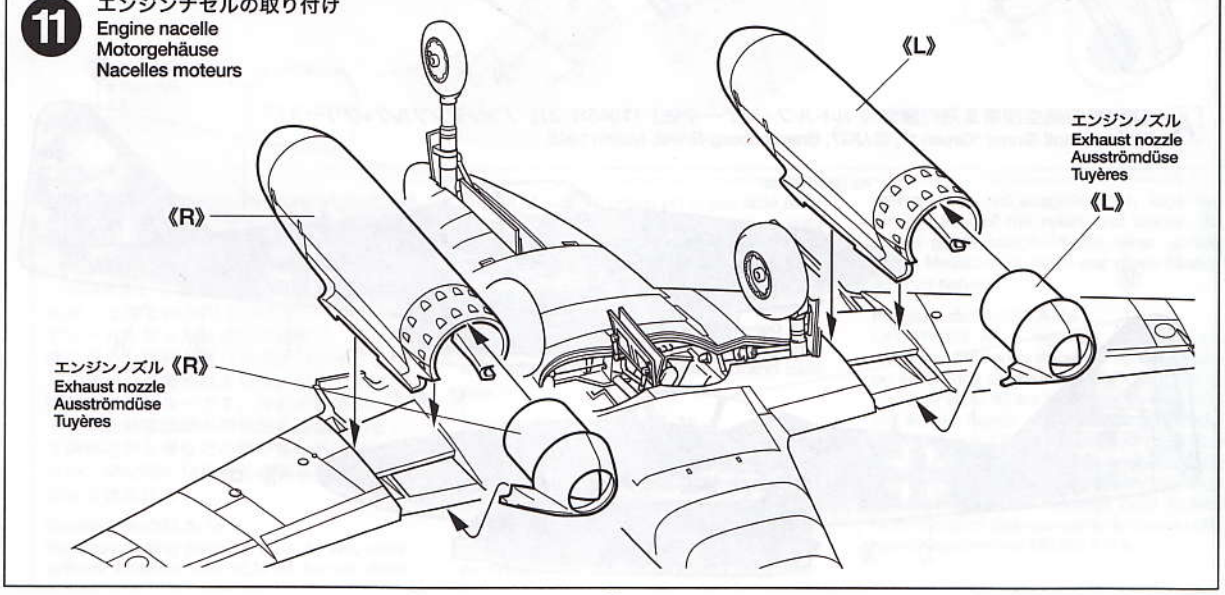
## 9 主脚の取り付け
Attaching main landing gear
Befestigung des Hauptfahrwerks
Fixation du train principal



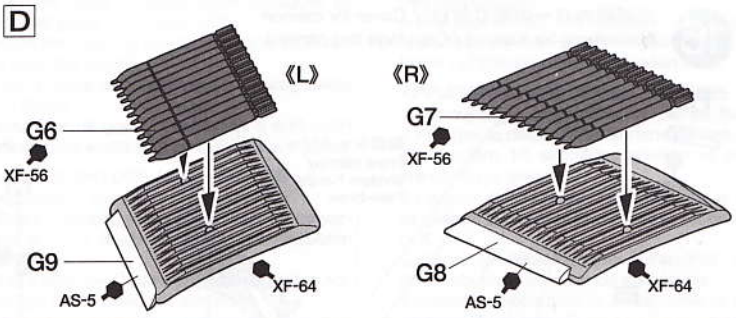

## 10 《エンジンノズル》
Exhaust nozzle
Ausströmdüse
Tuyères




## 11 エンジンナセルの取り付け
Engine nacelle
Motorgehäuse
Nacelles moteurs

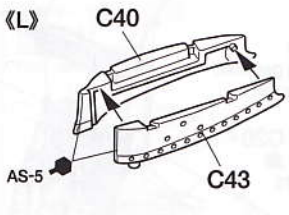


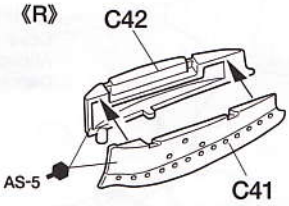
## 12 《R4M 55㎜空対空ロケット弾 “オルカン”》 D
R4M 55mm air-to-air rockets “Orkan”
R4M 55mm Luf-Luft-Raketen “Orkan”
Roquettes air-air R4M de 55mm “Orkan”




### memo
●R4Mのランチャーは木製で、それに金属製のレールが取り付けられていました。
●R4M Launchers were made from wood and metal rails.
●R4M Abschussvorrichtungen bestanden aus Holz mit Metallschienen.
●Les lanceurs des R4M étaient faits en bois avec des rails en métal.

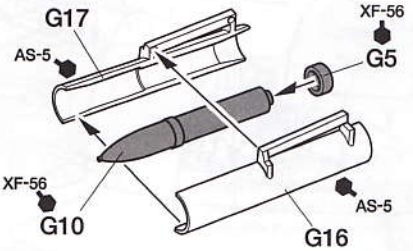
## 13 《ヴィーキンゲルシップ爆弾架》 A
“Wikingershiff” bomb rack
Bombenhalterung “Wikingerschiff”
Supports à bombes “Wikingerschiff”



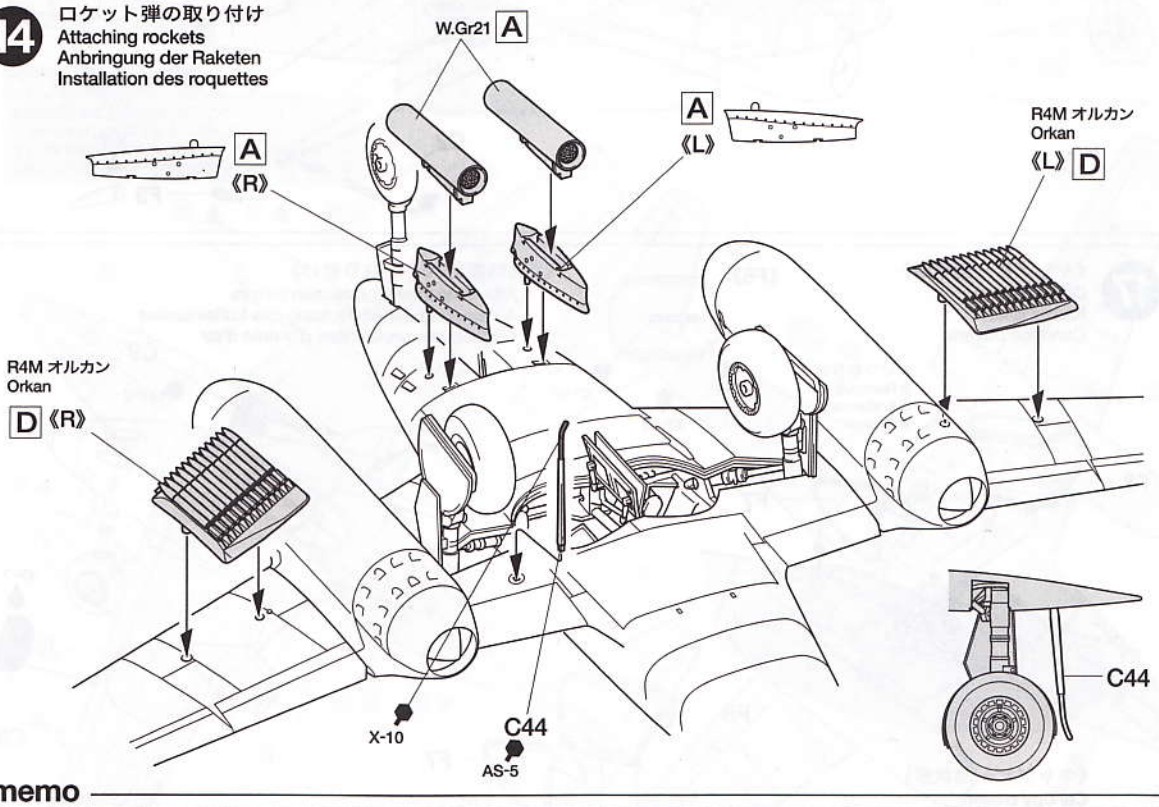




《W.Gr21 21㎝空対空ロケット弾》 A
W.Gr21 air-to-air rockets
W.Gr21 Luf-Luft-Raketen
Roquettes air-air W.Gr21

★2個作ります。
★Make 2.
★2 Satz anfertigen.
★Faire 2 jeux.




## 14 ロケット弾の取り付け
Attaching rockets
Anbringung der Raketen
Installation des roquettes



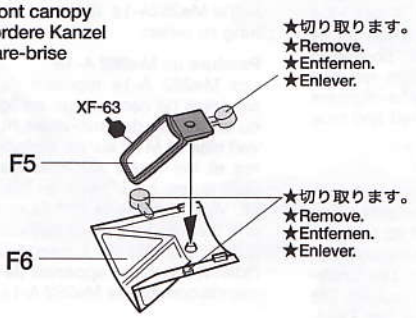

### memo
●Me262 A-1aには連合軍爆撃機迎撃用としてR4M “オルカン” やW.Gr21が搭載される場合がありました。特にオルカンの効果はすさまじく、爆撃機編隊に向けオルカン全弾を発射、編隊がくずれたところへ機関砲を撃ち込むといった戦闘方法がとられていました。

●Some Me262 A-1a devoted to fight against allied bombers were equipped with R4M 55mm air-to-air rockets “Orkan” and W.Gr21 air-to-air rockets. As Orkan effect was dreadful, fighters launched all their rockets at one time and when allied bombers' formation broke down, the Me262 shot them down using their cannons.

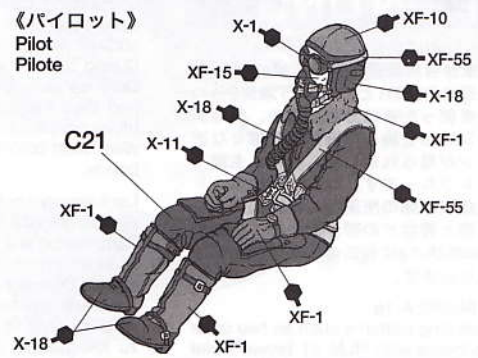
●Einige Me262 A-1a für Kampfeinsätze gegen alliierte Bomber waren mit R4M 55mm Luf-Luft-Raketen “Orkan” und W.Gr21 Luf-Luft-Raketen ausgerüstet. Da die Wirkung der Orkan verheerend war, schossen die Jäger alle ihre Raketen auf ein Mal ab und wenn die Formation der alliierten Bomber aufgebrochen war, schossen die Me262 sie mit ihren Kanonen ab.

●Certains Me262 A-1a destinés à lutter contre les bombardiers alliés étaient équipés de roquettes air-air R4M de 55mm “Orkan” et de roquettes air-air W.Gr21. En raison de leur effet devastateur, les chasseurs les lançaient toutes en même temps sur les appareils ennemis et lorsque leur formation se séparait, les Me262 les attaquaient avec leurs canons.

## 15 《前面キャノピー》
Front canopy
Vordere Kanzel
Pare-brise

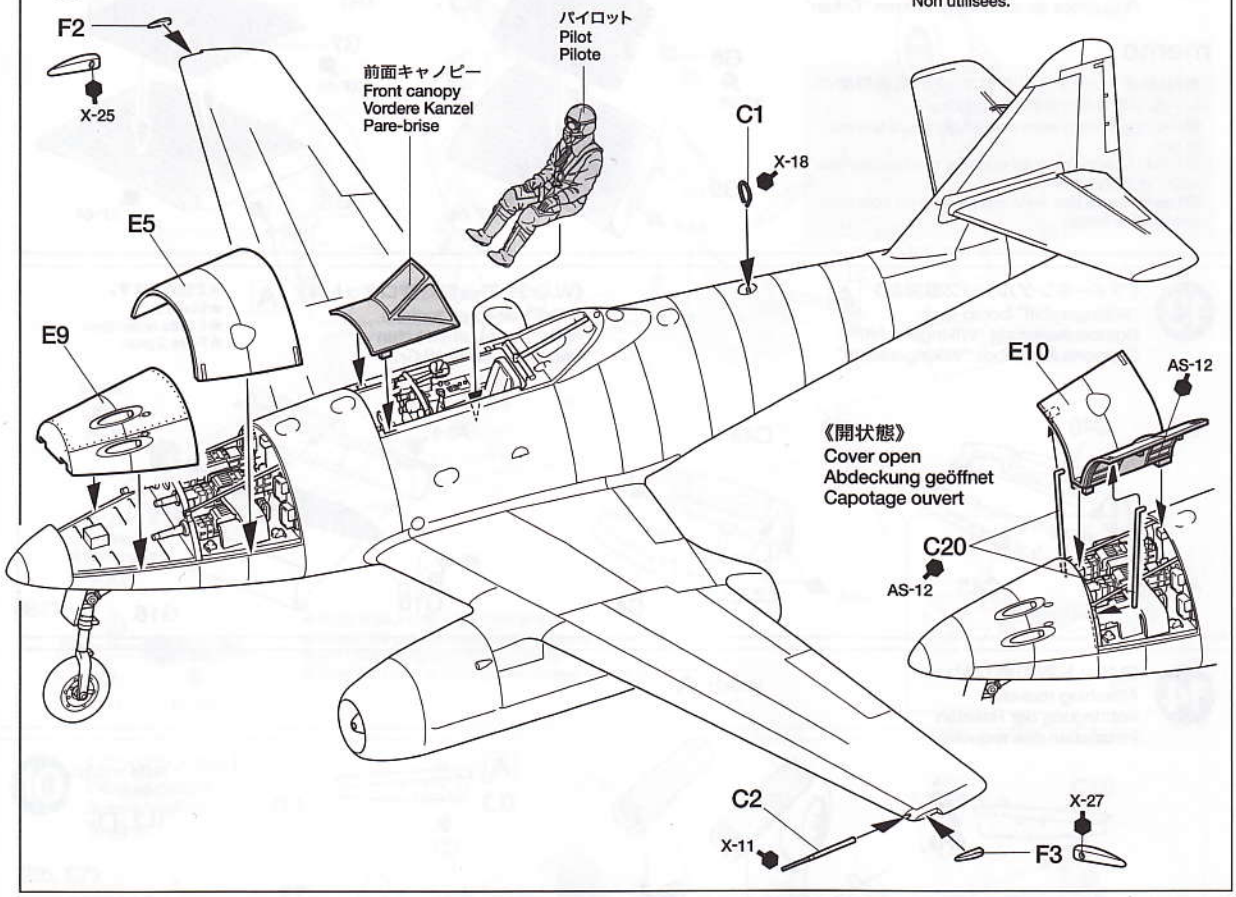



《パイロット》
Pilot
Pilote

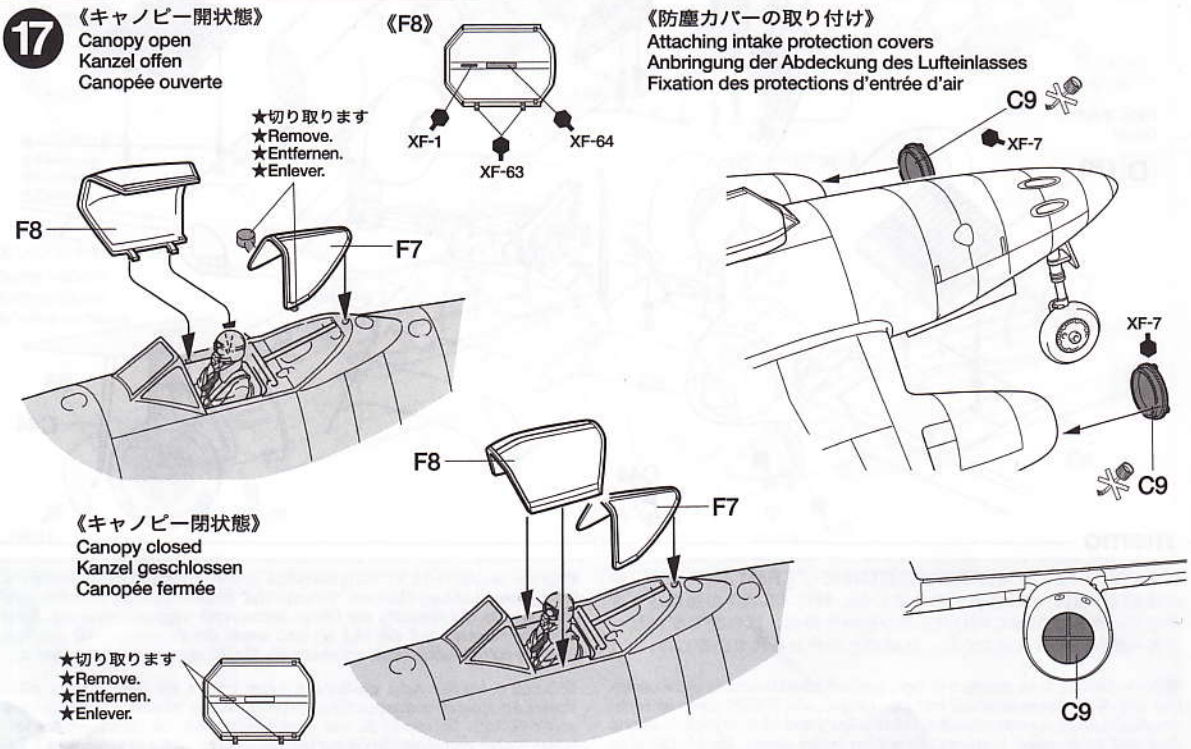


## 16 機関砲カバーの取り付け / Cover for cannon
Abdeckung für Kanone / Capotage des canons

不要部品……A2, B1, B6, C15, F1
Not used.
Nicht verwenden.
Non utilisées.




## 17 《キャノピー開状態》
Canopy open
Kanzel offen
Canopée ouverte




# PAINTING

《Me262 A-1aの塗装》

1944年末から実戦配備されたMe262A-1aには、上面をRLM81と82という濃淡2色のグリーンを使った折線分割迷彩や、胴体側面にボカシ迷彩を施した機体など様々な迷彩パターンが見られました。胴体と主翼下面はライトブルーです。なお大戦後半、ドイツ本土防空部隊の所属機には識別用として胴体に赤と青などの帯が描かれていましたが、Me262A-1aにもこの帯を付けた機体が多く見られます。

**Painting Me262 A-1a**

Various painting patterns such as two color splinter scheme with RLM 81 brown violet and RLM 82 light green on upper side and/or mottling camouflage on fuselage side were seen on the Me262 A-1a. The undersurface was painted with RLM 76 light blue. During late WWII, fighters deployed to Air Defense units over the German homeland had their fuselages denoted with red and blue bands. Many Me262A-1a fighters were seen colored with these red and blue bands.

**Lackierung der Me262 A-1a**

Für die Me262 A-1a gab es verschiedene Farbmuster, wie etwa Zweifarb-Splitter aus RLM 81 braunviolett und RLM 82 hellgrün an der Oberseite und/oder gefleckten Tarnanstrich an den Rumpfseiten. Die Unterseite war mit RLM 76 hellblau lackiert. Die zu Kriegsende zur Verteidigung des Deutschen Luftraums ausgelieferten Jäger waren am Rumpf mit roten und blauen Bändern gekennzeichnet. An einer ganzen Reihe Me262A-1a Jäger war diese Markierung zu sehen.

**Peinture du Me262 A-1a**

Les Me262 A-1a reçurent de nombreux schémas de camouflage en lignes brisées ou en tâches de brun-violet RLM 81 et de vert clair RLM 82 sur les surfaces supérieures et les flancs du fuselage. L'intrados était quant à lui, peint en bleu clair RLM 76. Vers la fin de la 2nde Guerre Mondiale, une "bande de défense du Reich" fut appliquée à l'arrière du fuselage pour faciliter l'identification des appareils de chasse allemands comme les Me262 A-1a.

# 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 andrückn, 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.

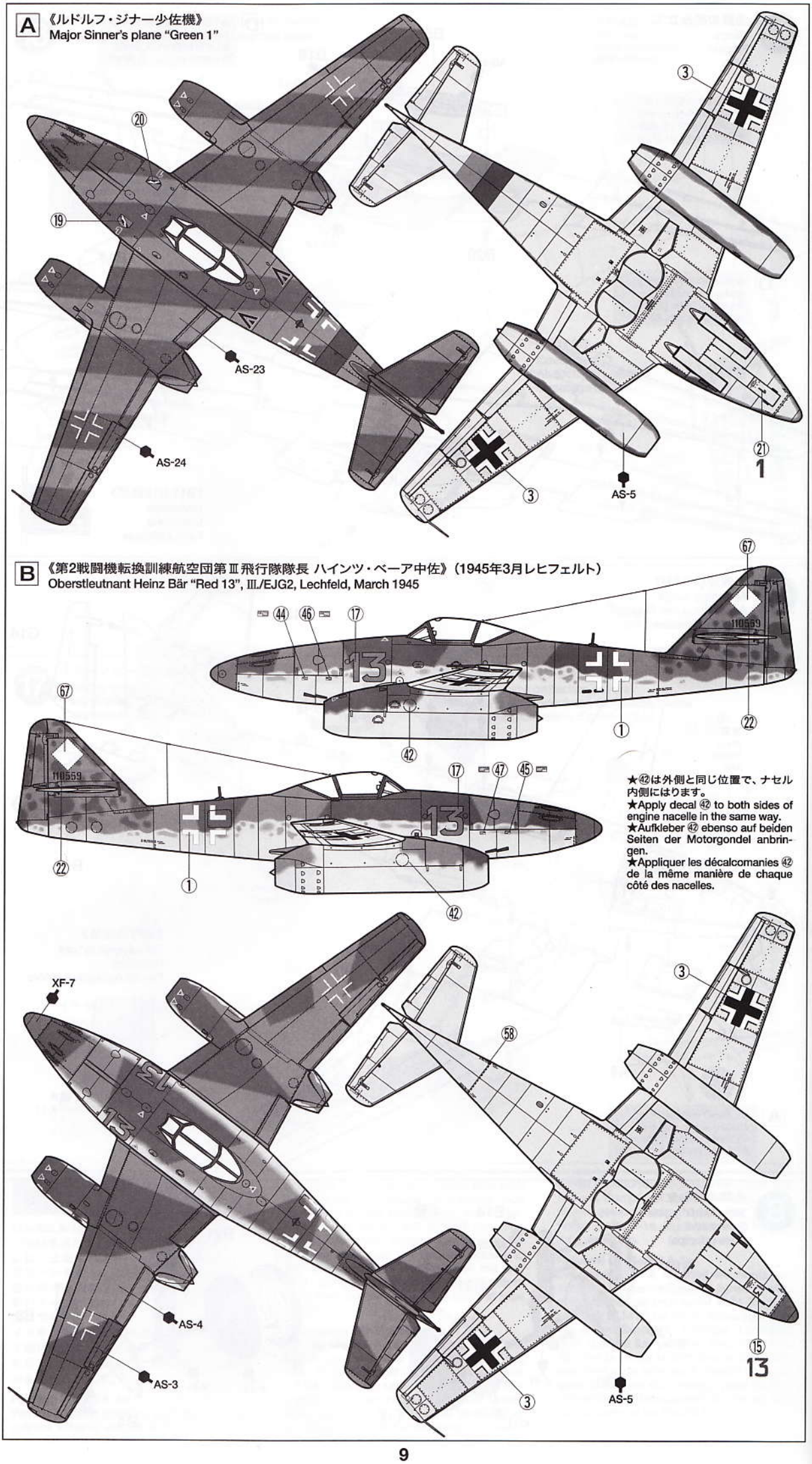
《各機共通機体マーク》
Common Markings
Allgemeine Beschriftung
Décalcomanies en commun

不要マーク……⑪
Not used.
Nicht verwenden.
Non utilisée.

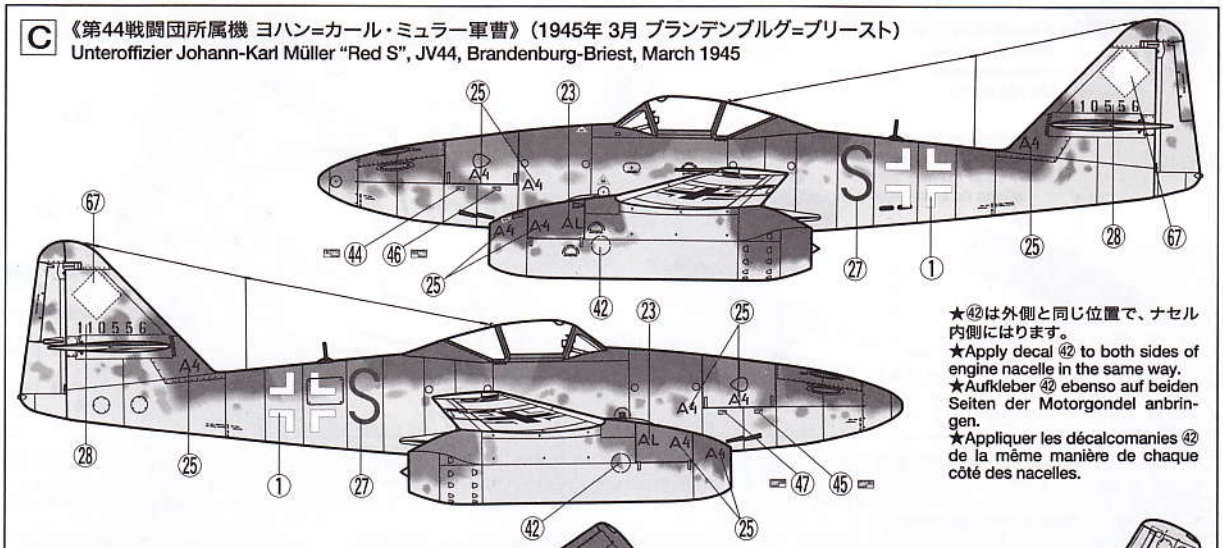
《右翼ナセル内側》
Engine nacelle R, fuselage side
Motorgehäuse R, Rumpfseite
Nacelle moteur D, côté fuselage

⑳,㉚,㉜~㊶,㊿,㊿①
★赤と黒のどちらかを選んでください。
★Select either red or black markings.
★Rote oder schwarze Markierungen auswählen.
★Choisir entre les marquages rouges ou noirs.

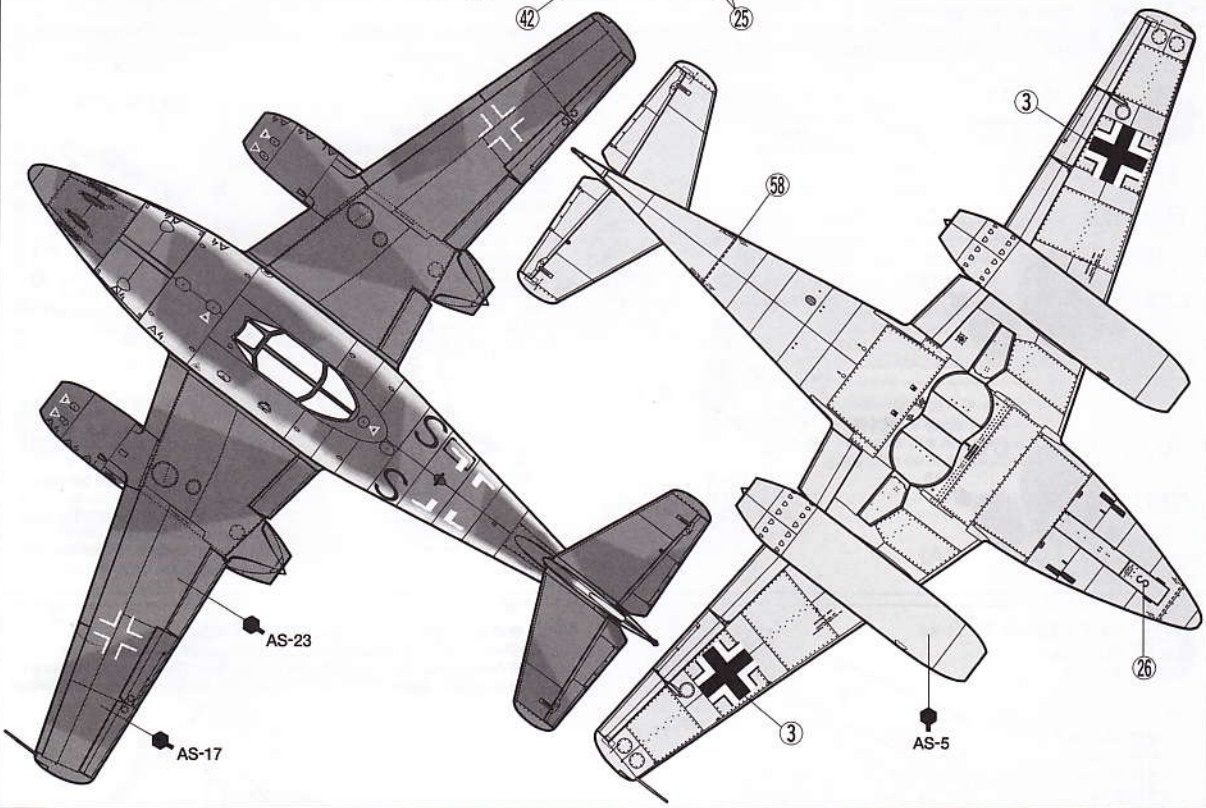
A 《第7戦闘航空団第Ⅲ飛行隊隊長 ルドルフ・ジナー少佐》(1945年 3月 ブランデンブルグ=ブリースト)
Major Rudolf Sinner "Green 1", III./JG7, Brandenburg-Briest, March 1945


A
《ルドルフ・ジナー少佐機》
Major Sinner's plane "Green 1"
20
19
AS-23
AS-24
3
21
1
3
AS-5
B
《第2戦闘機転換訓練航空団第Ⅲ飛行隊隊長 ハインツ・ベーア中佐》(1945年3月レヒフェルト)
Oberstleutnant Heinz Bär "Red 13", III./EJG2, Lechfeld, March 1945
67
44
46
17
13
110559
22
1
42
67
110559
17
47
45
13
22
1
42
★㊷は外側と同じ位置で、ナセル内側にはります。
★Apply decal ㊷ to both sides of engine nacelle in the same way.
★Aufkleber ㊷ ebenso auf beiden Seiten der Motorgondel anbringen.
★Appliquer les décalcomanies ㊷ de la même manière de chaque côté des nacelles.
XF-7
13
AS-4
AS-3
3
58
15
13
3
AS-5

C 《第44戦闘団所属機 ヨハン=カール・ミュラー軍曹》(1945年 3月 ブランデンブルグ=ブリースト)
Unteroffizier Johann-Karl Müller "Red S", JV44, Brandenburg-Briest, March 1945



★㊷は外側と同じ位置で、ナセル内側にはります。
★Apply decal ㊷ to both sides of engine nacelle in the same way.
★Aufkleber ㊷ ebenso auf beiden Seiten der Motorgondel anbringen.
★Appliquer les décalcomanies ㊷ de la même manière de chaque côté des nacelles.




D 《第7戦闘航空団第Ⅲ飛行隊第9中隊所属機》
ハンス・グイド・ムトケ士官候補生 (フュルステンフェルトフルック)
Oberfähnrich Hans-Guido Mutke "White 3", 9. Staffel, III/JG7, Fürstenfeldbruck, April 1945

●Dの機体については別紙 塗装図を参照してください。
●Refer to separately supplied painting guide for marking D.
●Für die Markierung Ddie getrennt beiliegende Lackieranweisung beachten.
●Se reporter au guide de peinture fourni séparément pour la décoration D.

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| 9006356 | B Parts |
| 0606184 | C Parts |
| 0006375 | E Parts |
| 9006359 | F Parts |
| 9006380 | G Parts |
| 9406123 | Nose Landing Gear Bay |
| 9496023 | Decal |
| 1056286 | Instructions |
| 1256040 | Painting Guide |

# MESSERSCHMITT Me262 A-1a

1/48 メッサーシュミット Me262 A-1a

| | | |
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| Fパーツ | 350円 | 9006359 |
| Gパーツ | 550円 | 9006380 |
| 前脚収納部 | 410円 | 9406123 |
| マーク | 370円 | 9496023 |
| 説明図 | 320円 | 1056286 |
| 塗装図 | 170円 | 1256040 |

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静岡市恩田原3-7 〒422-8610

# MESSERSCHMITT Me262 A-1a

TAMIYA

**The Dawning of a New Age in Fighter Aviation Technology, The Jet Age**

With the outbreak of World War II in 1939 countries pushed for advances in military technology. Some of the most groundbreaking of these developments were made in aviation technology, especially in fighter-plane aviation. Propeller planes were thought to have reached their limit when they started breaking altitude records of 10,000 meters and maximum speeds of 600km/h. When reciprocating engines capable of 2000hp output were produced, flying performance would be pushed to even greater heights. However, aviation engineers were realizing that reciprocating engines were also reaching their limit on the stage of fighter-plane aviation. Even with revolutionary aerodynamic advances such as the laminar flow wing, aviation experts began realizing that the era of the reciprocating engine fighter planes was nearing an end.

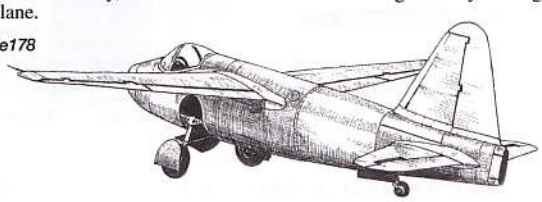
England and Germany both actively researched into the next generation of fighter plane, and Germany was the first to develop such a fighter. With the development of the German Messerschmitt Me262 jet fighter, nicknamed "Schwalbe" (swallow), the Jet Age began.

**England And Germany- Pioneers of the Jet Engine**

In April 1937, English engineer Frank Whittle developed the first jet engine. At around the same time, Dr. Hans von Ohain completed a jet engine with 150kg of thrust. However, the two engineers were completely unaware of each other's presence, and the significant mechanical differences in the jet engines they created reflected this circumstance. In Germany, the axial flow engine was developed and in England the centrifugal engine was developed. At first many difficulties occurred in the development of each engine, but little by little improvements were made and expectations for application of these engines in actual planes increased. In particular, Ohain's jet engine concept had such far-reaching impact that it would define a new era of aviation technology.

After hearing of Ohain's revolutionary concept, famous German aircraft builder Ernst Heinkel immediately requested experimental aircraft design to employ the new axial flow engine. On August 24th 1939, the He178 made a successful flight and clocked a top speed of 700km/h (employing the HeS3B engine with 450kg of thrust). Later, Heinkel would develop the He280 jet plane that would clock in a record speed of 800km/h. However, due to the fact Heinkel was in poor favor with the German hierarchy, the He280 would never see the light of day as a fighter plane.

◆*He178*



The following is a brief description of axial flow and centrifugal jet engines. First off, here's a brief explanation of how a jet engine works:

1. Compresses air via air compressor device.
2. Air is forced into combustion chambers where fuel is sprayed into it and mixture is ignited.
3. Rapidly expanding gases are exhausted through the rear of the combustion chambers.
4. As gases leave the engine they pass through a fan-like set of blades (turbine) which rotates the turbine shaft. This shaft, in turn, rotates the compressor to bring in a fresh supply of air through the intake.

The characteristics of centrifugal and axial jet engines are as follows:

**Axial Flow:** Air intake flows parallel to rotor shaft and through multistage turbines. For this reason, compression efficiency is high and high levels of thrust are possible. Intended for high-speed aircraft as the front area of engine can be made small. However, construction can be complex and expensive.

**Centrifugal:** Air intake hits end of rotor shaft at right angle – airflow forced outward from center. (On principle) A centrifugal jet contains only one turbine, so air compression efficiency and thrust are compromised. Also, the front area of the engine must be enlarged, creating increased drag. However, construction is relatively simple and inexpensive, and maintenance is easy.

Note: The front part of the jet engine should always be the determining factor when distinguishing an axial flow from a centrifugal jet engine, as turbine and rear engine construct may vary. In fact, England had created both types of jet engine constructs. The Gloster E28/29 featured a centrifugal engine construct on the front part and an axial flow construct on the rear part of its jet engines. Also, the jet engines of the German He178, which were axial flow in front and centrifugal in the rear portion, were of a completely different construct than the axial flow jet engines employed on the Me262. Today, both types of jet engines can be found.

**The Birth of the Me262**

Whereas the Heinkel Company was running behind in its development of a jet fighter plane, the Messerschmitt Company was right on schedule. The Messerschmitt Company had plans to employ the BMW003 axial flow engine. Ironically however, the airframe for the new jet plane was completed before the new jet engine, and as such the first Me262 (V1) made its test flight equipped with a 750hp Junkers Jumo210G reciprocating engine mounted in its nose. After the BMW engines were installed, the plane made another test flight with 2 BMW engines on either wing and the Jumo reciprocating engine still mounted in the nose area. However, both BMW engines failed during the test flight. Plans to incorporate the BMW engines were abandoned and the Jumo004 (known as the T1 engine) was selected. Finally, on July 18th, 1942, a new prototype, the Me262 V3, flew solely on jet power, heralding in the dawn of a new era in aviation.

◆*Me262 V3*

In truth, this first successful jet-powered test flight of the Me262 came three years after that of the He178 and one year after that of the He280. However, the flight performance of the Me262 was revolutionary, as it not only outclassed contemporary reciprocating engine fighters, but also exhibited superiority over the He178 and He 280. This superior flight performance of the Me262 did not go unnoticed. After observing a test flight, the General of Fighters, Adolf Galland was inspired enough to comment, "Es ist, als ob ein Engel schiebt!" ("It flew as though the angels were pushing!"). Here is a glimpse at some of the revolutionary specifications of the Me262.

**Me262 Basic Specifications**

- Wing span: 12.65m
- Fuselage length: 10.6m
- Wing surface area: 21.7 sq. meters
- Engine: Jumo004B
- Thrust: 890kg
- Crew: 1
- Weight unequipped: 3800kg
- Weight fully equipped: 6120kg
- Fuel: 2550 liters

**Performance**

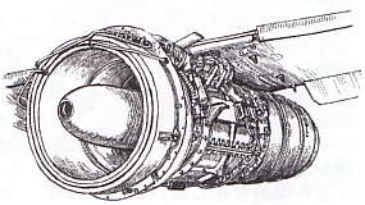
- Max. speed: 870km/h (at altitude 9000m)
- Climb rate: 6min. 50sec. to 6000m
- Max. altitude: 11,450m
- Max. range: 1050km
- Standard armament: MK108 30mm cannons ×4

Although production and deployment was planned before the Me262, the He280 would never become a reality and the Me262 would go down in history as the world's first jet fighter.

**Me262 Construction**

All Me262 prototypes up till the V4 were equipped with three-point rear landing gear typically found on contemporary prop planes. The reasoning behind this type of landing gear was to prevent debris and such from being sucked into the plane when taking off from grass-land and dirt airfields. However, for the sake of engine performance and ease of operation, the Me262 soon had its landing gear switched to nose-housed landing gear. Also, the newly designed 18.5-degree receding wings of the Me262 were never before seen in aviation history.

The Jumo004B engines were affixed to the wings via three bolts and were well received for their ease of maintenance. The Me262 not only proved its superiority over other German aircraft, but also demonstrated superiority over British RAF's Gloster Meteor jet fighter. Moreover, with regards to the Me 262's armament, though capable of only short range attack, the fighter's four cannons fired large 30mm rounds. This was the first quadruple cannon equipped on a German aircraft.



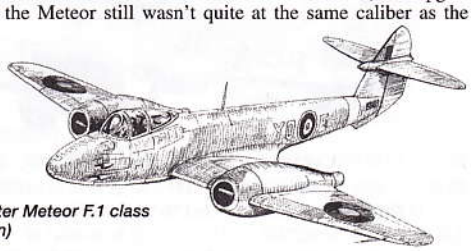
◆*Jumo004B engine*

### The Swallow vs. the Meteor

If the Me262 could be said to have a rival, the RAF Gloster Meteor F.1 class (early production) jet fighter, would be just that. Here's a comparison of these two aircraft:

| | Me262 | Gloster Meteor F. 1 |
|---|---|---|
| Weight Unequipped | 3,800kg | 4,490kg |
| Wing Surface Area | 21.7m² | 37.7m² |
| Thrust | 890kg ×2 | 765kg ×2 |
| Top Speed | 870km/h | 660km/h |
| Wing Surface Thrust Ratio | 82.0km/m² | 40.6km/m² |
| Weight Thrust Ratio | 0.47 | 0.29 |

Whereas the Me262 made its first successful test flight on jet power in July 18th, 1942, the Meteor made its first successful jet powered flight on March 5th, 1943. Yet while the Meteor can be said to be the newer of the two jets, the above chart reveals that the Me262 is without a doubt the more advanced of the two aircraft in terms of overall performance. With its more powerful engine, swept-back wings, and the fact that it was over 600kg lighter and about 200km/h faster, the Me262 exhibited superiority over the Meteor. If the two jet fighters had ever met in combat, the advantage would obviously lie with the Me262. Even after the RAF improved the F.1 with the introduction of the F.3 class, this upgraded version of the Meteor still wasn't quite at the same caliber as the Me262.



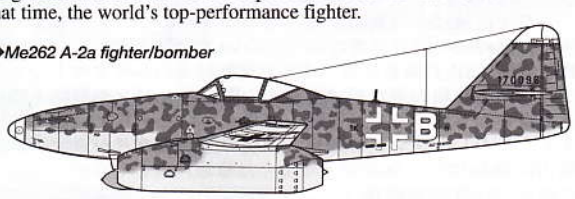
◆*The RAF Gloster Meteor F.1 class (Early production)*

### Fighter or Fighter/Bomber?

From spring 1944, while Me262 fighters were being completed step by step, the Luftwaffe would encounter a significant obstacle that would impede the jet fighter's deployment. When American and the British air forces started to make air raids on the German homeland in 1943, the Luftwaffe estimated that successfully intercepting enemy bombers was of the utmost priority. The heavily armed, high-speed Me262 was considered to be the best aircraft to achieve this mission. As this plane was able to fly 150km/h faster than the Allied escort fighters P-47 and P-51, the Me262 was ideal for intercepting bombers flying in formation. Luftwaffe's headquarters, including General of Fighters A. Galland, encouraged development of the Me262 as a fighter because it was capable of defending German soil.

Yet despite the obvious power of this fighter, the Me262 would never have the chance to demonstrate its full potential. In May 1944, Hitler issued strict contrary orders prioritizing the deployment of the A-2a fighter/bomber version of the Me262 instead of the fighter version A-1a. This judgement would have severe repercussions on the fate of what was at that time, the world's top-performance fighter.

◆*Me262 A-2a fighter/bomber*



*2 cannons were omitted and air-to-ground bombs were adopted.*

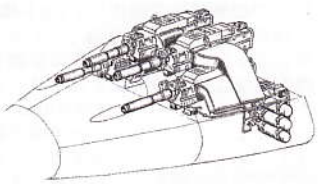
### Me262 A-1a in Combat

While the Me262 A-2a equipped KG 51 was continuing to fight on the western front, an experimental unit assigned to tactical training and based in Lechfeld, Germany was equipped with a few Me262 A-1a fighters. A-1a fighters in this unit often successfully intercepted allied reconnaissance planes such as Mosquitoes and Spitfires, gradually proving their great potential. In September 1944, as intense Allied air strikes on the German homeland relentlessly raged on, the first front line unit equipped with fighter versions of the Me262 started to intercept heavy bombers and their escorting fighters. This unit, called Kommando Nowotny, was lead by the 250-victory ace Major Walter Nowotny. In November of the same year, as Allied raids were increasing, turning more and more German cities into ruins, Hitler authorized urgent mass production of the Me262 A-1a fighter version. This resulted in the organization of the JG 7 fighter group. The 170-victory ace Johannes Steinhoff's JG 7 fought until the end of WWII and shot down over 300 allied planes, making this unit the most effective Me262 unit of the war.

But, the most famous unit was the very unique and highly elite squadron JV 44 which was formed during the closing days of the war in February 1945. The JV 44, lead by General of Fighters A. Galland himself, was composed of a selection of the best German aces of the war such as the 301-victory ace Gerhard Barkhorn, the 197-victory ace Captain Krupinski and Me262 top ace Heinz Bär (221 victories including 16 piloting the Me262). First deployed in the south suburb of Munich in April 1945, this unit saw the end of the war in May at Salzburg, Austria, after having shot down a total of over fifty B-17 and B-24 Allied bombers and thus proving the superiority of the Me262 when piloted by experts.

### Me262 A-1a Armament

The Me262 A-1a was equipped with 4 Rheinmetall-Borsig 30mm MK108 guns mounted in the nose and capable of downing 4-engine Allied bombers with only a few well-placed rounds. The 2 outboard guns were loaded with 100 rounds and the inboard guns wee loaded with 80 rounds. The MK108 had a 1050mm overall length, weighed about 58kg and was easy to produce thanks to press processing. The effective range of this gun was 400m and the initial speed of rounds was 520m/s.



◆*MK108 30mm cannons*

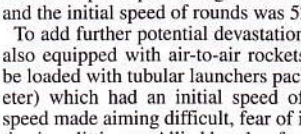
To add further potential devastation to Allied bombers, the Me262 was also equipped with air-to-air rockets. Early production examples could be loaded with tubular launchers packing W.Gr21 rockets (214mm diameter) which had an initial speed of around 300m/s. Even if this low speed made aiming difficult, fear of its destructive power was very effective in splitting up Allied bomber formations.

Later, in March 1945, the Me262 began to be equipped with R4M air-to-air rockets. Whereas the W.Gr21 rocket was a modified version of initially land combat developed rockets, the R4M was specifically intended for air combat. The R4M was a small type rocket (55mm diameter) and up to 12 of them could be loaded on wooden launchers under each wing of the Me262. The R4M had an initial 530m/s high speed and aiming was eased thanks to 8-stroke stabilizing system tail tip that opened after launch. The effective range was 900m and only one rocket was sufficient to shoot down a heavy bomber. Aiming was achieved thanks to a Revi16B gun sight, which was also used when firing the 30mm guns. The impressive results of the JV 44, especially those of Galland, were in much part due to the effective use of R4M rockets. The Me262 tactic when attacking bombers was to launch all their W.Gr21 and R4M air-to-air rockets at one time, and after the inevitable breakdown of the bomber formation, the Me262 would finish them off using their Mk108 cannons. The tactic that combined Me262's high speed with high-velocity R4M rockets revolutionized aviation combat.

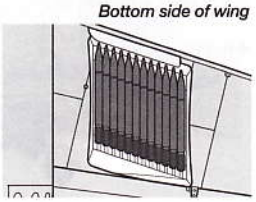
◆*R4M 55mm air-to-air rockets "Orkan"*

*Stabilizing fin folded*

*Stabilizing fin extended*



*Bottom side of wing*



### Remaining Me262

You can observe the Me262 at the following museums; Deutsches Museum in Germany; National Air and Space Museum, Planes of Fame, United States Air Force Museum in the United States; and RAF Cosford Aerospace Museum in the United Kingdom. The Me262 in Cosford is in good condition and a detached MK108 cannon can be seen beside it. There is information that 3 Me262s with brand new airframes and Nothrop T-38 engines are now under construction in the United States.

1/48 MESSERSCHMITT Me262 A-1a