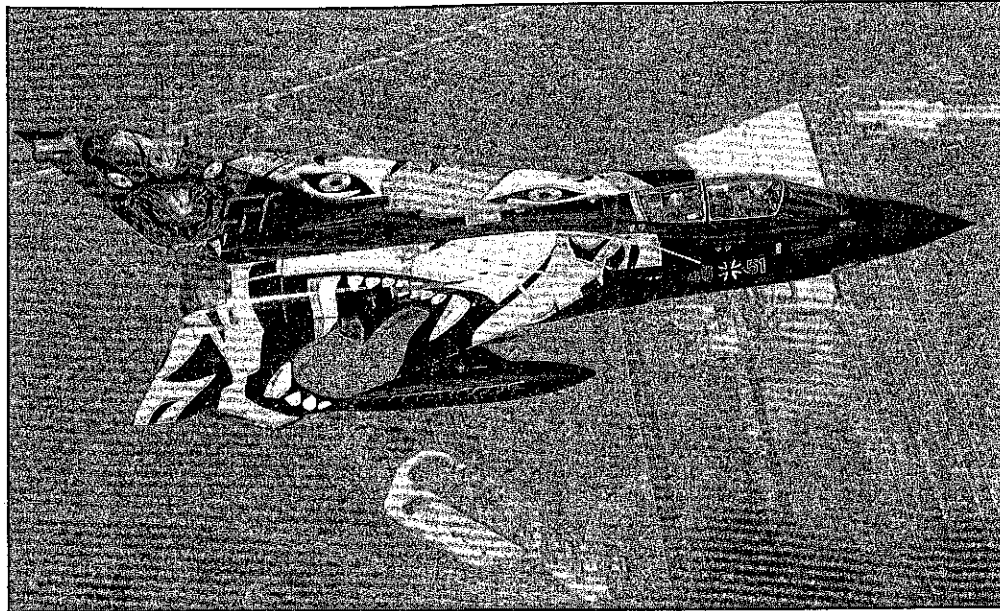


# Revell TORNADO „Black Panther“

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Original Design:  
Jörg Wingers

## TORNADO „Black Panther“

Der Tornado wurde als zweiseitziges Mehrzweckkampfflugzeug von den Ländern Großbritannien, Italien und Deutschland entwickelt und gebaut. Die Anforderungen an das damals als Multi Role Combat Aircraft, kurz MRCA, bezeichnete Flugzeug waren unter anderem: Optimierung für den Tiefstflug, automatischer Geländefolgeflug, hohe Reichweite, hohe Waffenlast und kurze Start- und Landestrecken. Am 14. August 1974 machte der Prototyp seinen Erstflug. Ab 1979 wurden die ersten Serienmaschinen ausgeliefert. Die Basisversion des Tornados wird als Interdiction / Strike, kurz IDS bezeichnet. Hauptaufgabe ist die Unterstützung der Bodentruppen im Kriegsfall. Neben Mitteln zur Selbstverteidigung kann eine große Zahl unterschiedlicher Waffensysteme gegen Truppenansammlungen, Radarstationen und andere Luft- oder Bodenziele zum Einsatz gebracht werden.

Hinter dem Piloten arbeitet der Waffensystem-Offizier. Neben der Navigation und dem Einsatz der offensiven und passiven Kampfmittel gehören die taktische Unterstützung des Piloten und die Überwachung der Flugwerte zu seinen Aufgaben. Mittels eines Radar/Kartensichtgerätes war er in der Lage, die genaue Position während des Fluges durch Abgleich von Karte und Radarbild zu korrigieren. Seit 2001 sind die Flugzeuge mit GPS ausgestattet. Ein automatisches Geländefolgesystem, bestehend aus dem Terrain Following Radar, einem Radarhöhenmesser und dem Flugkontrollrechner erlaubt einen sicheren Tiefstflug bis 30 Meter über der Erdoberfläche. Mittels einer ausklappbaren Betankungsboje kann der Tornado in der Luft aufgetankt werden, was seine Einsatzfähigkeit insbesondere über dem offenen Meer enorm erweitert. Dank der Schubumkehranlage im Heck der Maschine ist der Pilot in der Lage, daß Flugzeug nach nur 100 m Rollstrecke zum Stillstand zu bringen. Zum Selbstschutz verfügt der Tornado über eine Radarwarnanlage, einen Radar-Täuschsender im Außenbehälter (Cerberus III) und eine Düppel- und Infrarot-Leuchtkörper-Abwurfanlage im chaff/flare dispenser (Stör- und Täuschkörperbehälter BOZ-101).

Zum zweiten Mal nahm das Aufklärungsgeschwader 51 „Jimmelmann“ in 2011 mit einer volllackierten Maschine am „NATO TIGER MEET“ teil und gewann, wie in 2009, den Preis für die beste Sonderbemalung. Anlässlich des 50jährigen Jubiläums der Nato Tiger Association wurde in 2011 ein Tigerdesign auf der Oberseite aufgetragen während ein Panther das Heckleitwerk verzieren.

### Technische Daten

Länge: 1723 m; Höhe: 5,95 m; Spannweite: 13,91 m (bei 25 Grad Pfeilung); Spannweite: 8,56 m (bei 67 Grad Pfeilung); Flügelfläche: 31 qm (bei 25 Grad Pfeilung); Leergewicht: 14.500 kg; Startgewicht max.: 28.000 kg; Waffenzuladung max.: 8.500 kg; Treibstoff: 6350 kg; Triebwerk: 2 x Turbo-Union RB199-34R; Leistung: 2 x 40,5 kN (2 x 73,5 kN mit Nachbrenner); V max in Bodennähe: 1500 km/h; V max in 11 km Höhe: 2335 km/h (Mach 2,2); Reichweite: 2780 km; Steiggeschwindigkeit: 1020 m/min bis 3 km Höhe; Gipfelhöhe: 15 km; Bewaffnung: 2 x BK Mauser 27mm (2 x 180 Schuß), AIM-9L Sidewinder, AGM-88B HARM

## TORNADO „Black Panther“

The Tornado was developed and built as a 2 seat Multi-Role Combat Aircraft by the county's of Great Britain, Italy and Germany. The requirements for the Multi-Role Combat Aircraft, in short MRCA as the aircraft was then defined included: optimisation for low flying, automatic terrain following, extended range, high weapon load and short take-off and landing distances. The prototype made its maiden flight on 14 August 1974. The first series production aircraft were delivered from 1979 onwards. The basic version of the tornado was designated IDS, Interdiction / Strike. Its primary role was the support of ground troops in wartime. Apart from self-defence equipment, a large number of different weapons can also be bought into action against troop concentrations, radar transmitters, and other air and ground targets. The Weapons Systems Officers position is behind the pilot. His responsibilities include the use of offensive and passive weapons systems as well as advising the pilot on tactics, navigation and the supervision of flight control systems. During flight he is able to correct the exact position of the aircraft using a radar / visual map correlation equipment. The aircraft have been equipped with GPS since 2001. An automatic Terrain Following System, comprising Terrain Following Radar, Radar Altimeter and a Flight Control Computer enables safe terrain following flight down to 30 Meter (100 ft) above ground level (AGL). Mission availability is enormously increased especially over the sea due to the incorporation of a retractable refuelling probe enabling the Tornado to refuel in flight. Thanks to a thrust reversal unit in the tail the pilot is in a position to bring the aircraft to a standstill after a landing run of only 100 meter (300 ft). For self defence the Tornado is equipped with a Radar Warning System and the radar decoy transmitter Cerberus III as also a BOZ-101 Chaff and Infra-Red Flare Dispenser in a wing pod.

In 2011 Reconnaissance Squadron 51 „Jimmelmann“ took part in the „NATO TIGER MEET“ for the second time. With a the aircraft wearing a completely new paint scheme it won, as in 2009 the award for he best special livery. To mark the 50th anniversary of the NATO Tiger Association in 2011 a Tiger design was applied to the upper surfaces whilst the empennage was decorated with a Panther design.

### Technical Data:

Length: 1723 m (56ft 0 ins); Height: 5.95 m (19ft 4 ins); Wingspan: 13.91 m (45ft 3 ins) with 25° of sweep. Wingspan: 8.56 m (27ft 10 ins) with 67° of sweep. Wing area: 31m<sup>2</sup> (327 ft<sup>2</sup> with 25° of sweep. Empty Weight: 14500 kg (31900 lbs); Take-off Weight: 28000 kg (61600 lbs); Maximum Armament Weight: 8500 kg (18700 lbs); Maximum fuel Capacity: 6350 kg (13970 lbs); Engine: 2 x Turbo-Union RB 199-34R; Power: 2 x 40.5 kN (2 x 73.5 kN with Afterburner); Max. speed low-level: 1500 kph (840 mph); Max. speed at 11000m (33000ft): 2335 km/h (1300 mph) Mach 2.2; Range: 2780 km (1550 miles); Rate of Climb: 1020m/min to 3000m (3350ft/min up to 10000ft); Service Ceiling: 15km (48750 ft); Armament: 2 x BK Mauser 27mm (2 x 180 Rounds); AIM-9L Sidewinder. AGM-88B HARM.

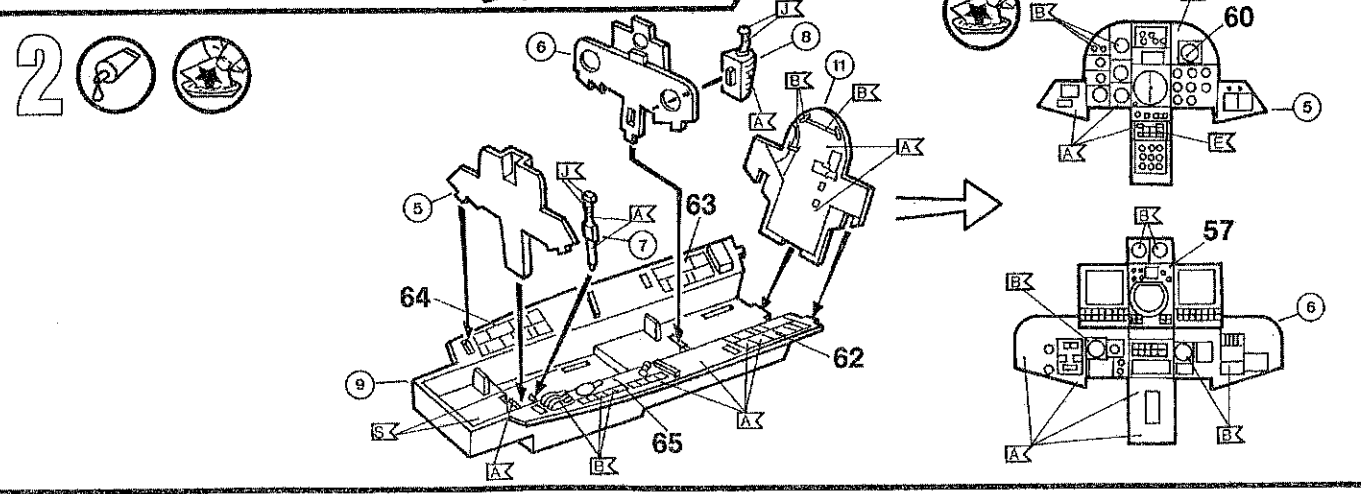
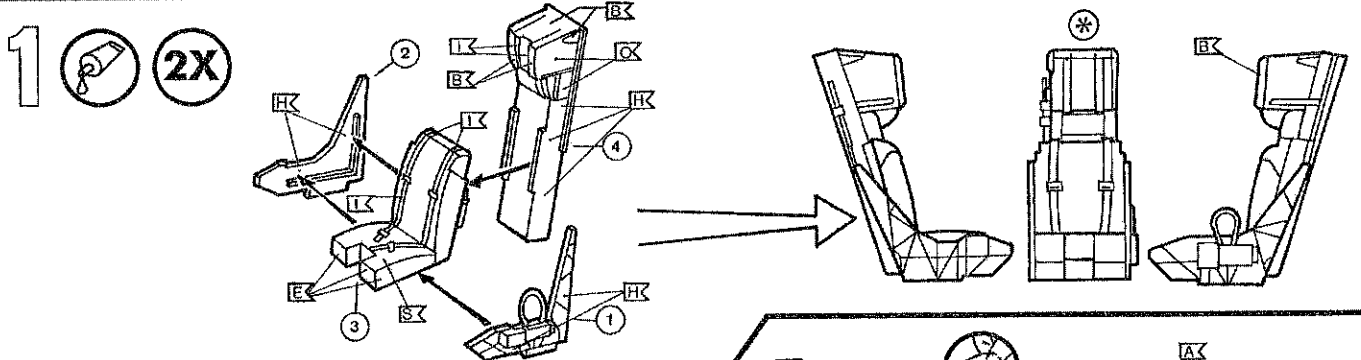
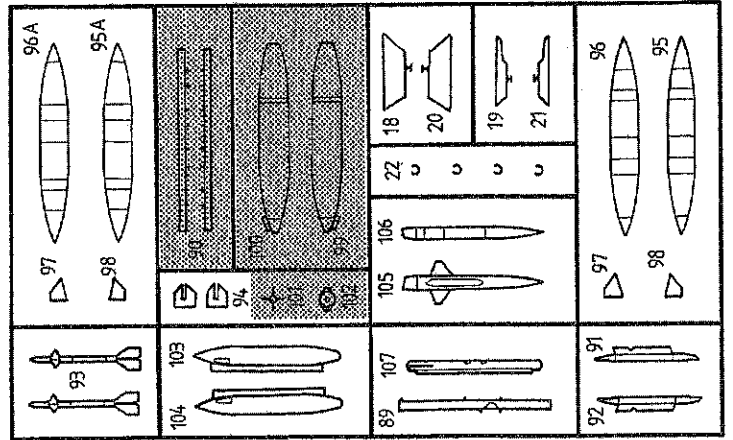
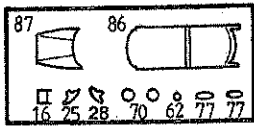
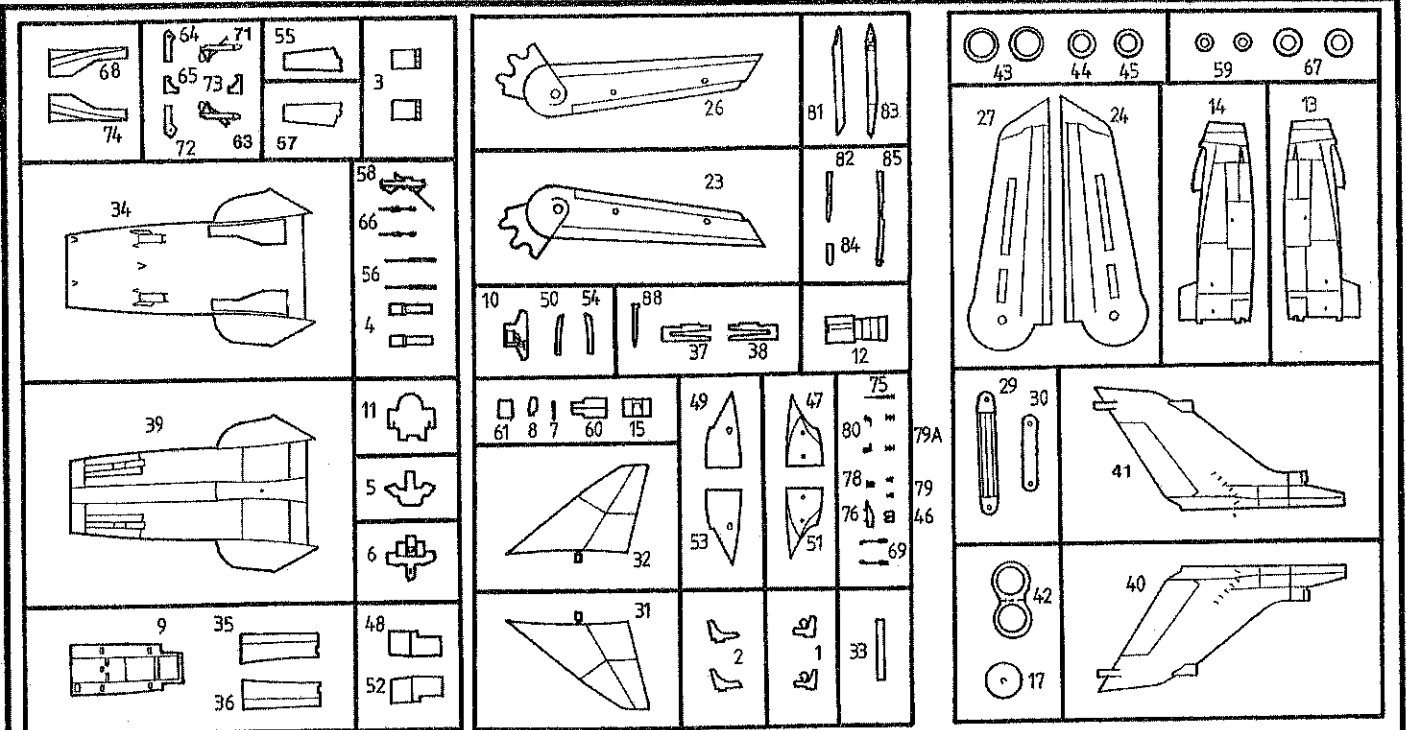
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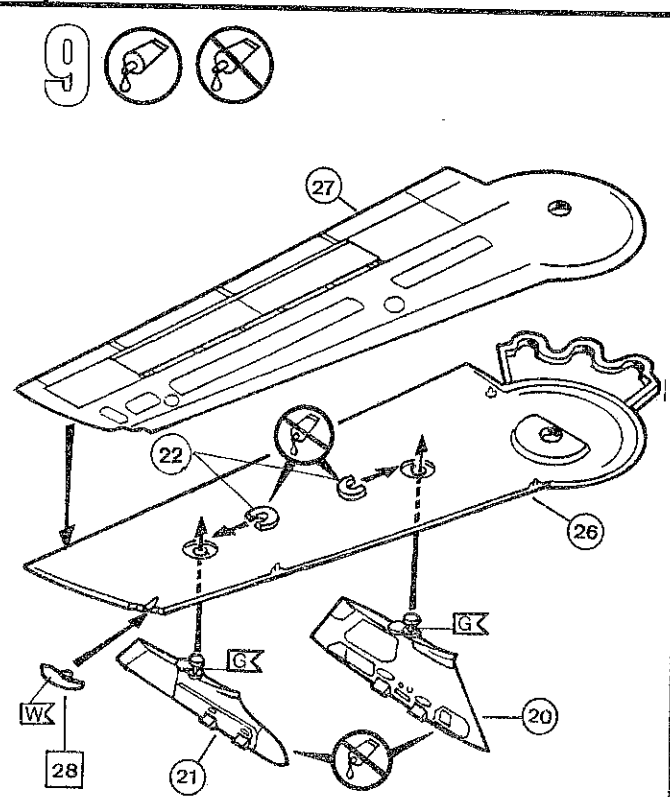
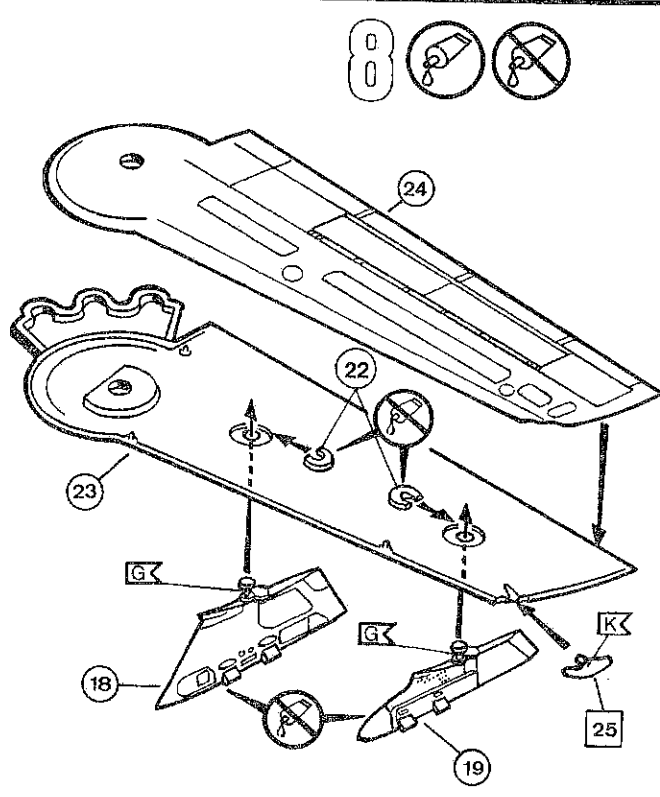
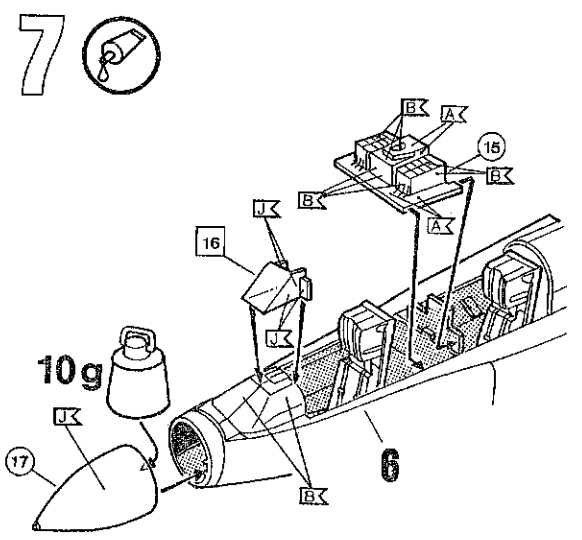
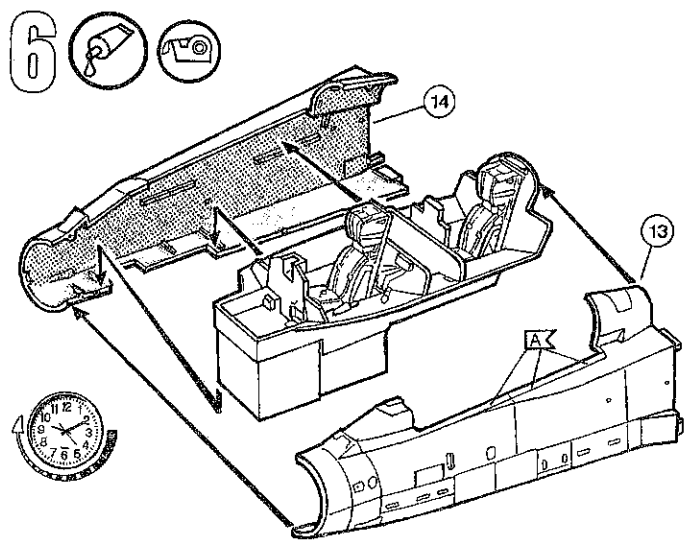
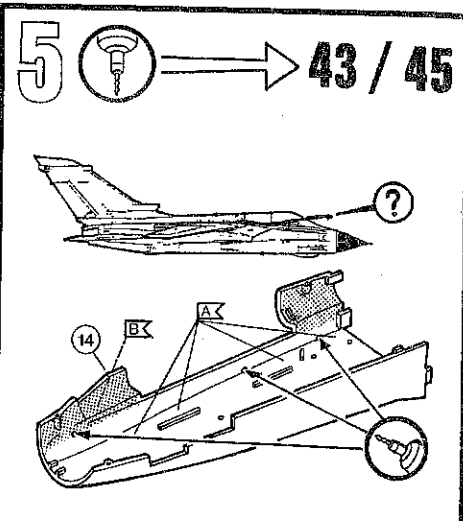
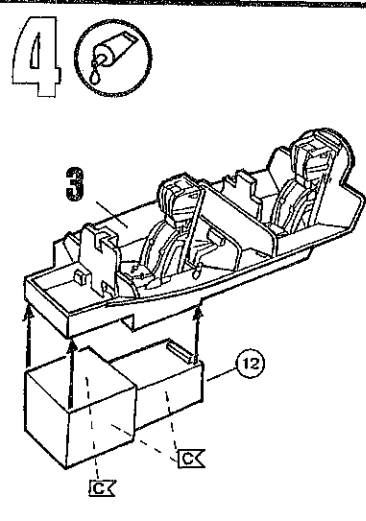
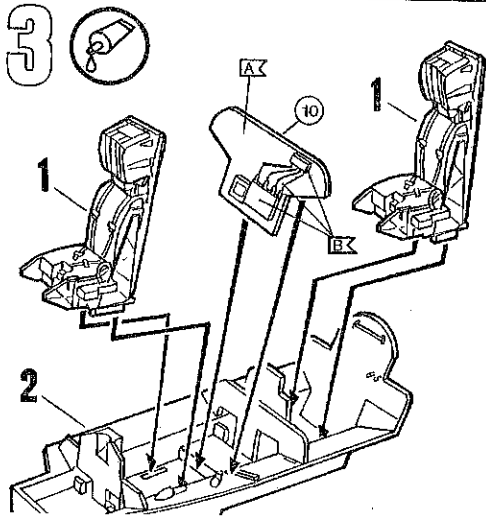
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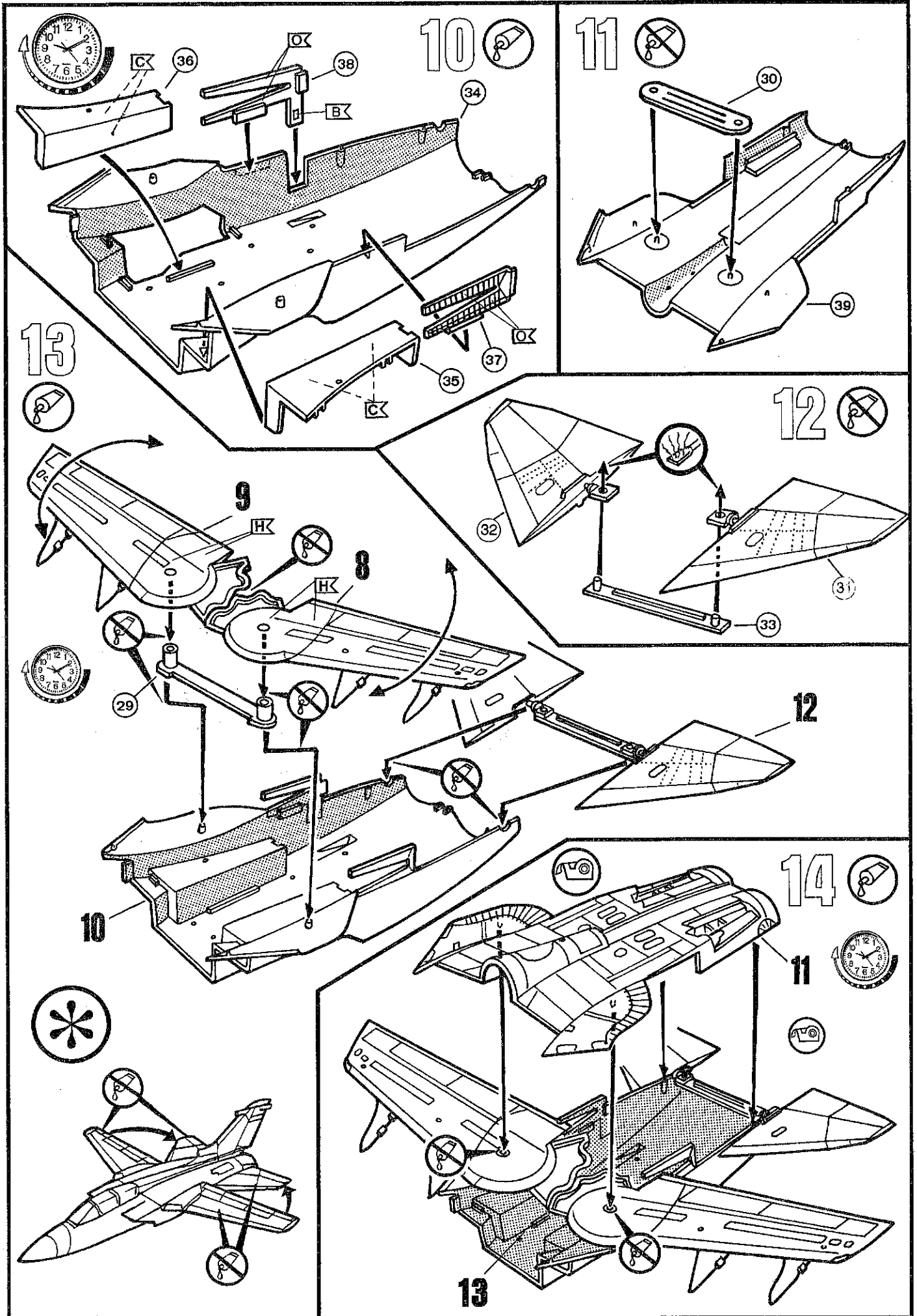




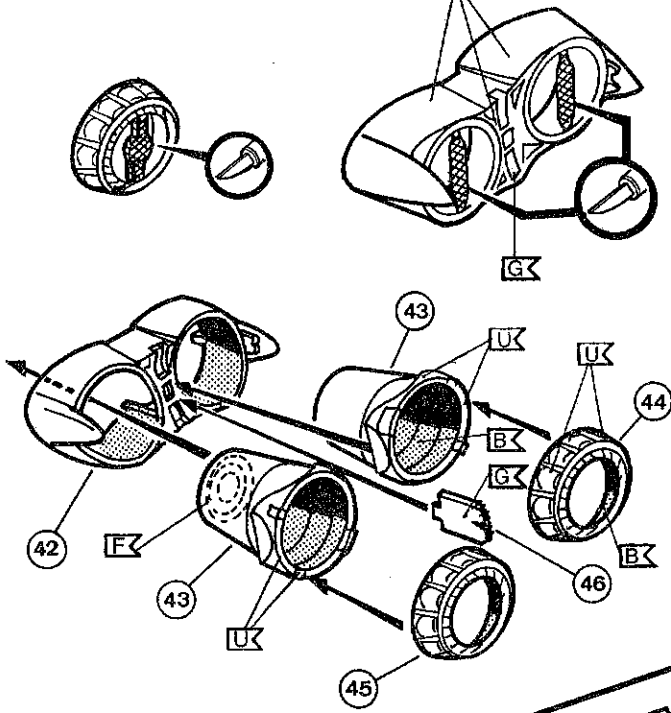




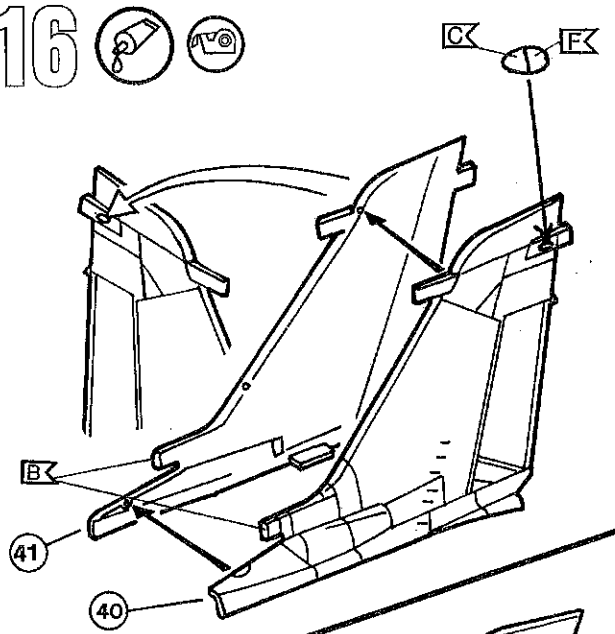




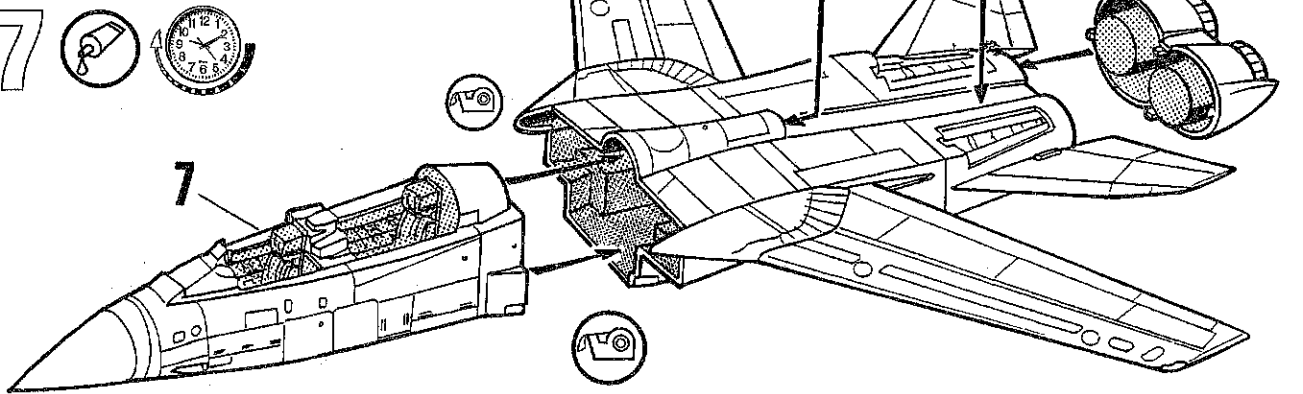
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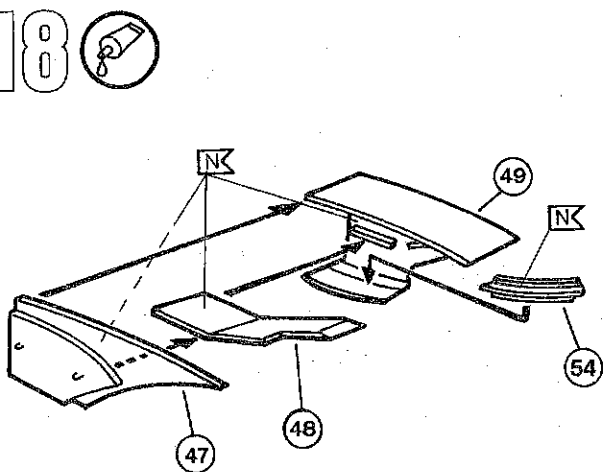
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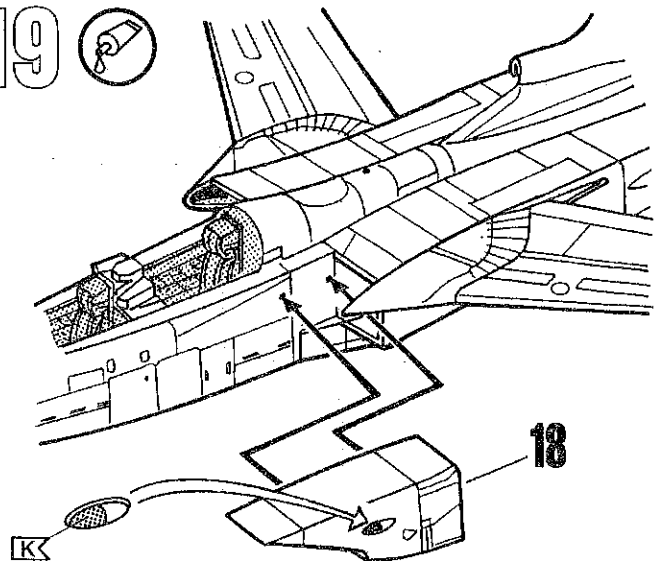
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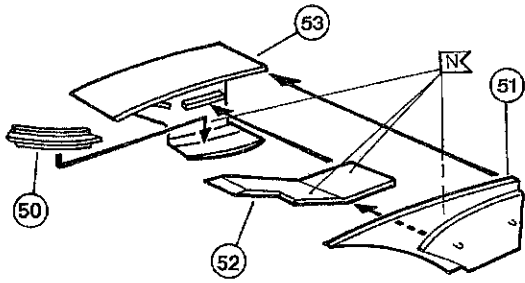


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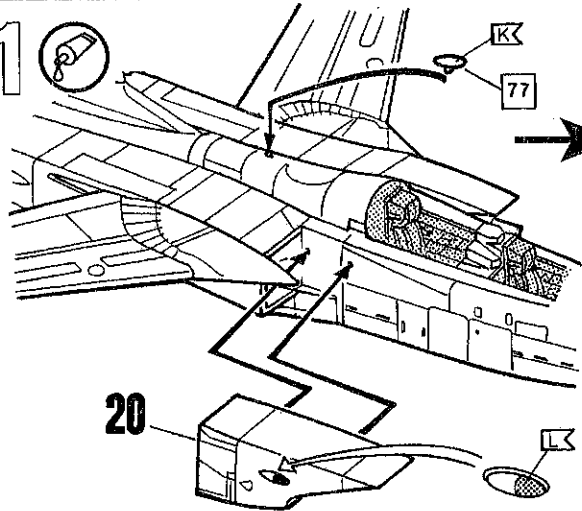





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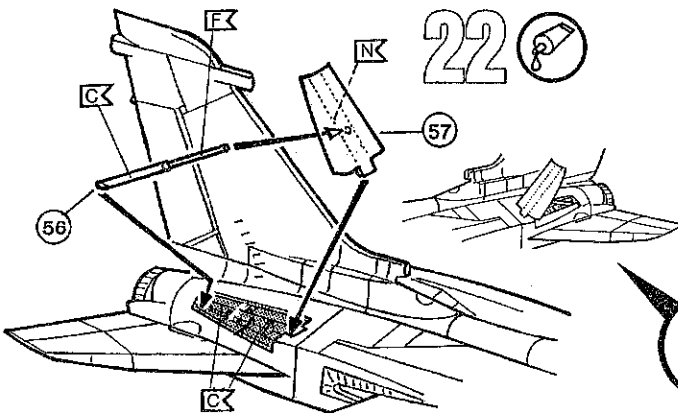


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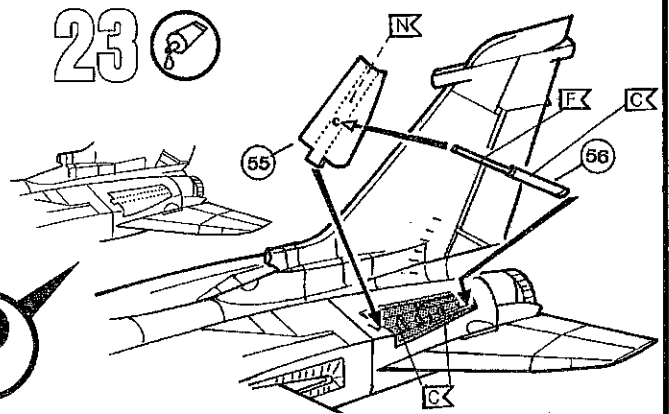


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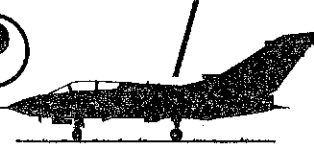
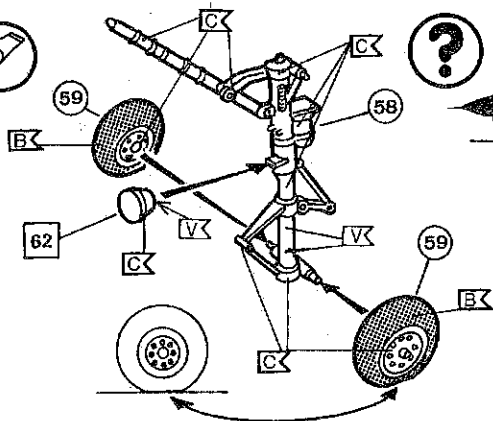
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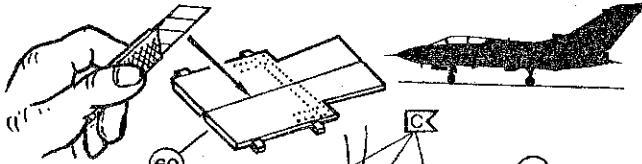
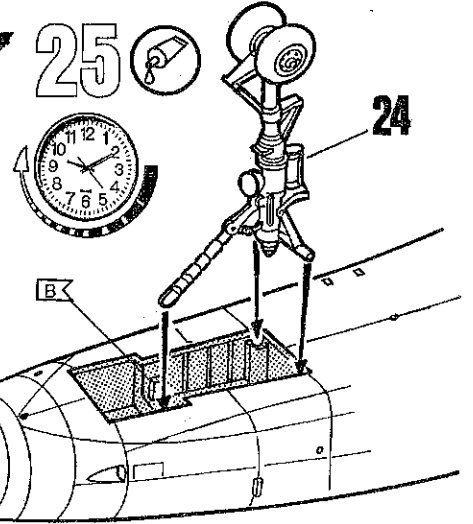
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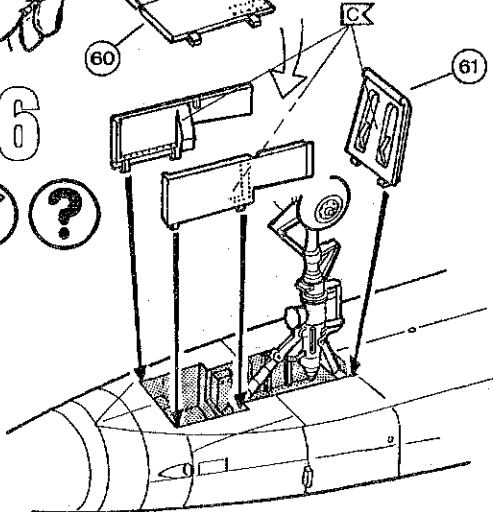
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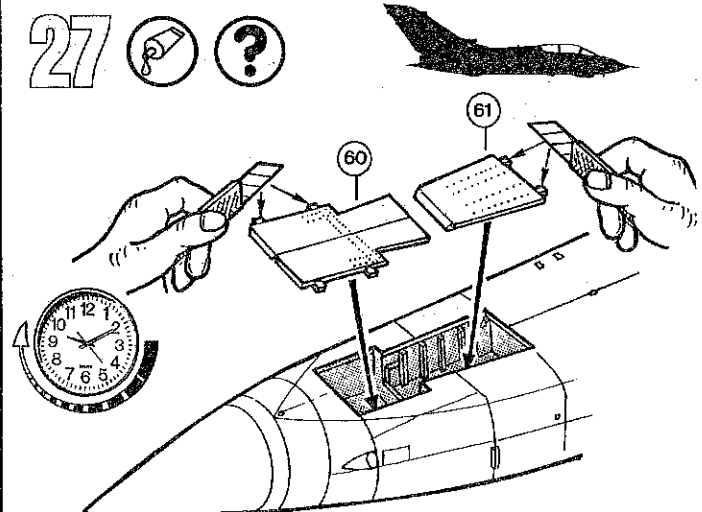
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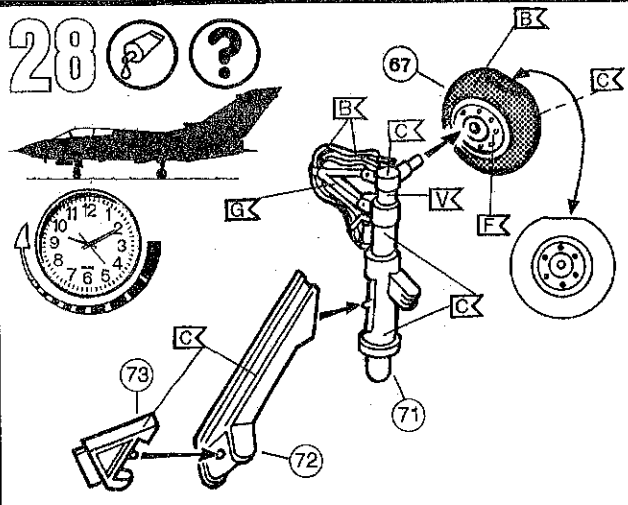
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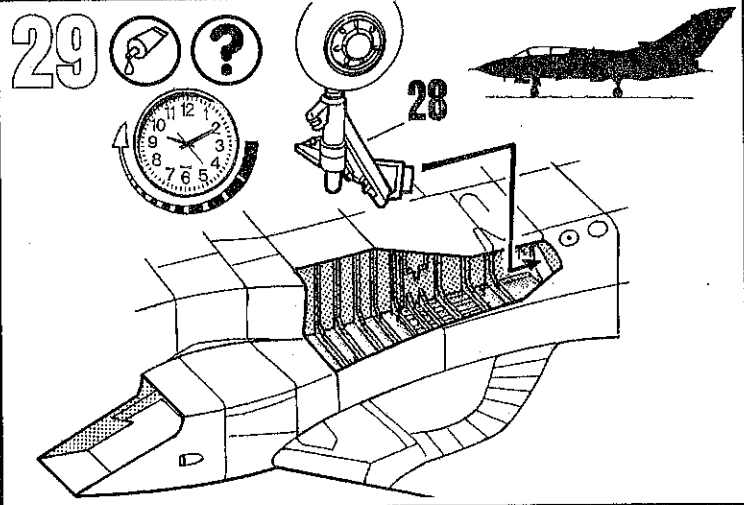
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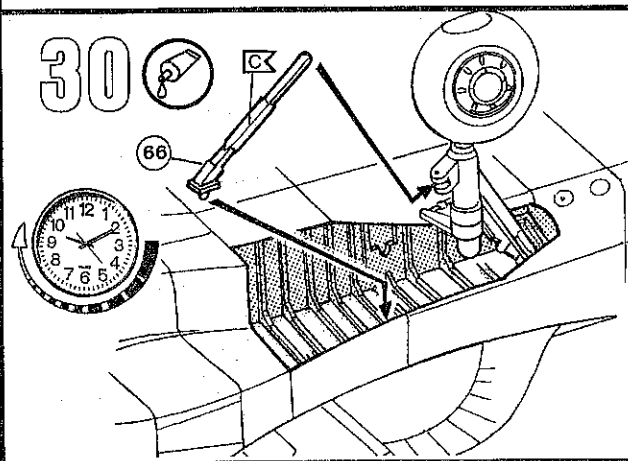
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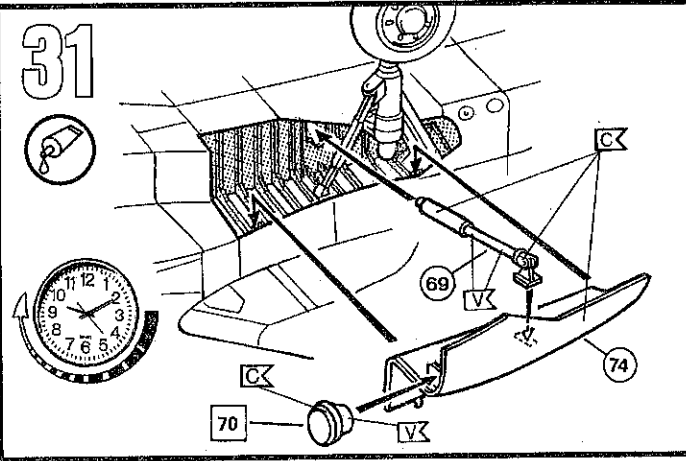
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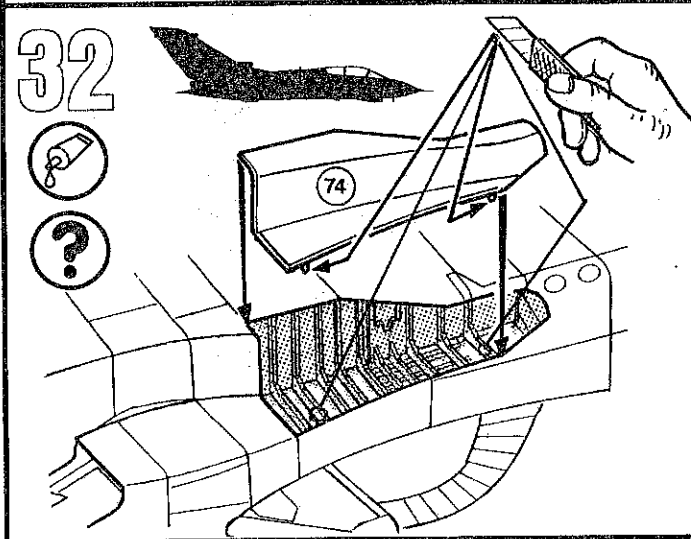
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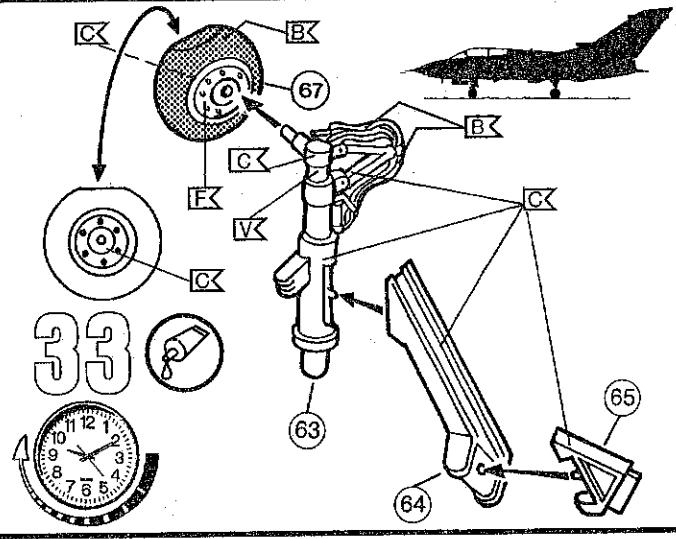
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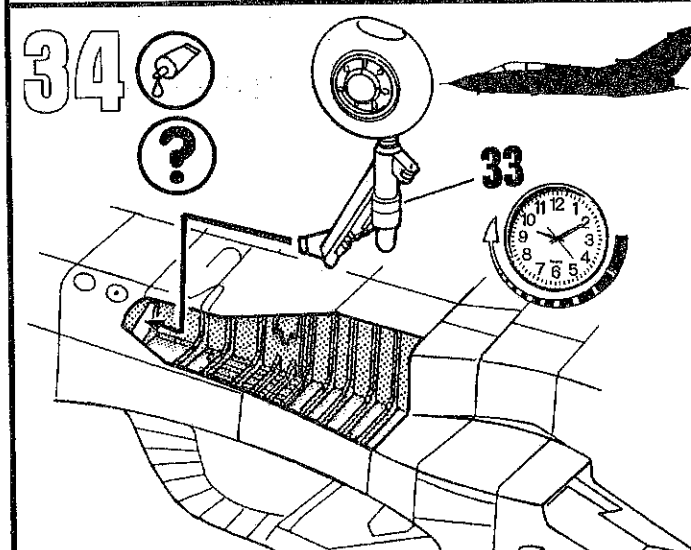
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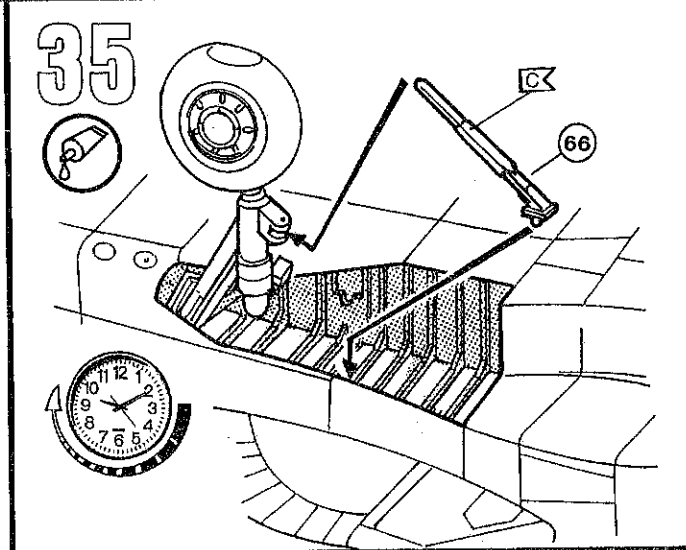
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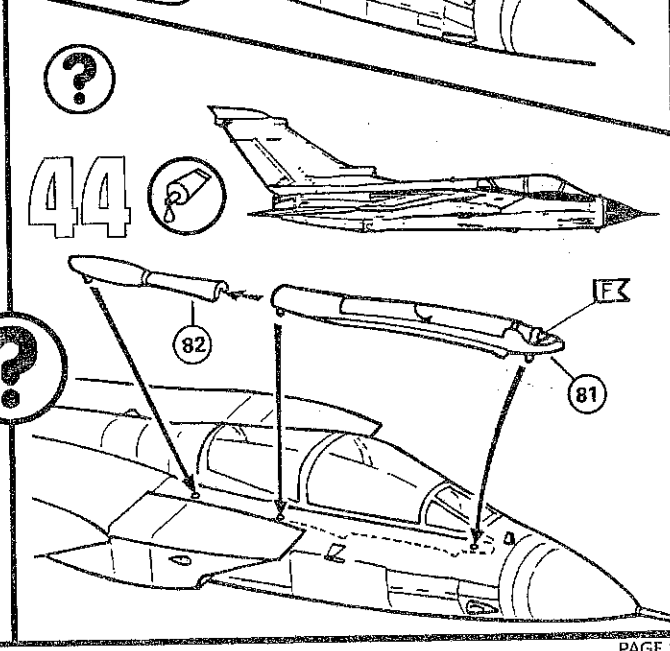
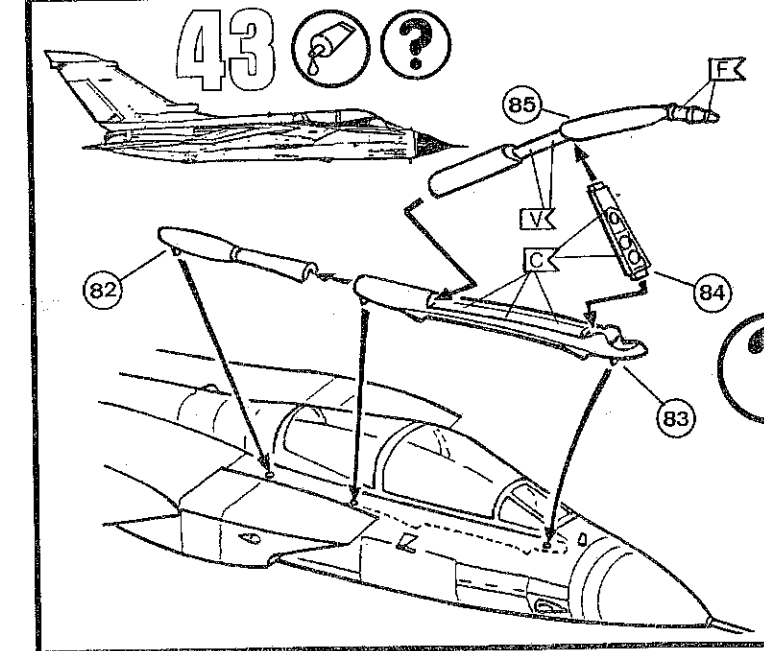
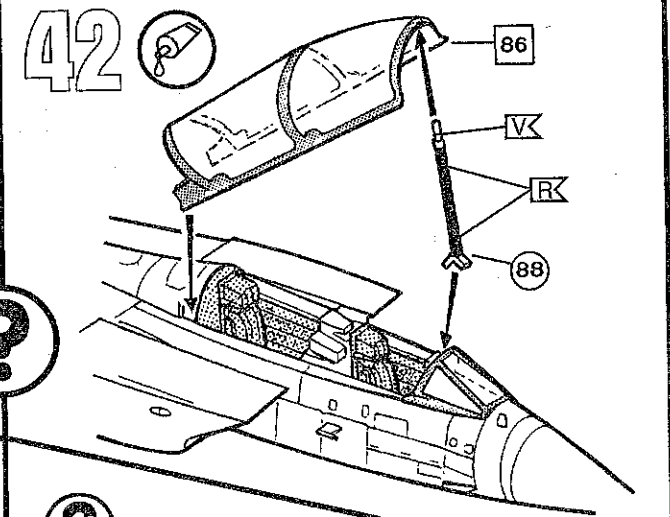
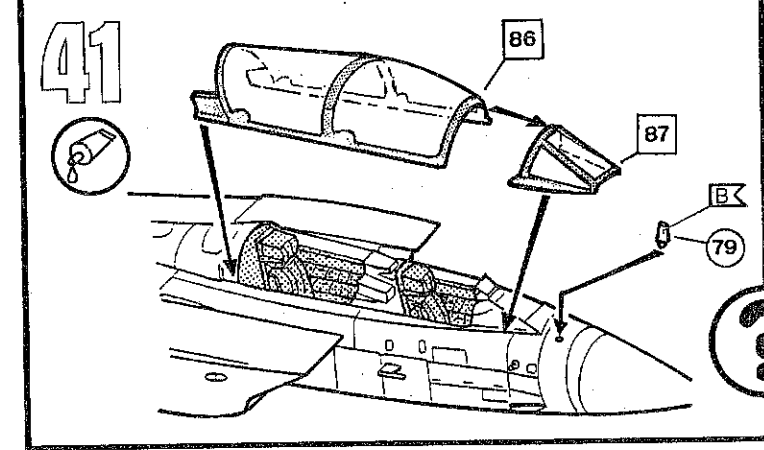
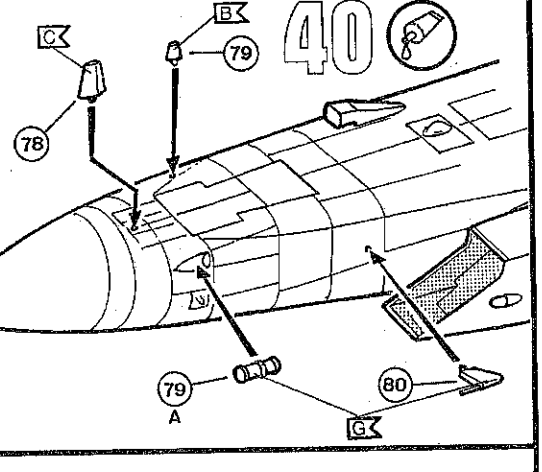
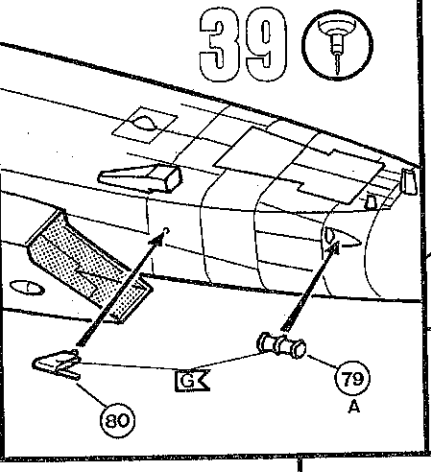
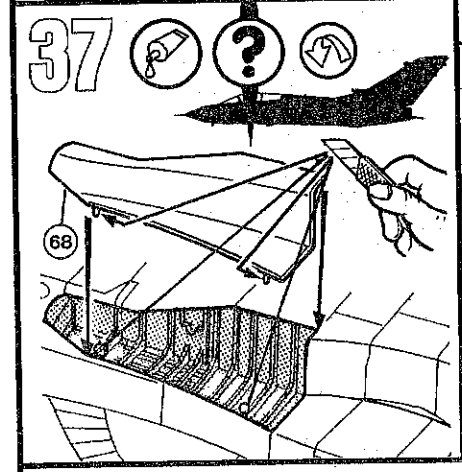
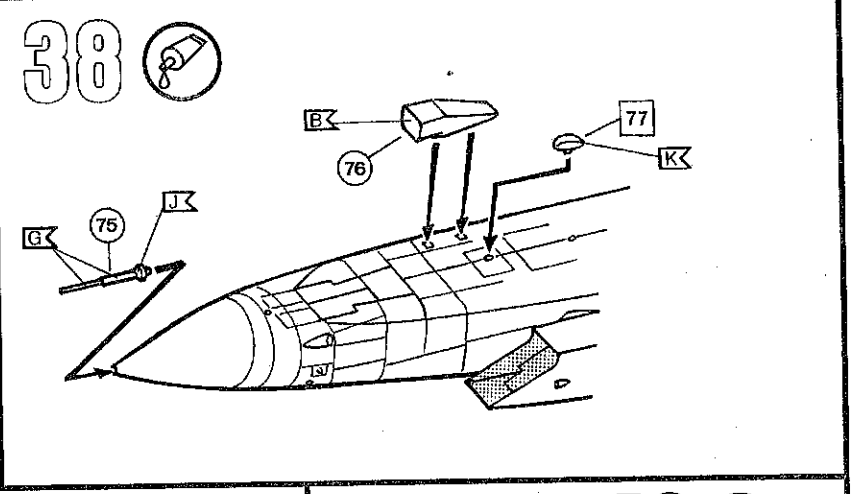
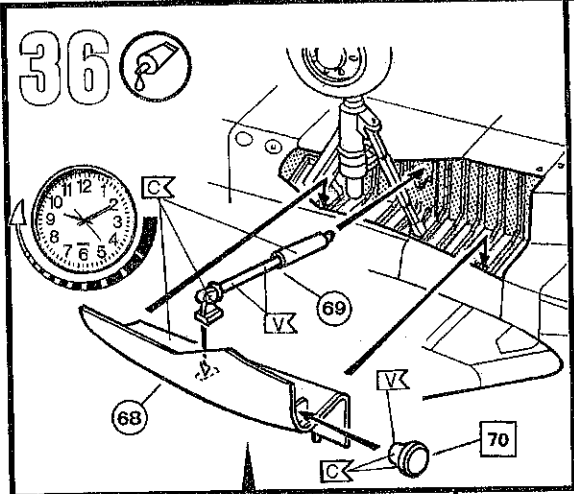


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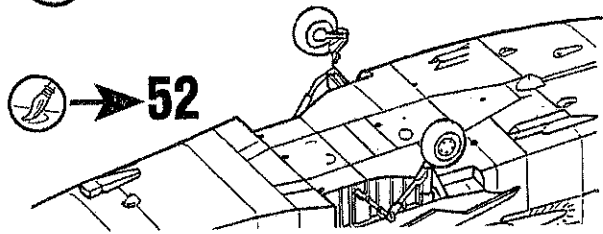


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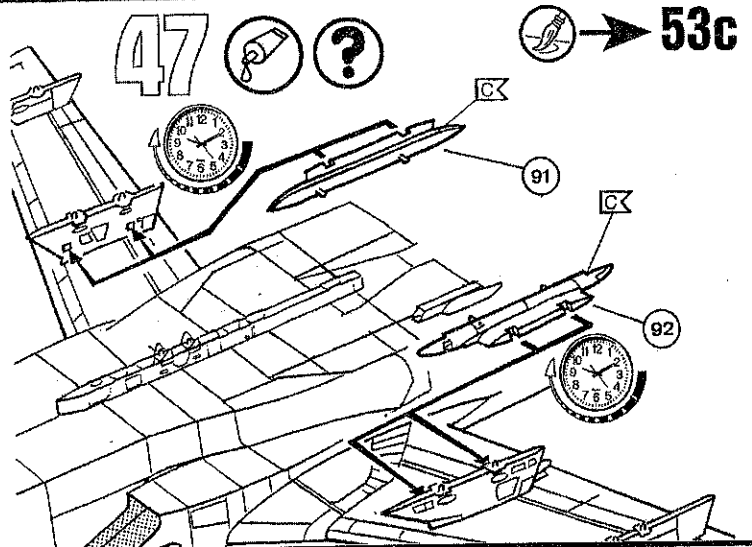


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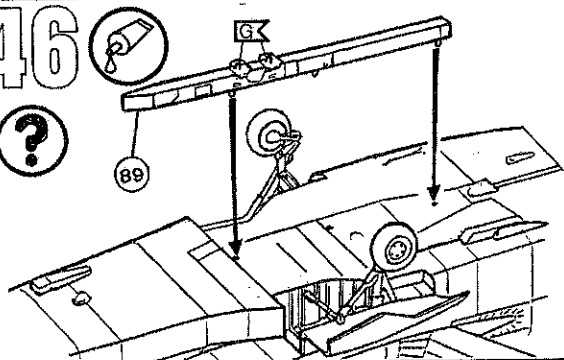
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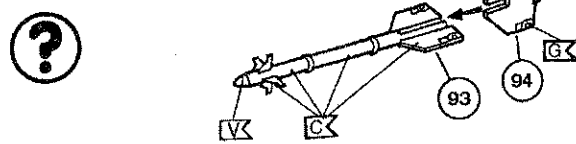


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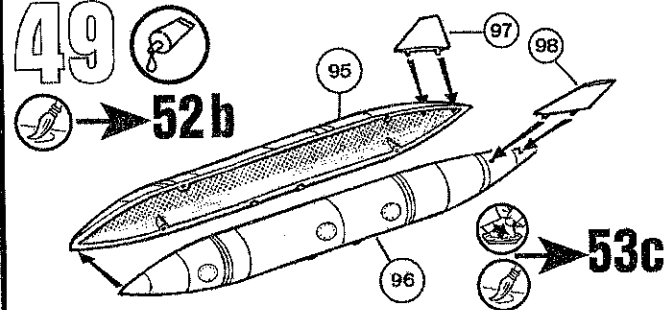
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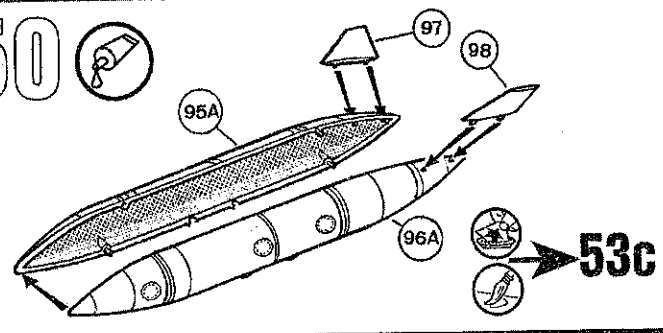
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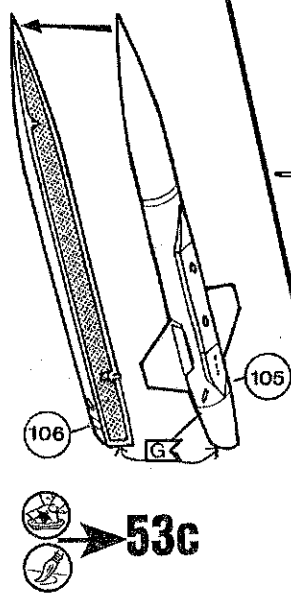
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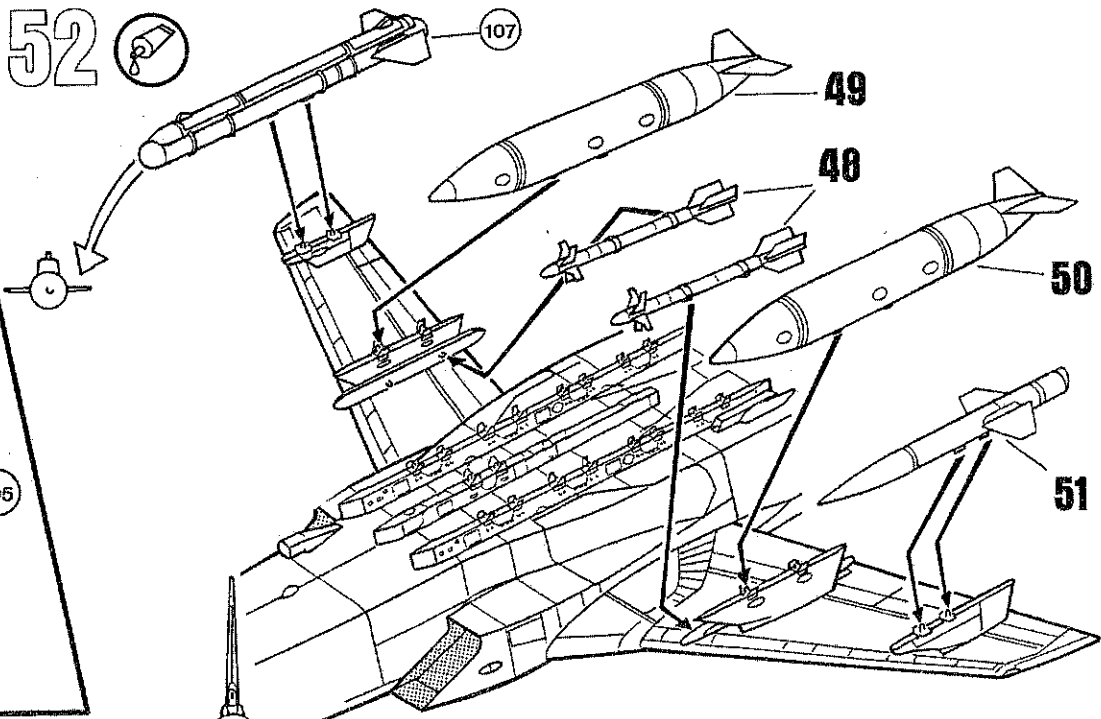
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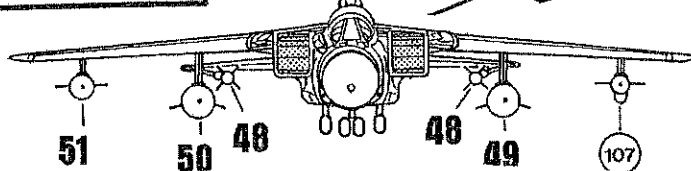


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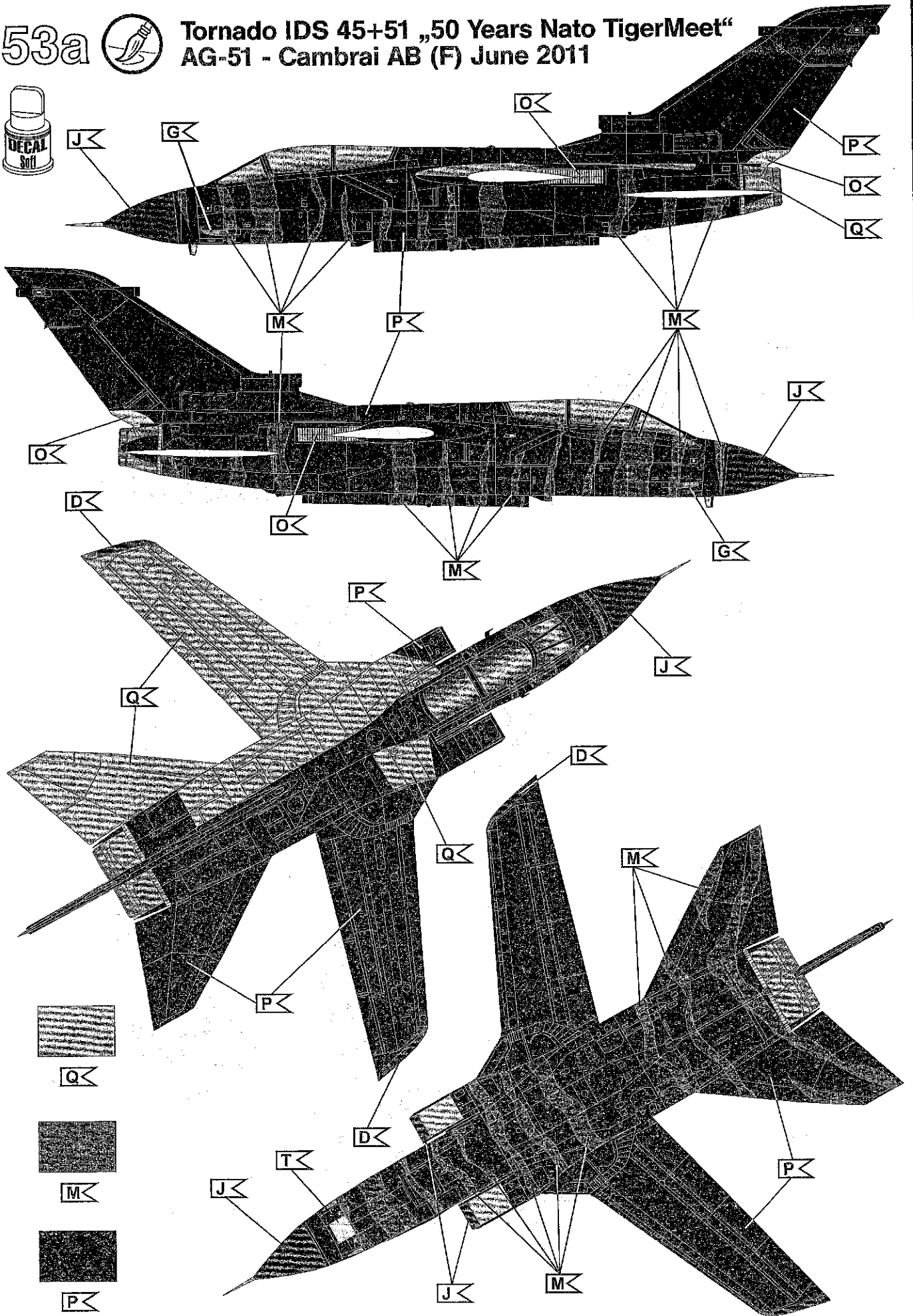
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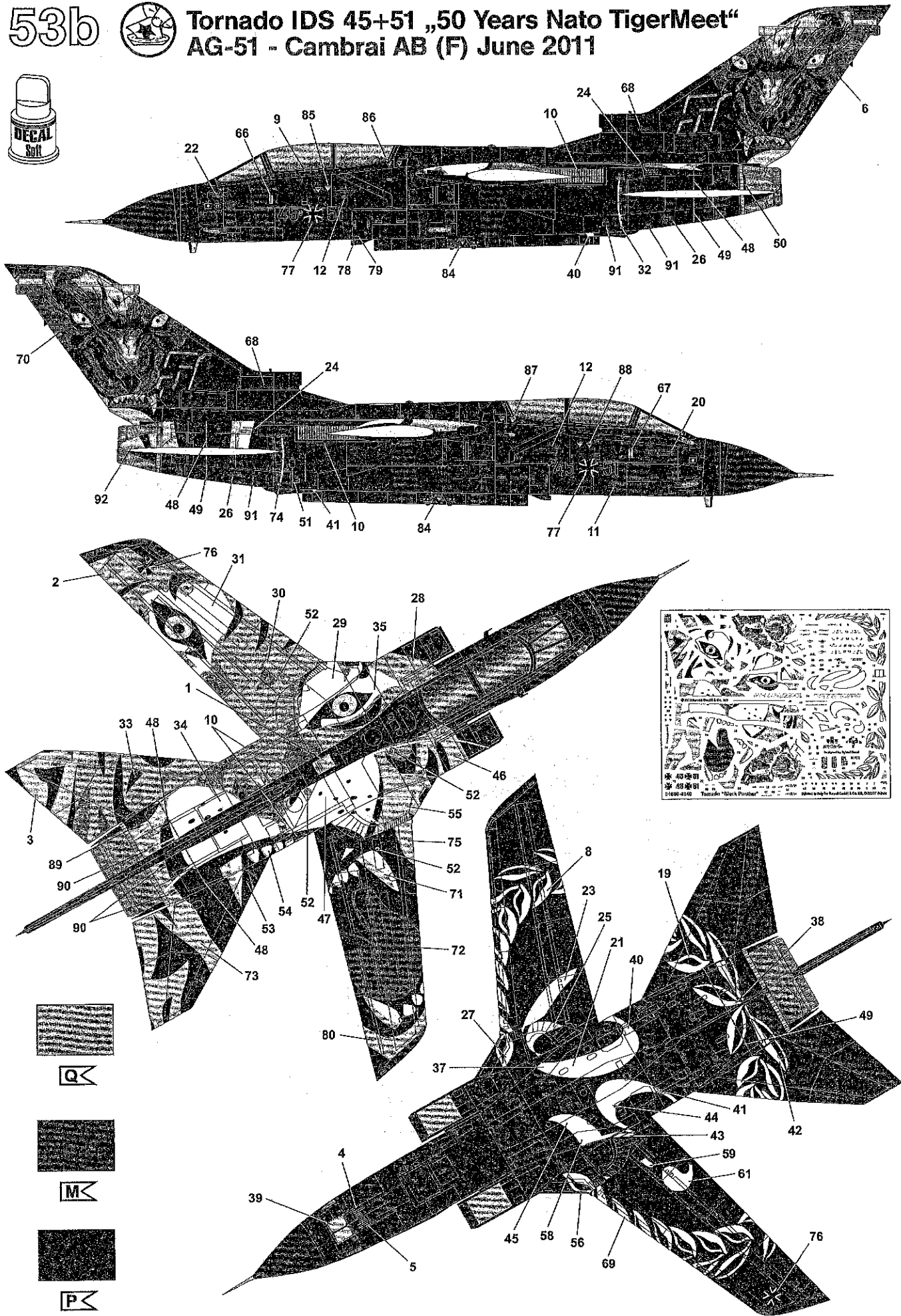
Tornado IDS 45+51 „50 Years Nato TigerMeet“  
AG-51 - Cambrai AB (F) June 2011



# 53b



## Tornado IDS 45+51 „50 Years Nato TigerMeet“ AG-51 - Cambrai AB (F) June 2011



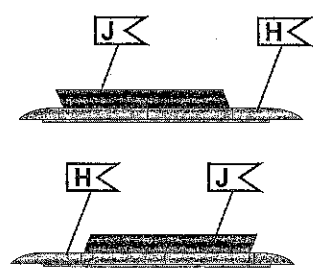
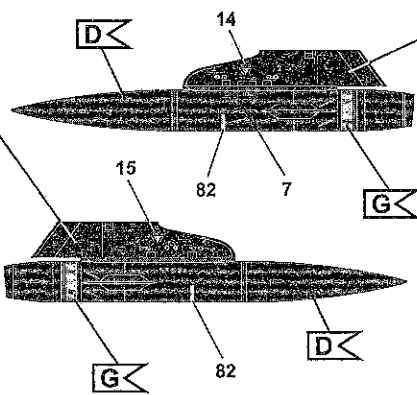
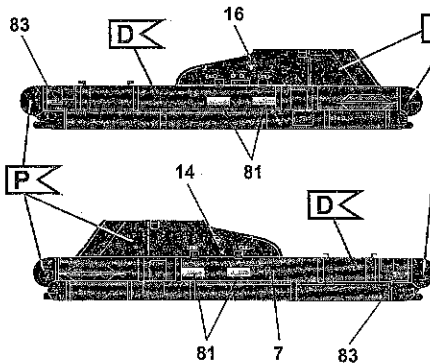
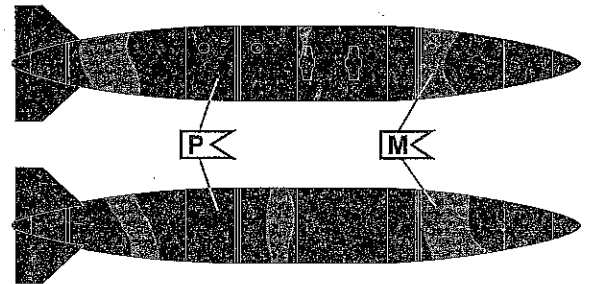
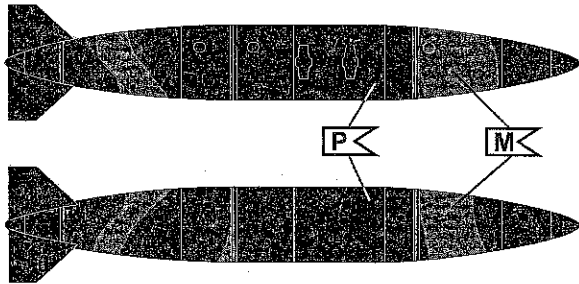
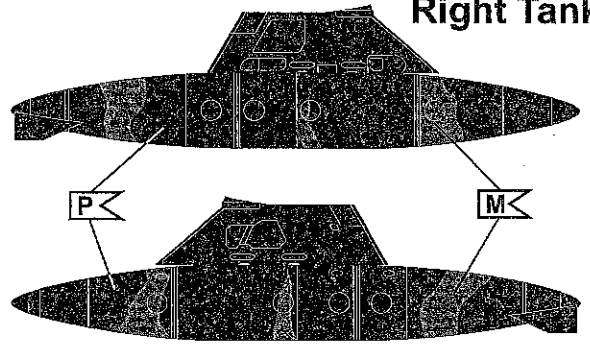
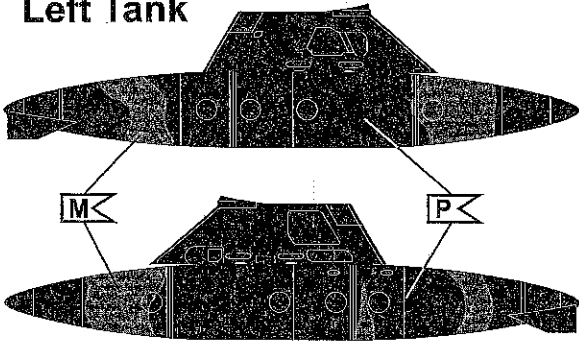
53c



# Tornado IDS 45+51 „50 Years Nato TigerMeet“ AG-51 - Cambrai AB (F) June 2011

Left Tank

Right Tank



Left Tank

Right Tank

