

## Renard R-31

### FR Historique:

Le seul appareil de conception et de fabrication belge utilisé par l'Aéronautique Militaire au combat en 1940 est le Renard R-31, un avion d'observation biplace (les Stampe SV-4 et SV-5 sont des avions d'entraînement et de liaison). Alfred Renard dessine le R-31 en 1931. Le prototype, équipé d'un Rolls-Royce Kestrel, effectue son premier vol le 16 octobre 1932, aux mains de Charles Rooms, les essais débutant en novembre. Un second prototype est construit, équipé d'un moteur Lorraine Pétrél de 500 CV, qui ne donne pas satisfaction. La commande initiale, en mars 1932, porte sur 28 appareils (qui diffèrent principalement des prototypes par une aile à dièdre de 2° et un radiateur d'huile modifié). La production démarre en 1934, une seconde série de 6 R-31 est commandée en août 1935.

Le N21, au moins, se voit monter un système de ramassage de courrier, avec crochet sous fuselage. Deux appareils (N2 et N18) sont modifiés en avion-école et sont affectés à l'école de Wevelgem, puis probablement remis au standard. De même, deux appareils dont le N10 sont équipés de moteurs plus puissants pour améliorer les performances en haute altitude, avec habitacle fermé (sous désignation R-32). Les essais du R-32 sont menés avec deux moteurs, un Gnome et Rhône et un Hispano Suiza, ce dernier brûle avec l'avion. Le R-32 n'a donc pas de suite et le N10 est remis au standard R-31.

Les R-31 sont affectés à la 9<sup>ème</sup> escadrille « Sioux Bleu » (11 R-31 en mai 1940) et à la 11<sup>ème</sup> « Sioux Rouge » (10 R-31 à même date), toutes deux basées à Bierset (Liège). La 9<sup>ème</sup> déménage pour Duras, le 10 mai 1940, puis Steenokkerzeel, Grimbergen le 13, Hemiksem le 14, Nieuwkerken-Waas le 15, Zwevezele le 17, Lombarsijde le 26, où deux appareils capotent à l'atterrissage. Les 4 Renard encore en état de vol sont détruits par le personnel sur ce dernier terrain le 28 mai. Le 10 mai, la 11<sup>ème</sup> escadrille décolle de Bierset pour rejoindre Hannut, puis le 11 Hingene et Peutie, le 16 Ursel, le 23 Zwevezele, le 26 Stene (Ostende). Le 28 mai, à la capitulation, les 5 R-31 et le SV5 survivants sont sabotés.

La 9<sup>ème</sup> et la 11<sup>ème</sup> escadrilles ont effectué respectivement 26 et 23 missions à la demande des armées alliées. Aucun Renard R-31 ne survit donc à la campagne de mai-juin 1940, mais, en 2018, un appareil est en cours de construction à partir des plans originaux du Fonds Alfred Renard.

Spécifications : monomoteur de reconnaissance biplace à aile haute et train fixe, de construction métallique. Moteur : Rolls-Royce Kestrel de 487 ch. Envergure 14,40 m, longueur 9,25 m, surface alaire 32 m<sup>2</sup>. Vitesse maximale : 300 km/h. Plafond 9 300 m, rayon d'action 950 km. Armement : une mitrailleuse Browning de capot, une mitrailleuse Browning en poste arrière, 4 bombes de 10 kg sous les ailes (jamais montées).

### EN History:

The Renard R-31 was a reconnaissance type, and the only Belgian designed aircraft used by the Aéronautique Militaire in combat missions during the German invasion of 1940, although two other Belgian designs, the Stampe SV-4 and SV-5 were used in the non-combat training and liaison roles.

Alfred Renard designed the R-31 in 1931. The Rolls-Royce Kestrel powered prototype first flew on 16 October 1932, piloted by Charles Rooms, and flying tests began in November. A second prototype fitted with a Lorraine Pétrél engine proved unsuccessful in testing. An initial order of 28 aircraft was placed in March 1932. The standard production aircraft differed slightly from the prototype with a dihedral wing of 2 degrees and an improved oil tank. Production started in 1934, and a further six were ordered in August 1935.

At least one airframe, N21, was fitted with a hook under the fuselage to retrieve message pouches from the ground. Two more, N2 & N18, were modified as trainers for use by the Wewelgem flight-school, although they probably reverted to the standard configuration later on. N10 and another unidentified airframe were modified and designated R-32. They had more powerful Gnome et Rhône and Hispano-Suiza engines to improve high-altitude performance, and were fitted with an enclosed cockpit. Trials resulted in the Hispano-Suiza variant catching fire and N.10 being returned to R-31 standard, as the R-32 was not put into production.

The R-31 served with the 9th escadrille "Blue Sioux" and 11th escadrille "Red Sioux", in May 1940 based in Bierset, Liège, with 11 and 10 aircraft each respectively. The "Blue Sioux" moved to Duras on May 10th 1940, then to Steenokkerzeel, and between the 13th and 17th constantly relocating to Grimbergen, Hemiksem, Nieuwkerken-Waas, and Zwevezele. Finally, on May 26th at Lombarsijde, two aircraft were lost on landing, and when Belgium surrendered on May 28th the remaining four R-31s still in flying condition were sabotaged by their crews. The "Red Sioux" left Bierset for Hannut on May 10th, then relocated to Hingene and Peutie on the 11th, Ursel on the 16th, Zwevezele on the 20th, and finally to Stene, Ostende by the 26th. Two days later Belgian troops sabotaged the five surviving R-31s following the nation's surrender. The 9th and 11th escadrilles completed 26 and 23 operational missions respectively in support of the Allied armies.

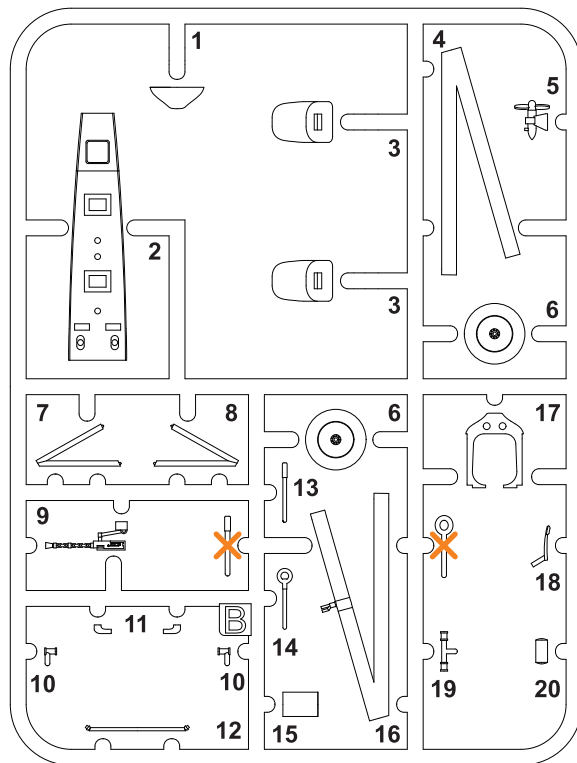
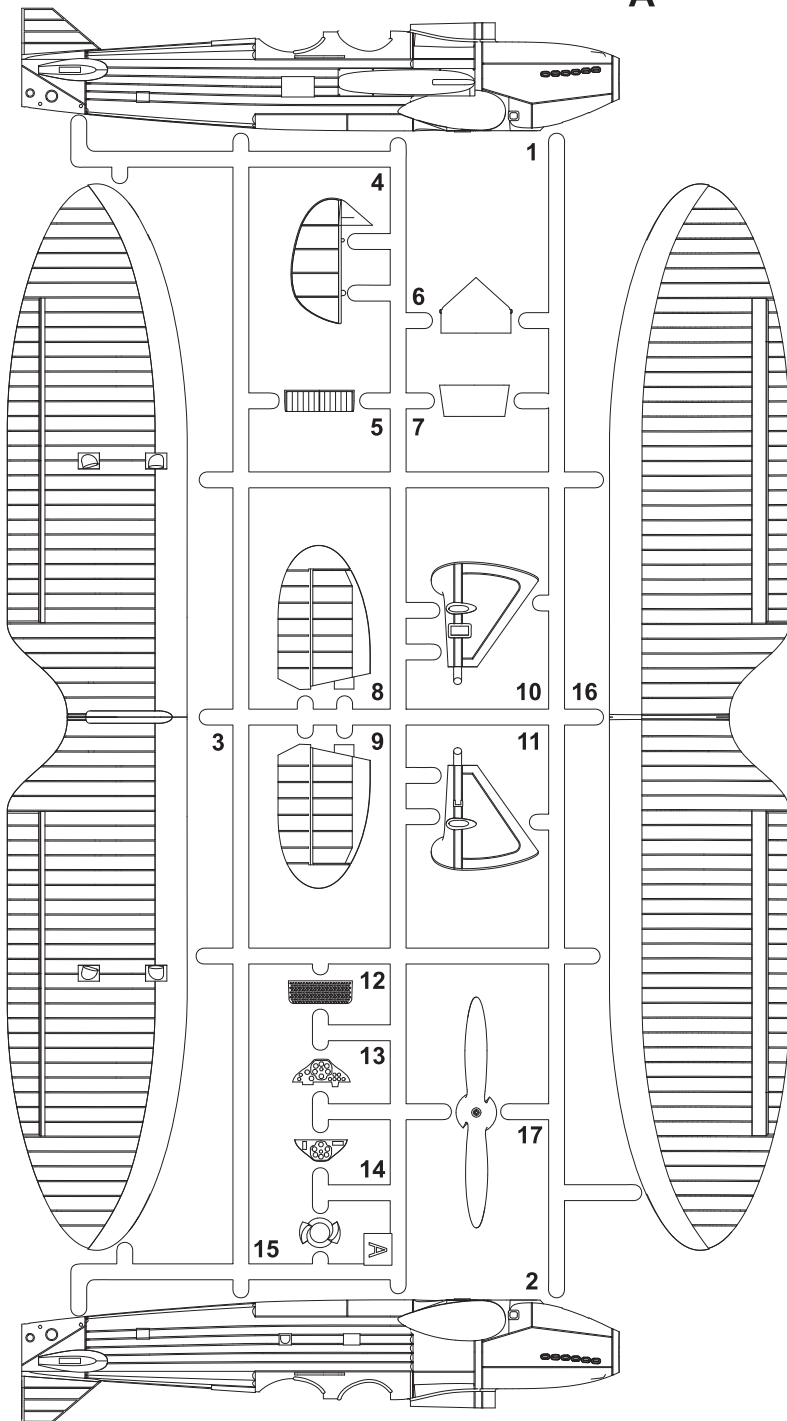
Whilst no Renard R-31 survived the May 1940 campaign, construction of a replica aircraft commenced in 2018 using original Renard plans.

Specifications: parasol wing single-engine observation aircraft of metal construction. Engine: Rolls-Royce Kestrel developing 487 hp. Wingspan 14,4 m, length 9,25 m, wing area 32 m<sup>2</sup>. Maximum speed: 300 km/h. Ceiling 9,300 m, range 950 km. Weapons: one fixed Browning machine-gun in fuselage, one flexible for rear defence, four 10kg bombs under wings (not used operationally).

**Special thanks to / Remerciements à Didier Waelkens, Alain Delannai, IPMS Belgium.**

PLASTIC PARTS

A B



CLEAR PARTS (C)

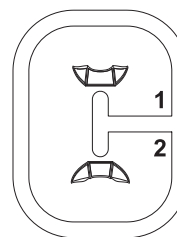
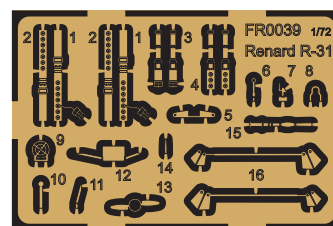


PHOTO-ETCHED PARTS (PP)



Ces pièces ne s'appliquent pas



Do not use this part

Barry GUNZE/ GUNZE Colour No.

<b>A</b> Noir / Black	H12 / C33	<b>H</b> Toile / Tan	H27 / C44
<b>B</b> Pneu Noir / Tire Black	H77 / C137	<b>I</b> Bâche / Sail	H85 / C45
<b>C</b> Métal Noir / Metal Black	H28 / C78	<b>J</b> Cuir / Leather	H17 / C29
<b>D</b> Laiton / Brass	MC219	<b>K</b> Gris / Grey	H306 / C306
<b>E</b> Aluminium / Aluminium	H8 / C8	<b>L</b> Chenille Aluminum / Brushed Aluminium	SM01+spot H8/C8
<b>F</b> Métal Carbonisé / Burnt Iron	SM05	<b>M</b> Vert Kaki / Khaki Green	H80 / C54
<b>G</b> Bois / Wood	H37 / C43		

SYMBOLS



MOŽNOST VOLBY  
OPTIONAL  
NACH BELIEBEN  
OPTION



POUŽÍT KYANOAKRYLÁTOVÉ LEPIDLO  
INSTANT CYANOACRYLATE GLUE  
ZYANOAKRYLÁTKLEBER  
COLLE CYANOACRYLAT



OHNOUT  
BEND  
BIEGEN  
COURBER



ZHOTOVIT NOVÉ  
SCRATCH BUILD  
FERTIGSTELLEN  
ACHEVER



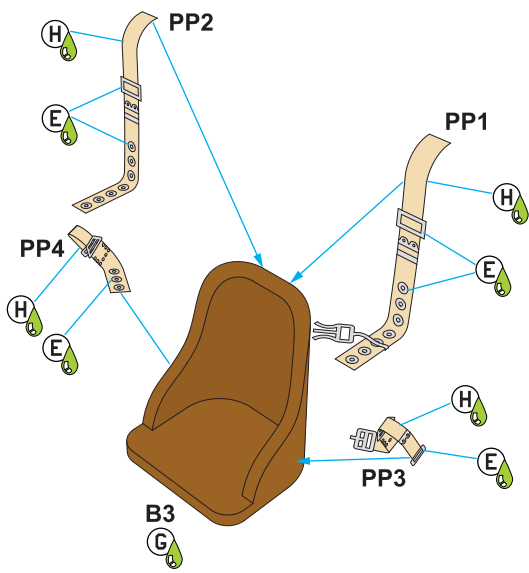
ŘEZAT/VRTAT  
CUT OFF/DRILL  
ENTFERNEN  
DETACHER



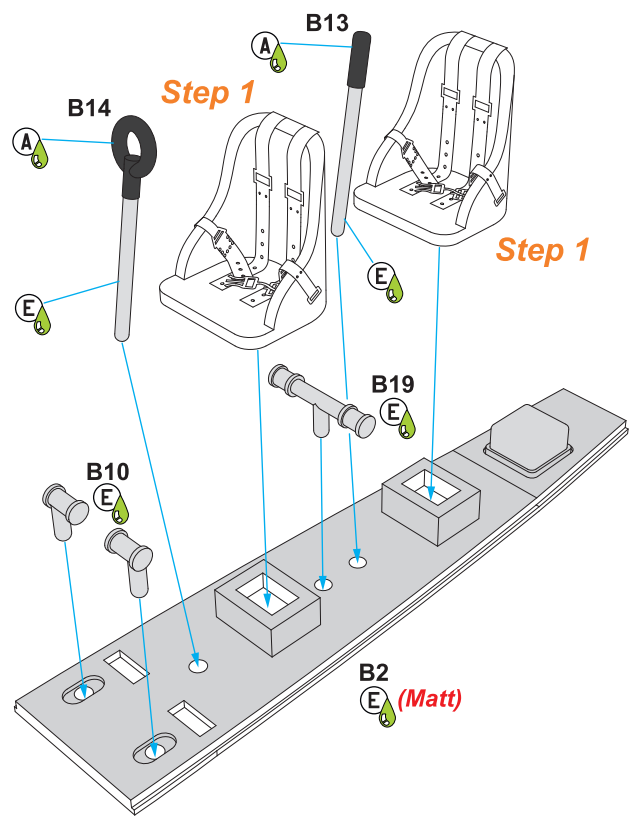
NATŘÍT  
COLOUR  
FARBEN  
PEINDRE

(2x)

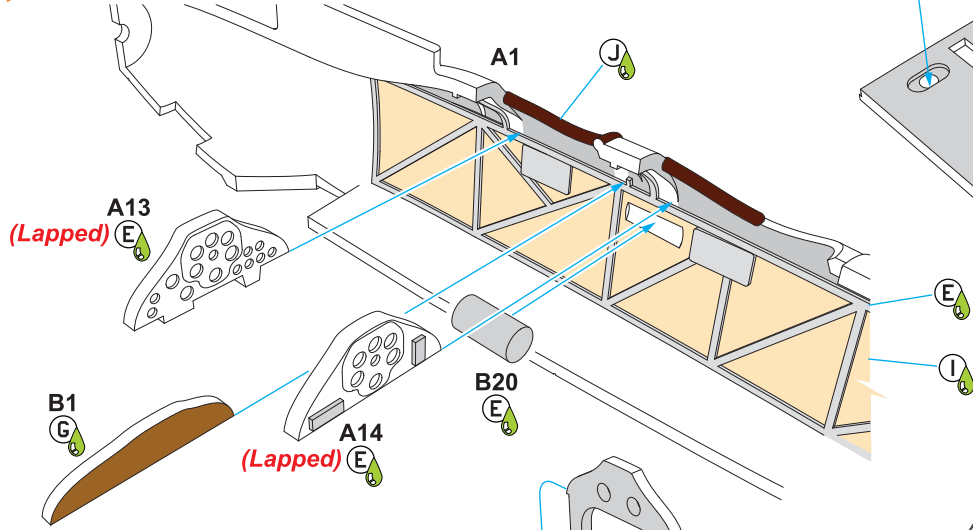
1



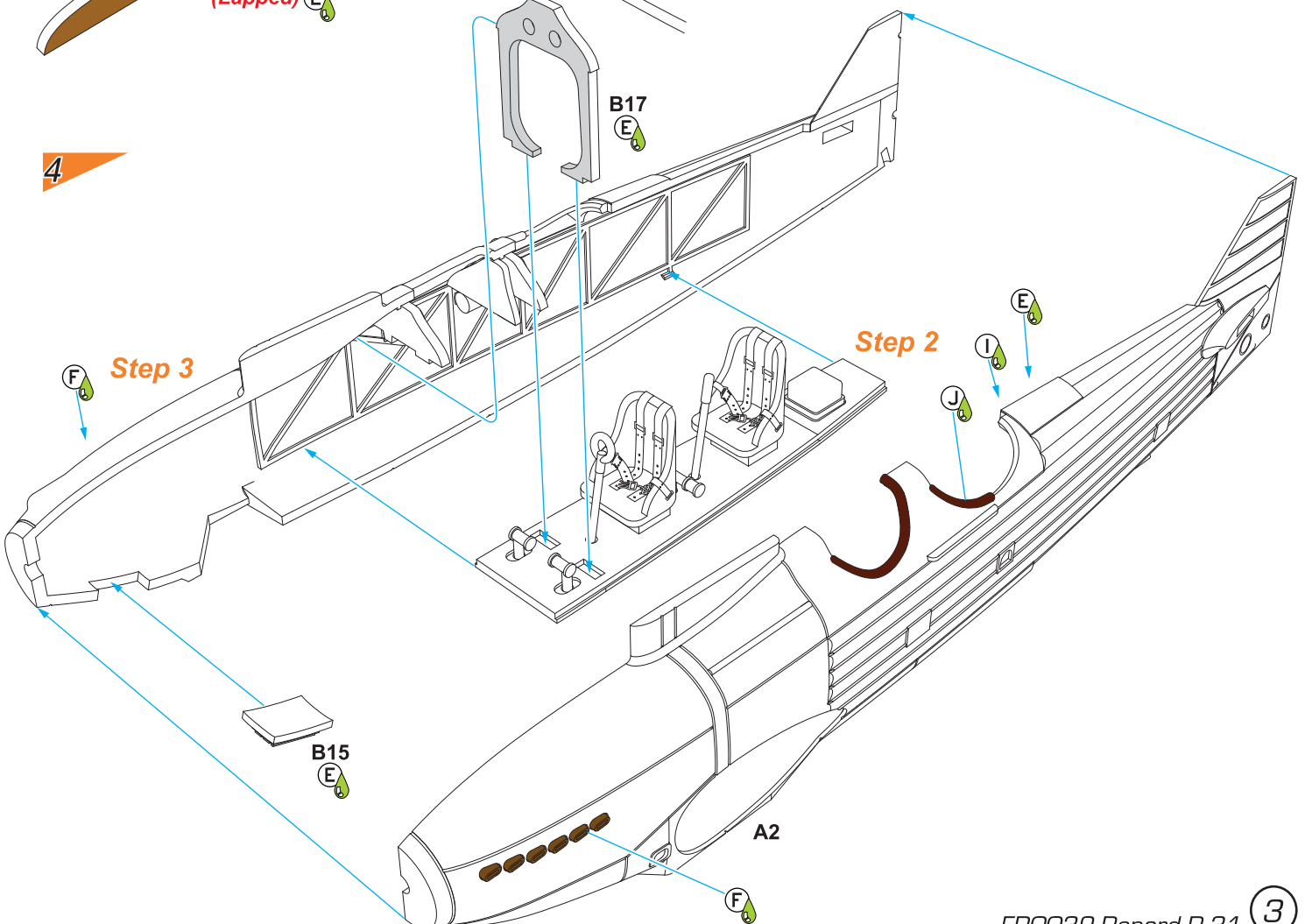
2



3

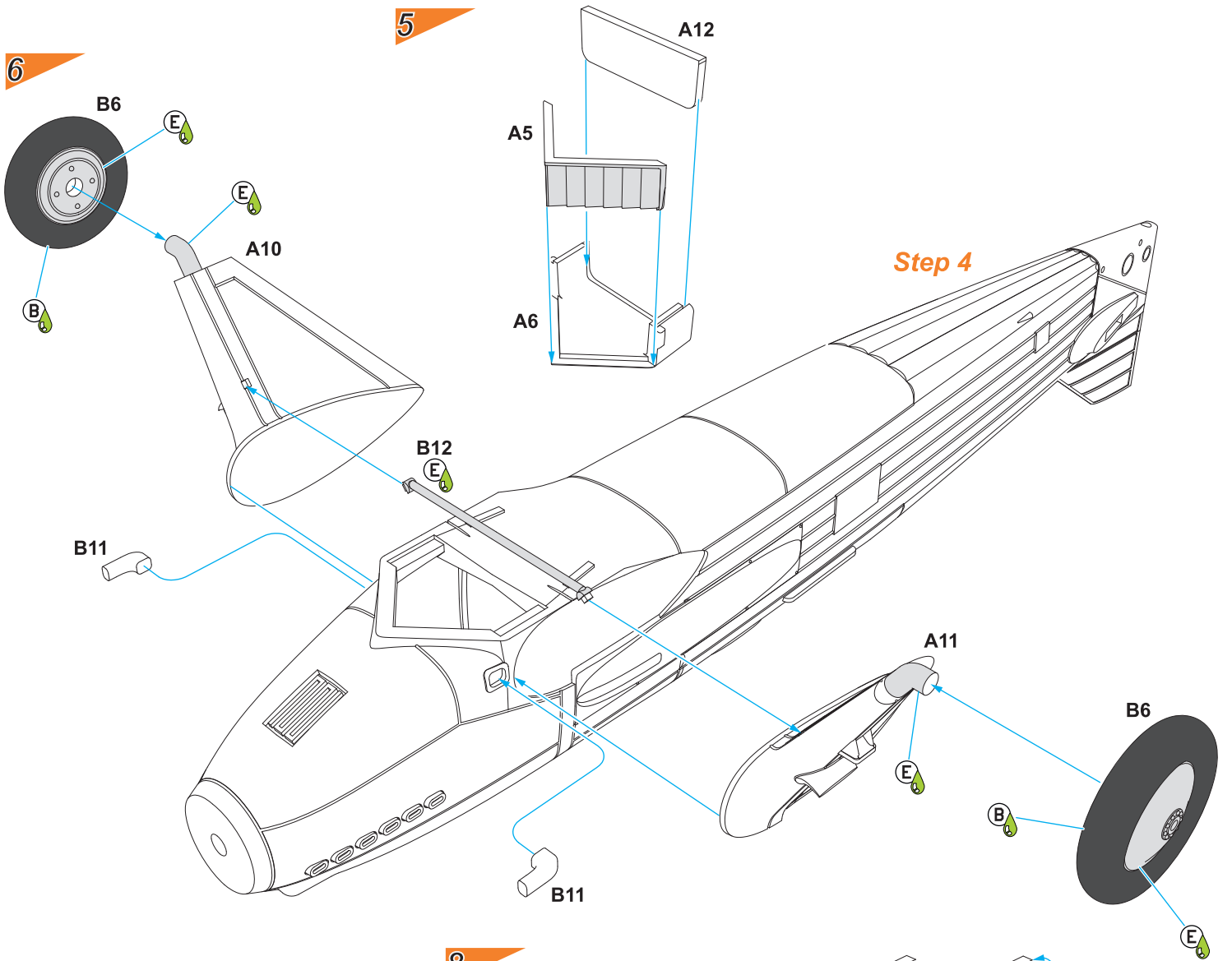


4

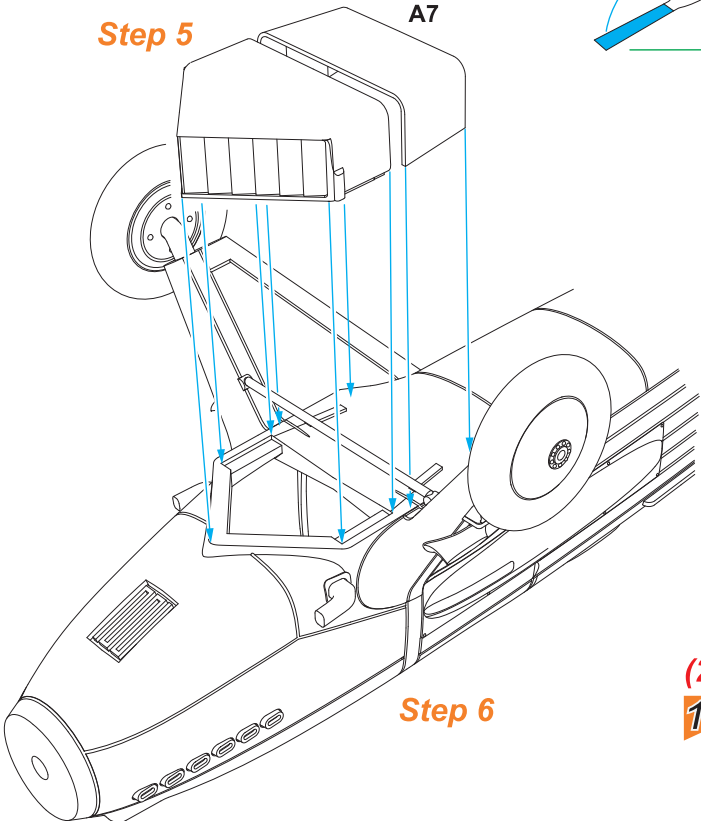


5

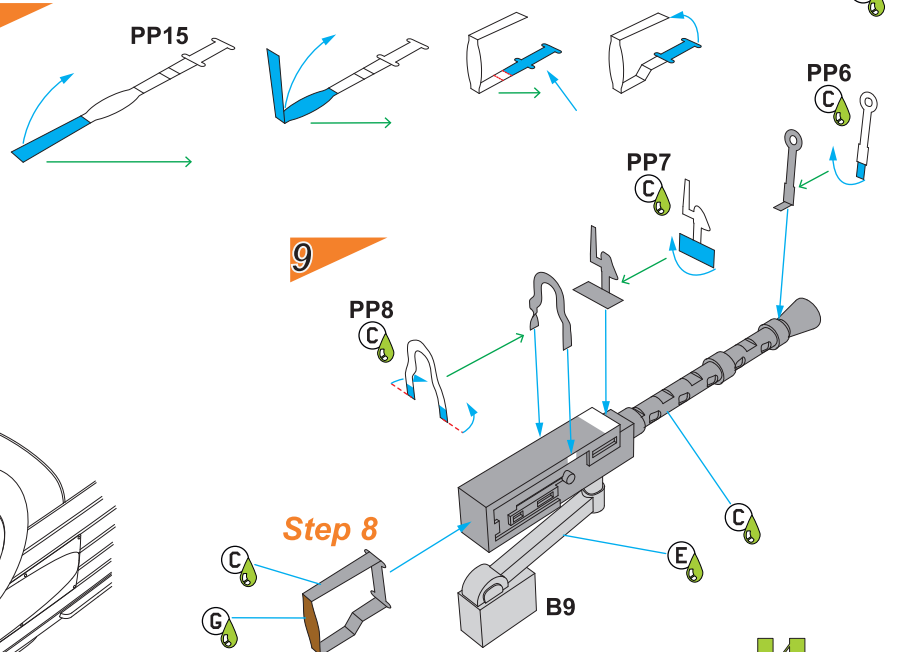
6



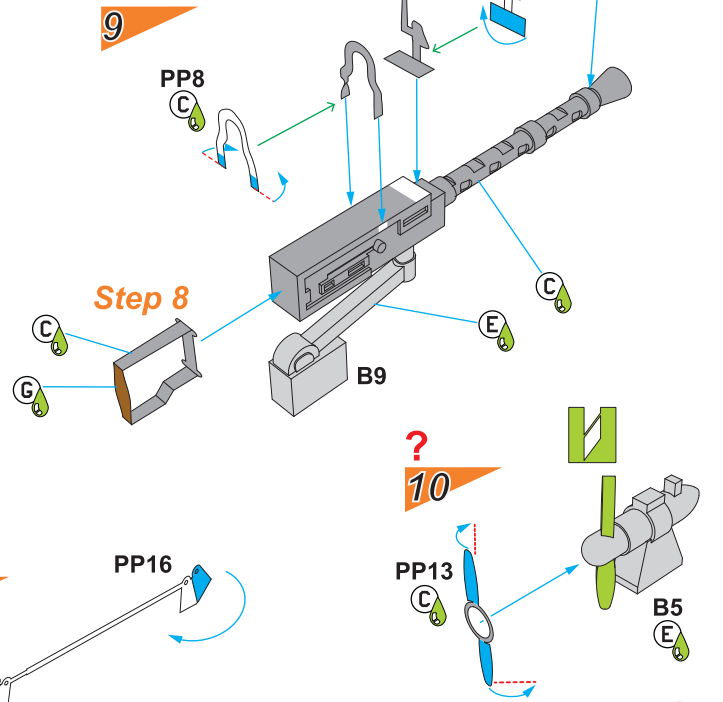
7



8

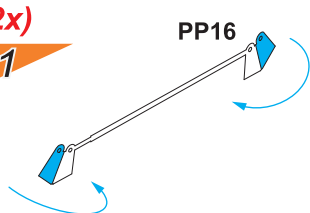


9



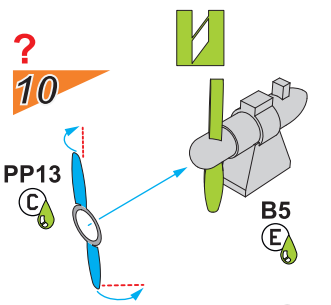
(2x)

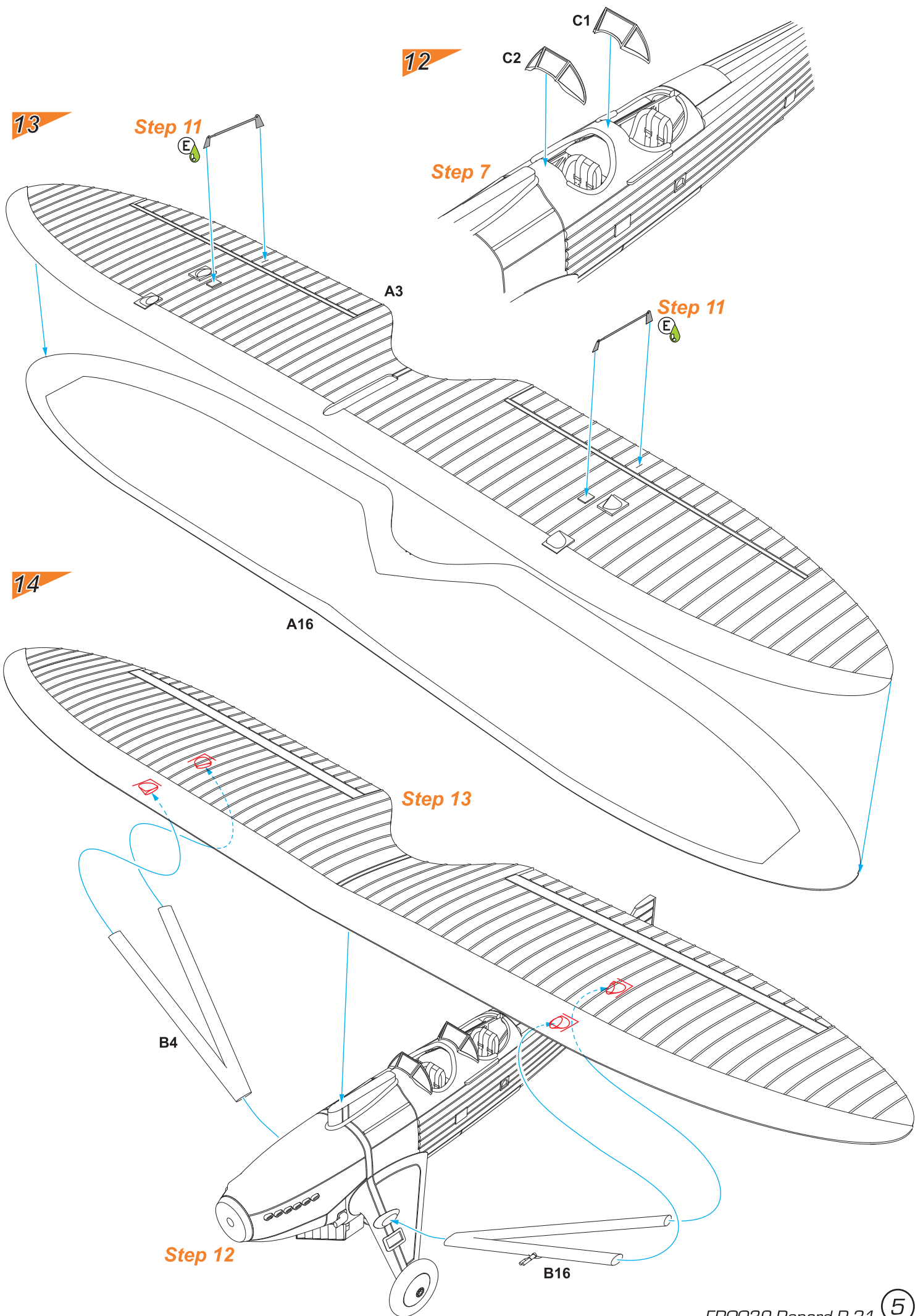
11



?

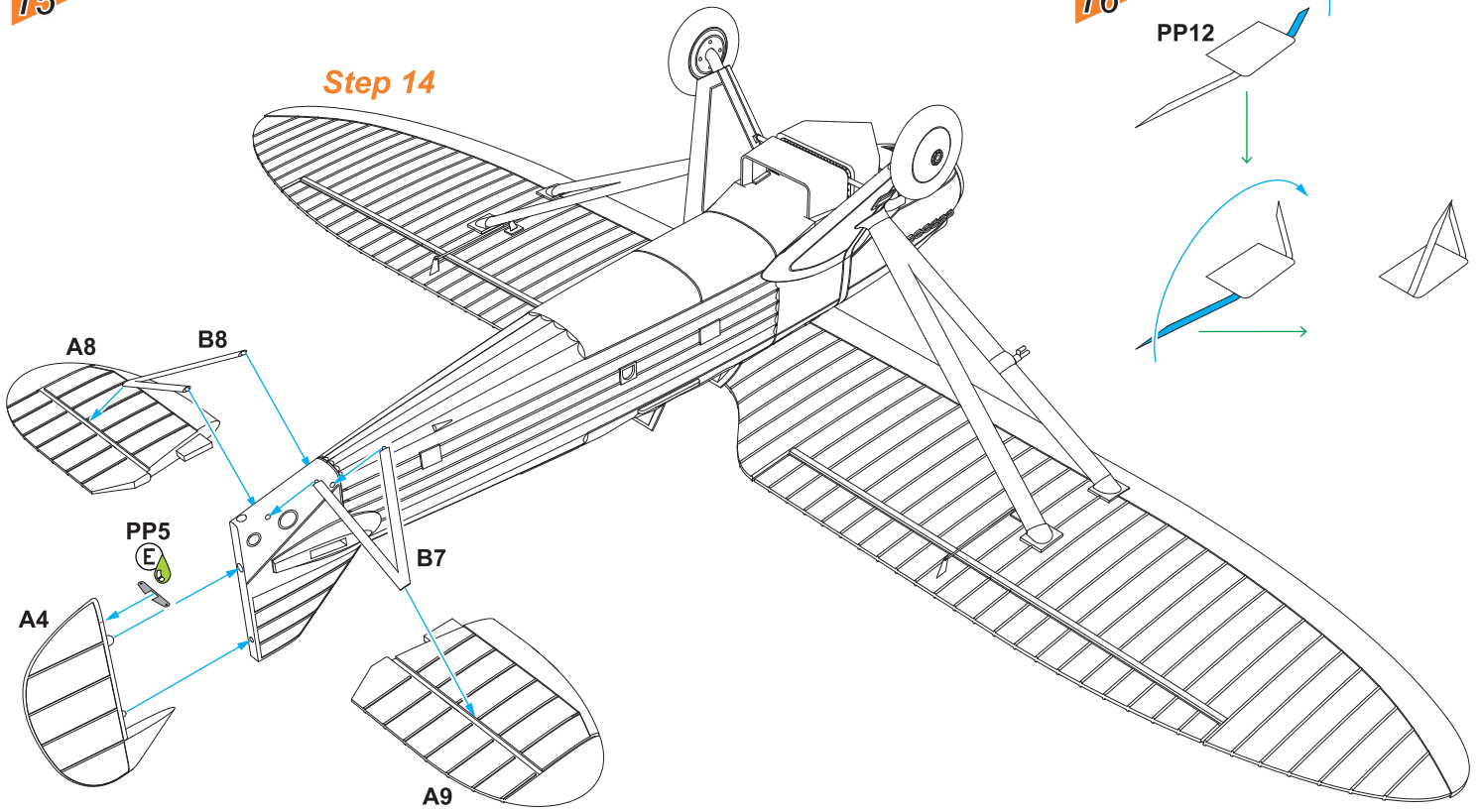
10





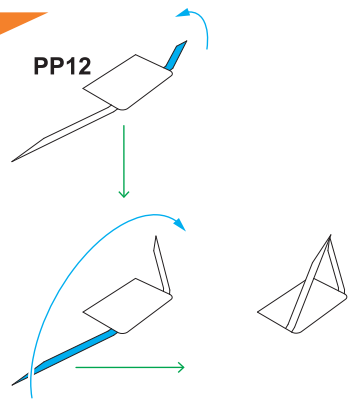
15

Step 14



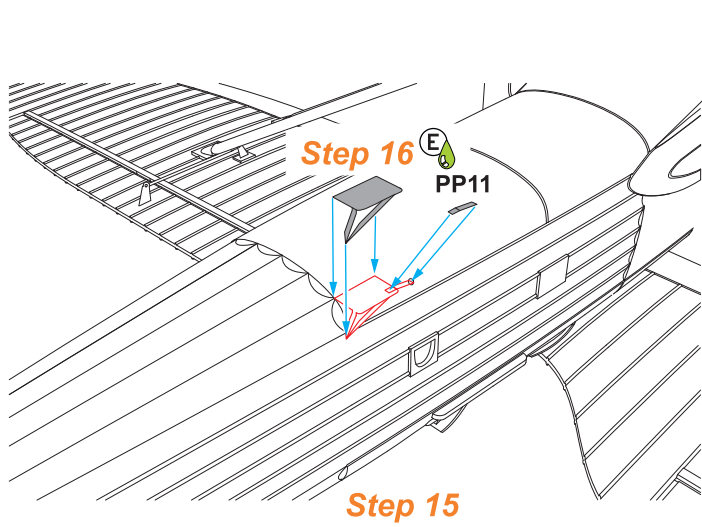
16

PP12



17

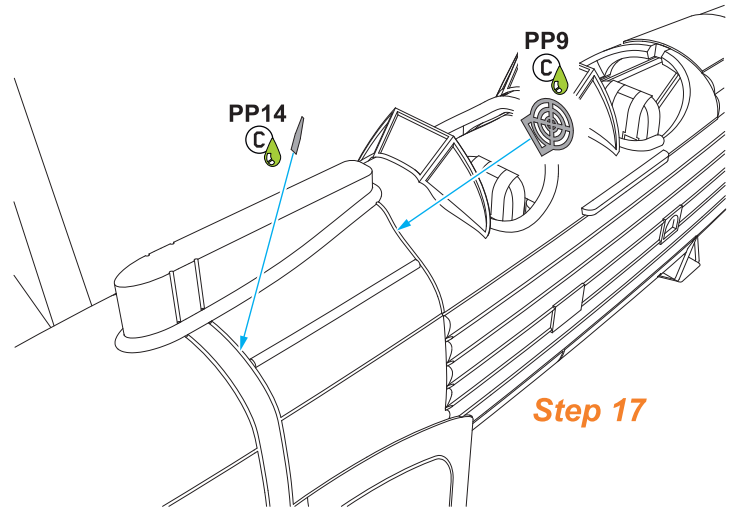
Step 16



18

PP14

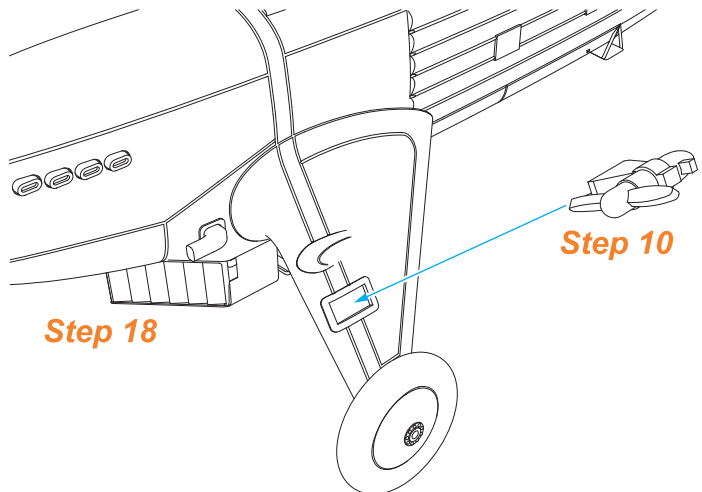
PP9



Step 17

19

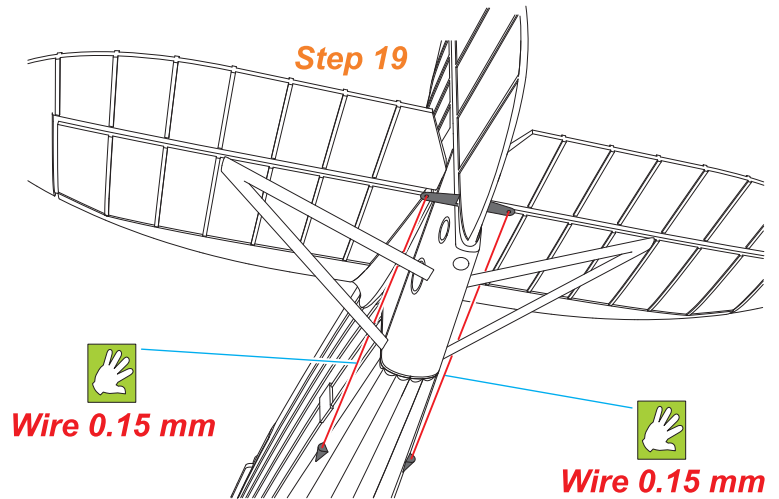
Step 18



Step 10

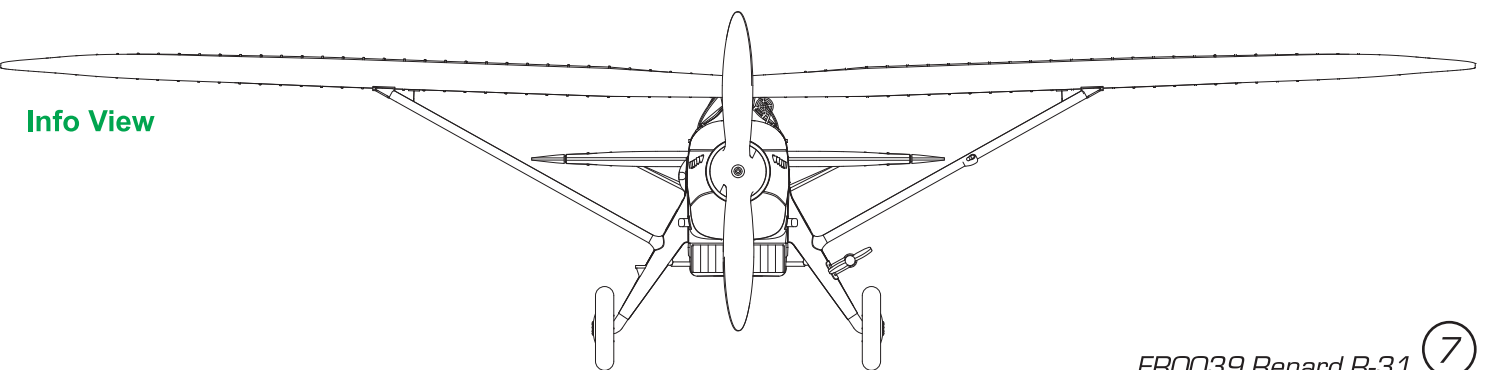
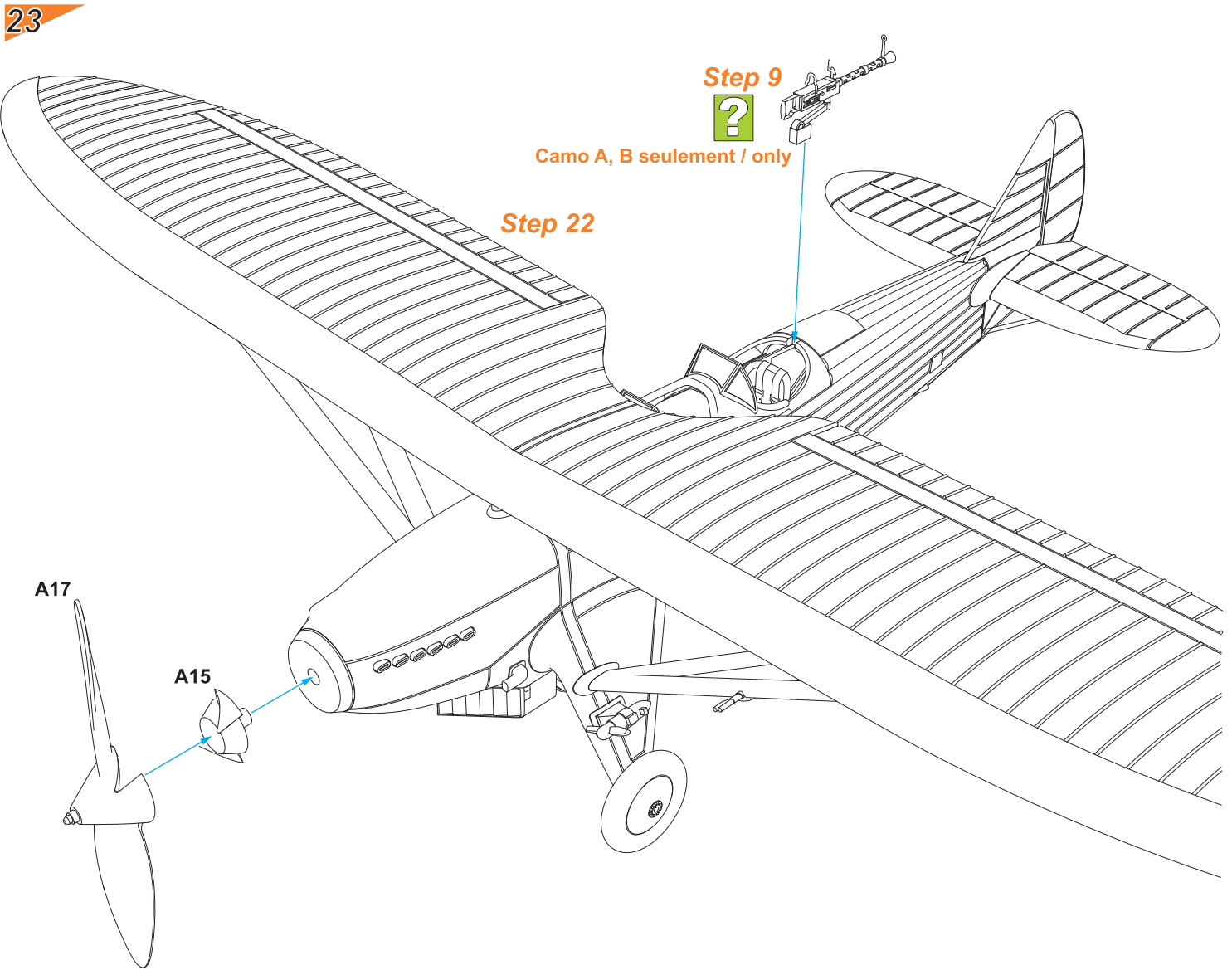
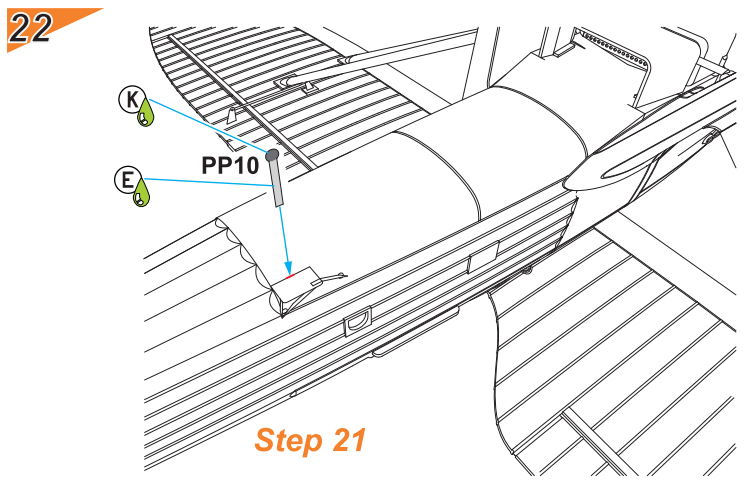
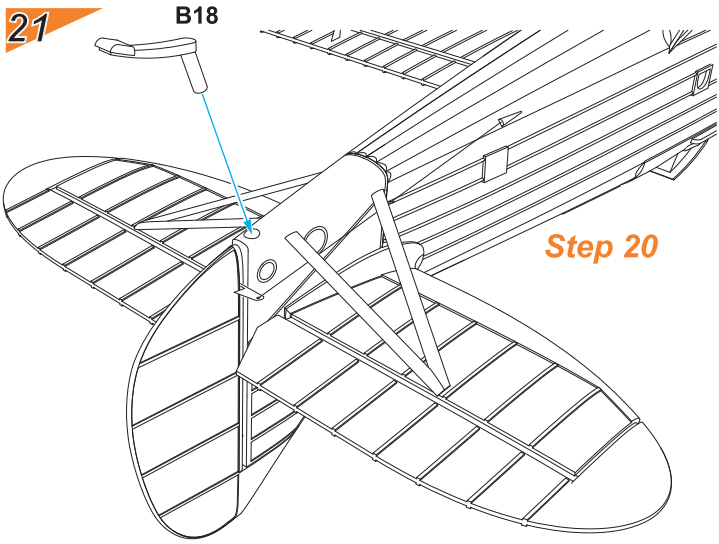
20

Step 19

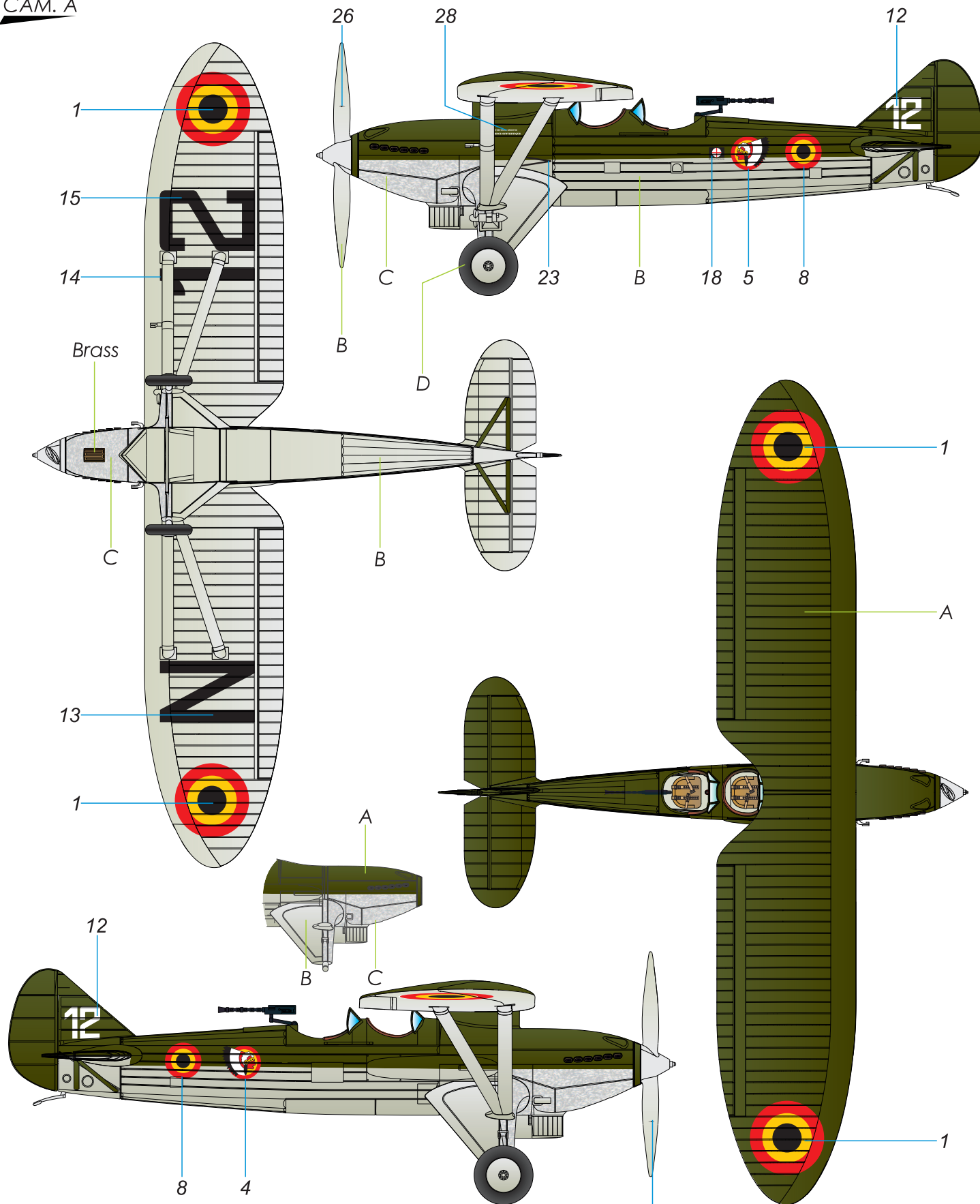


Wire 0.15 mm

Wire 0.15 mm



**CAM. A**



**A**  
 Kaki Vert  
 Khaki Green  
 H80 / C54

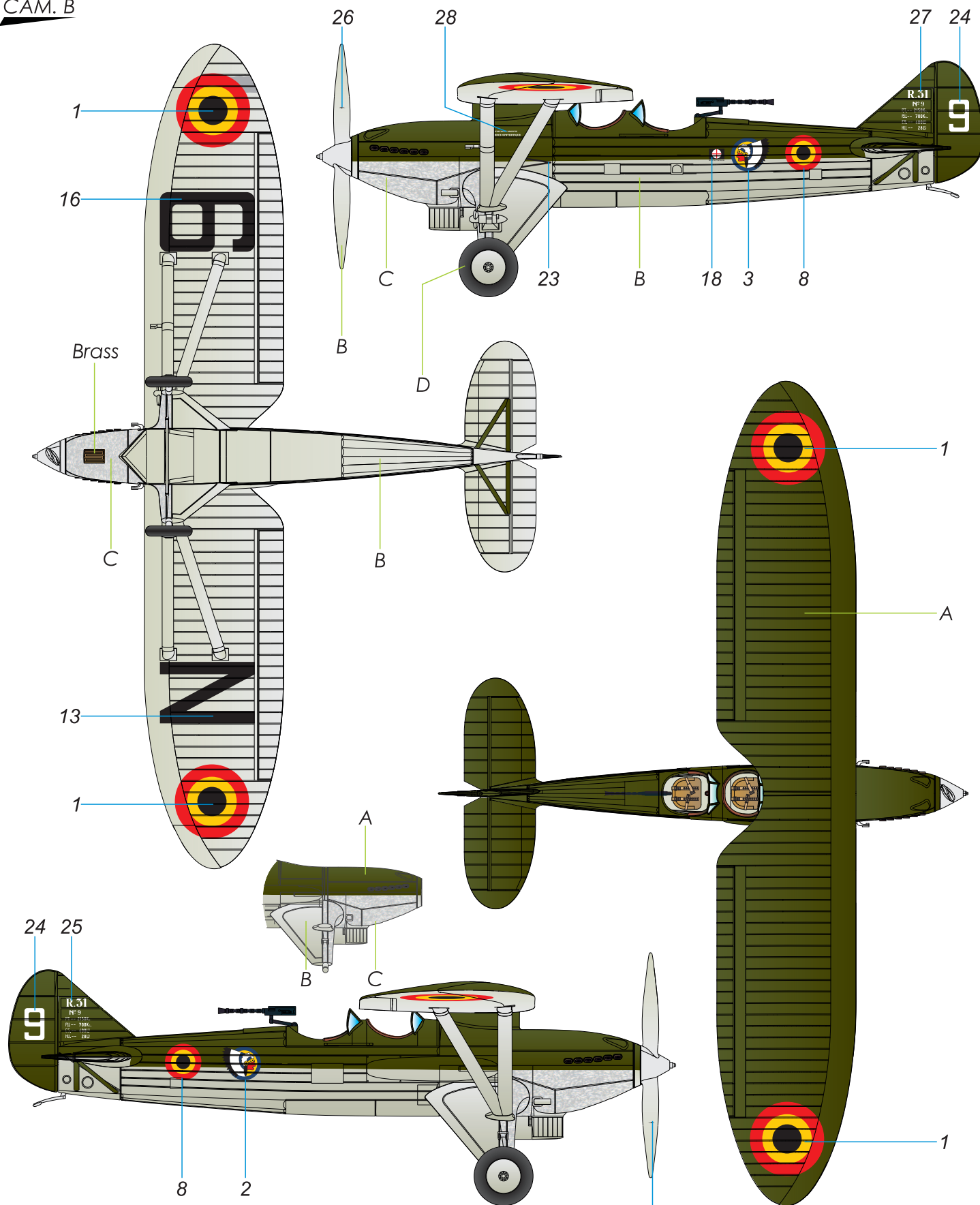
**B**  
 Aluminium Dope  
 Aluminium Dope  
 H8 / C8

**C**  
 Chenille Aluminium  
 Brushed Aluminium  
 SM01+spot H8/C8

**D**  
 Pneu Noir  
 Tire Black  
 H 77 / C137



**CAM. B**



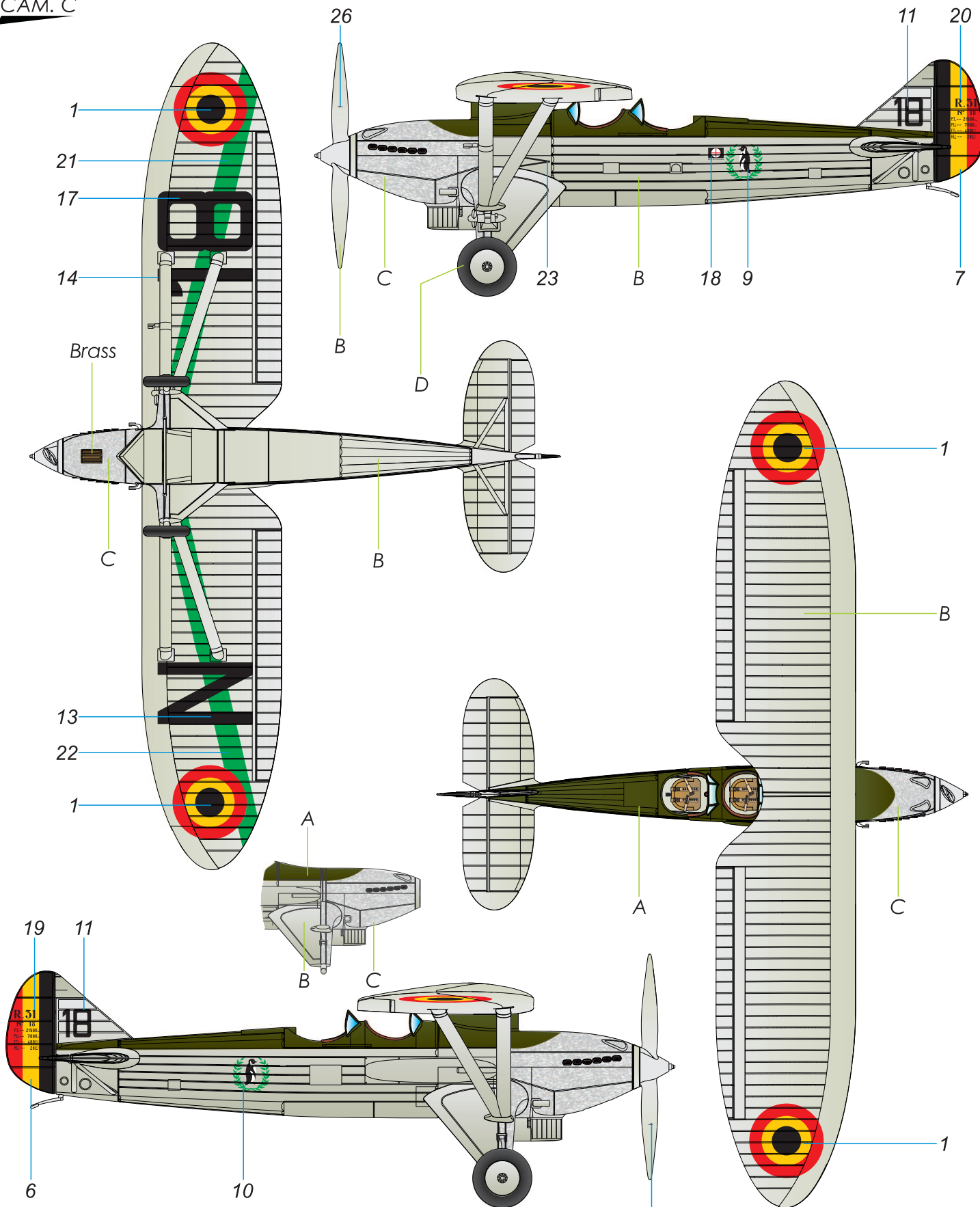
**A**  
Kaki Vert  
Khaki Green  
H80 / C54

**B**  
Aluminium Dope  
Aluminium Dope  
H8 / C8

**C**  
Chenille Aluminium  
Brushed Aluminium  
SM01+spot H8/C8

**D**  
Pneu Noir  
Tire Black  
H 77 / C137

**CAM. C**



**A**  
Kaki Vert  
Khaki Green  
H80 / C54

**B**  
Aluminium Dope  
Aluminium Dope  
H8 / C8

**C**  
Chenille Aluminium  
Brushed Aluminium  
SM01+spot H8/C8

**D**  
Pneu Noir  
Tire Black  
H 77 / C137

**Azur**  
FRROM

**limited run plastic kits**

**Official Website: [www.frrom.com](http://www.frrom.com)**



FR001 IAR-39

1/72



FR002 Fleet F-10G

1/72



FR003 Fleet 16 Finch

1/72



FR004/005 Savoia Marchetti SM 79 JIS/JRS B/B1

1/72



FR006/008 Nakajima Ko-4 / Nieuport NiD-29 C1

1/72



FR012/13/14 Rogozarski IK-3

1/72



FR015/016 Ikarus IK-2 WKJ/Croat AF



FR011 PZL P.24B/E "Over Danube"

1/72



FR019 Vickers Vincent Mk.I

1/72



FR021 Dassault Mystère IVA Israel

1/72

1/72

**Azur**  
FRROM

# limited run plastic kits

Official Website: [www.frrom.com](http://www.frrom.com)



FR022 Dassault Mystère IVA India

1/72



FR023 PZL P.11f in Rumania

1/72



FR024 Stampe S.V.4b Belgium

1/72



FR025 Stampe S.V.4c France

1/72



FR026 Stampe S.V.4b United Kingdom

1/72



FR027 Stampe S.V.4a Aerobatics

1/72



FR028 Breguet 1050 Alizé 1G France

1/72



FR029 Breguet 1050 Alizé ALM

1/72



FR030 Breguet 1050 Alizé ALH

1/72



FR031 Breguet 1050 Alizé 1G India

1/72