

LIMITED EDITION!

Israeli Air Force

F-4 & RF-4

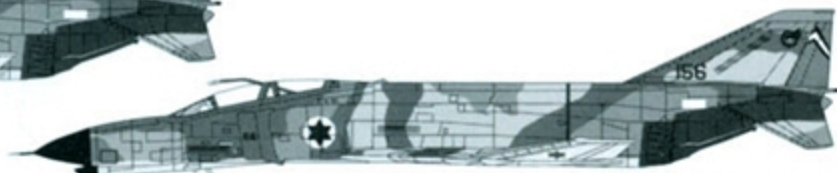
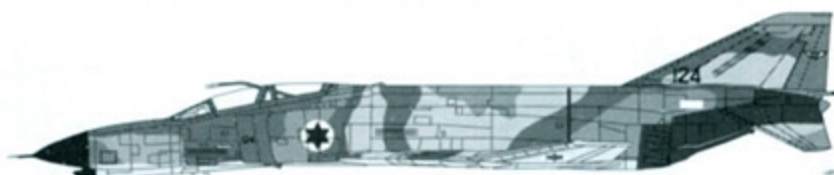
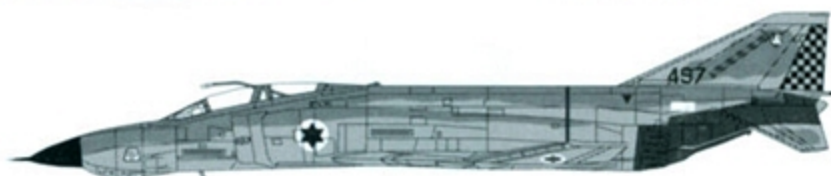
Kurnass (Sledgehammer)

**Researched
in Israel!**



CED72004
CED48004
CED32001

**Make Any IAF Phantom
from 1969-present!**



Recommended kits:
1/72: Hasegawa or Fujimi
1/48: Hasegawa
1/32: Revell
1/72 & 1/48 F-4E(S) conversion: Paragon Designs

**Cutting
Edge**

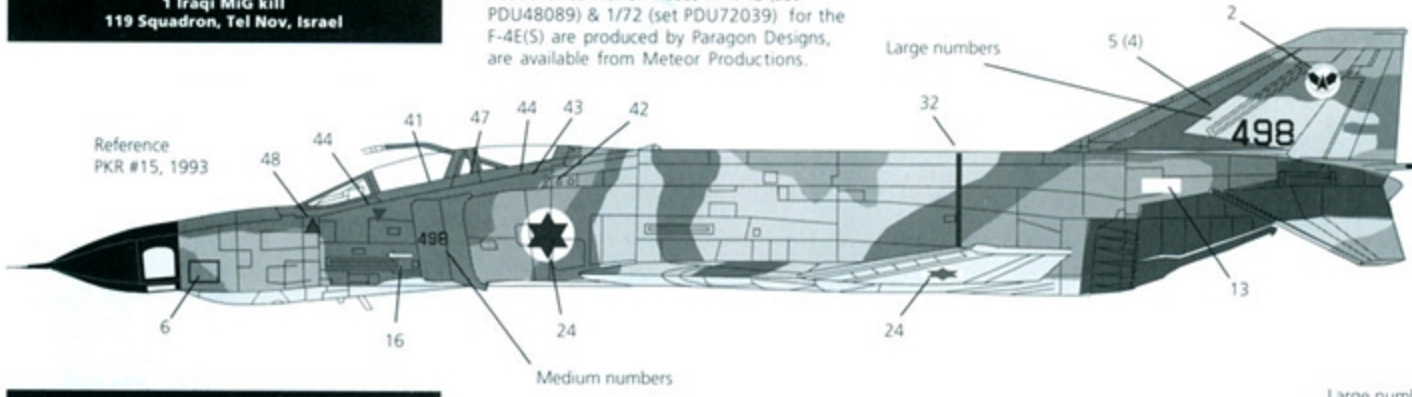
MODELWORKS

® P.O. Box 3956
Merrifield, VA 22116
USA

F-4E(S) #498
Atalef (Bat) Squadron
 1 Iraqi MiG kill
 119 Squadron, Tel Nov, Israel

Beautiful conversion noses in 1/48 (set PDU48089) & 1/72 (set PDU72039) for the F-4E(S) are produced by Paragon Designs, are available from Meteor Productions.

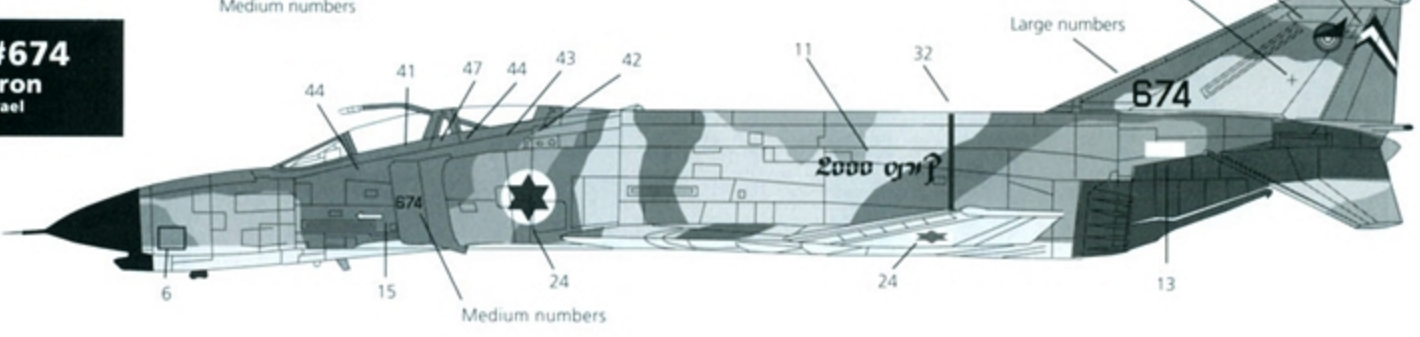
NOTE: This Cutting Edge decal sheet set includes sufficient markings to make almost any Israeli Phantom—check your sources and you'll find the markings here!



Rudder is red FS 31136. Apply decal 26 (29) after paint is thoroughly dry.

Kurnass 2000 #674
Ahat (One) Squadron
 201 Squadron, Tel Nov, Israel

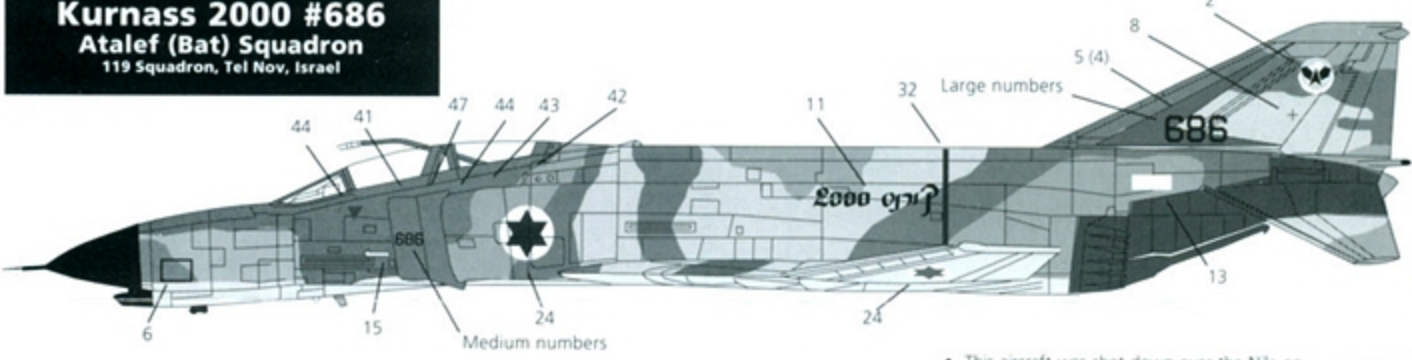
Rescue arrows came in three styles: #14, #15, and #16, so check your sources!



Kurnass 2000 #686
Atalef (Bat) Squadron
 119 Squadron, Tel Nov, Israel

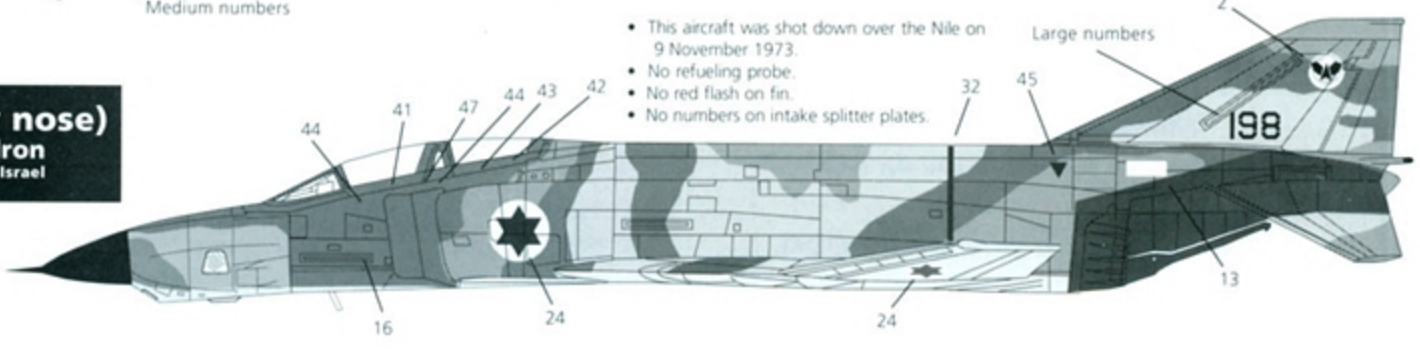
Kurnass 2000:

- Standard Israeli paint scheme.
- Hebrew words "Kurnass 2000" (#11) on both sides.
- Use gray wing walkways (#21/22), but some aircraft used the yellow walkways.
- Rescue arrow style is #15 only.
- Note small crosses on tail (both sides) & wings (top & bottom).



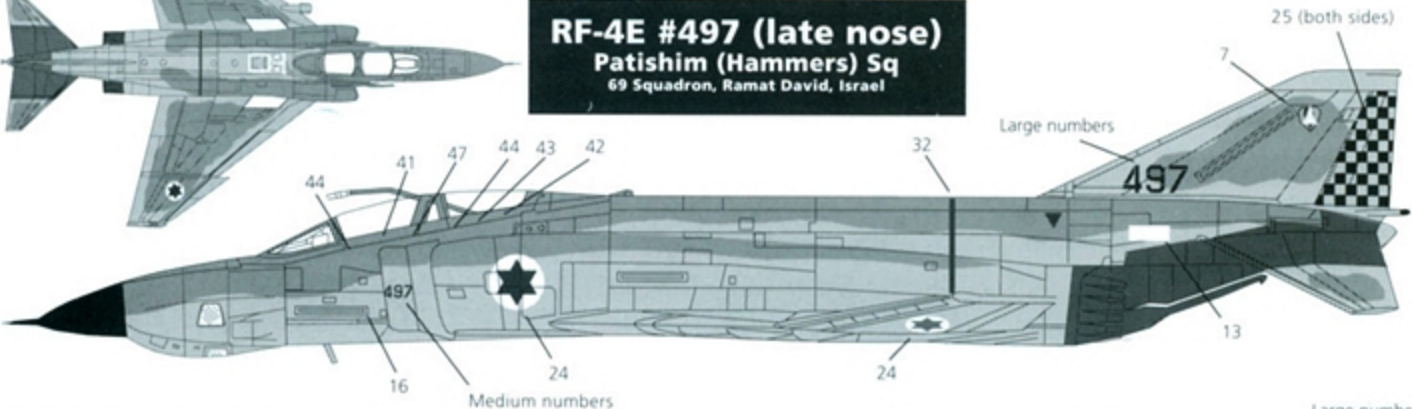
- This aircraft was shot down over the Nile on 9 November 1973.
- No refueling probe.
- No red flash on fin.
- No numbers on intake splitter plates.

RF-4E #198 (early nose)
Atalef (Bat) Squadron
 119 Squadron, Ramat David, Israel



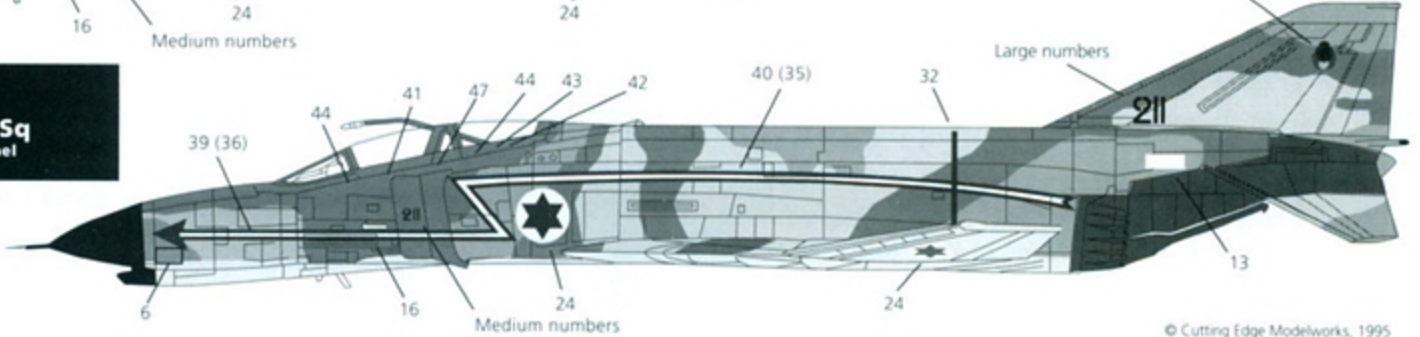
RF-4E #497 (late nose)
Patishim (Hammers) Sq
 69 Squadron, Ramat David, Israel

This aircraft is Light Ghost Gray FS 36375 and Dark Ghost Gray FS 36320 in a pattern similar to the South Korean scheme.

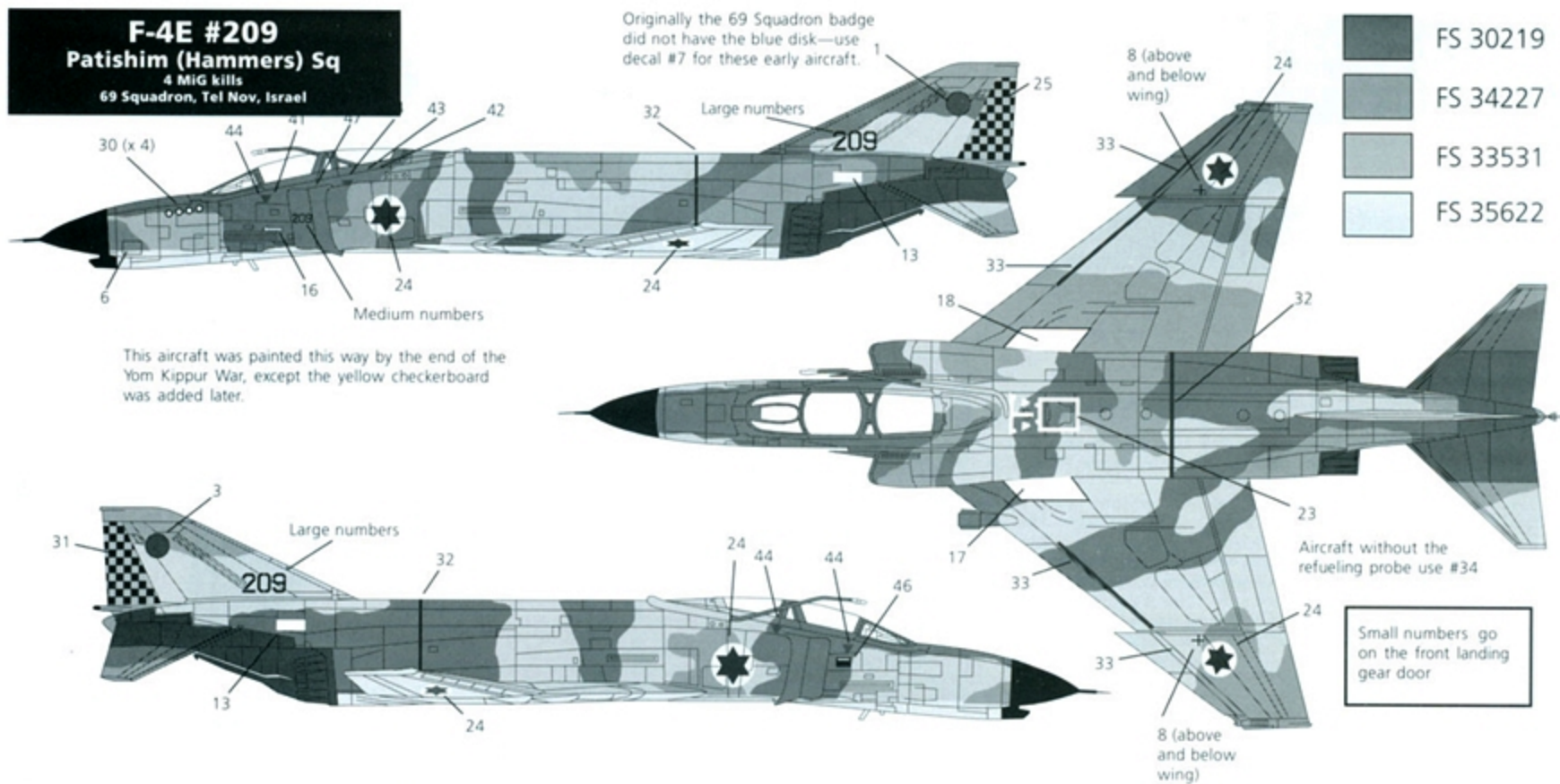


F-4E #211
Akrav (Scorpion) Sq
 105 Squadron, Hatzor, Israel

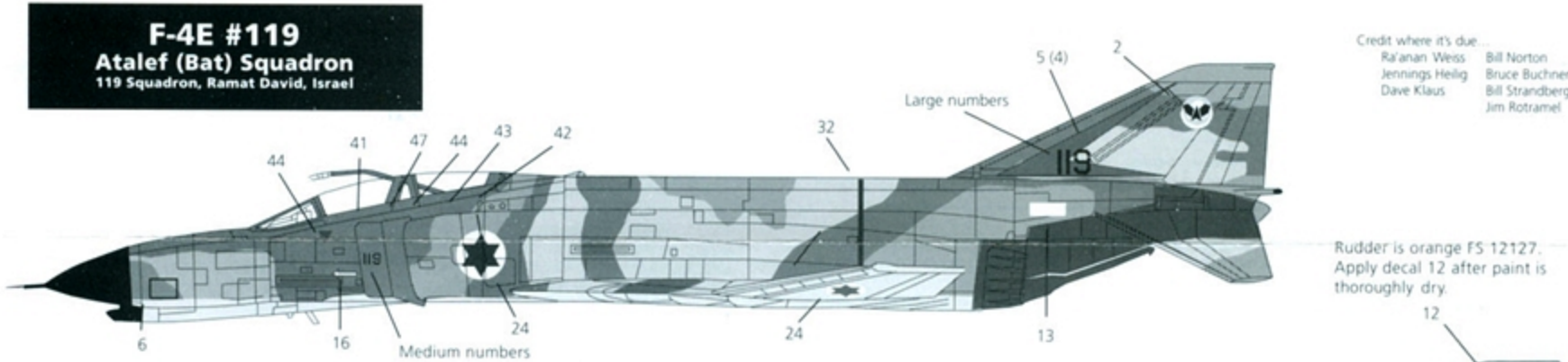
This is the 1982 Lebanon War scheme for this aircraft.



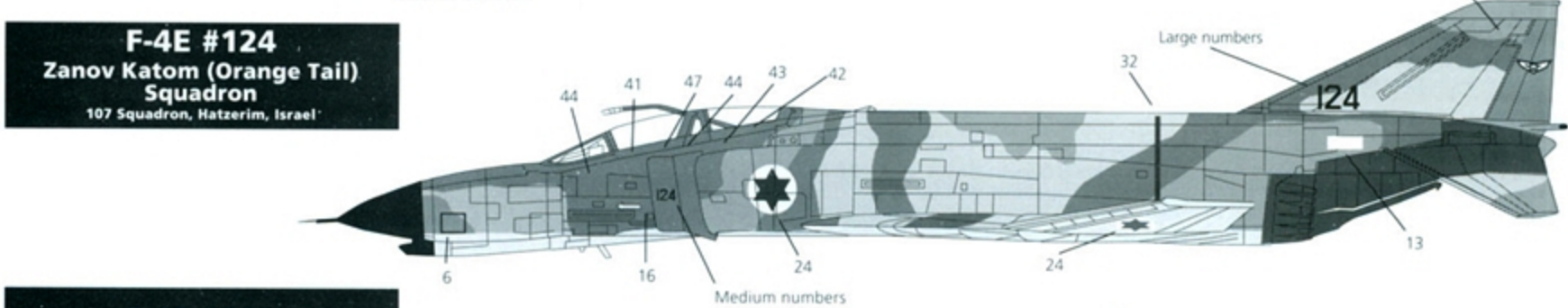
F-4E #209
Patishim (Hammers) Sq
 4 MIG kills
 69 Squadron, Tel Nov, Israel



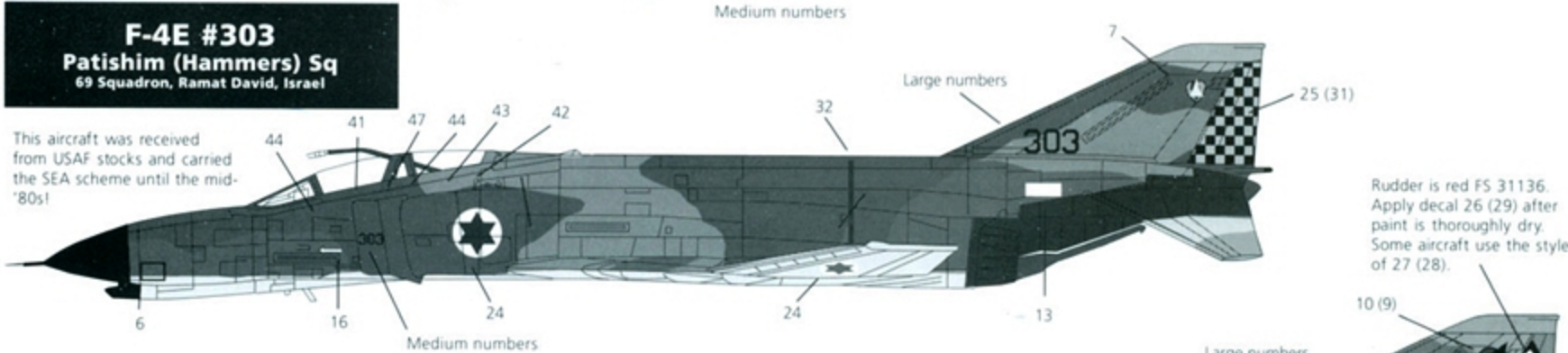
F-4E #119
Atalef (Bat) Squadron
 119 Squadron, Ramat David, Israel



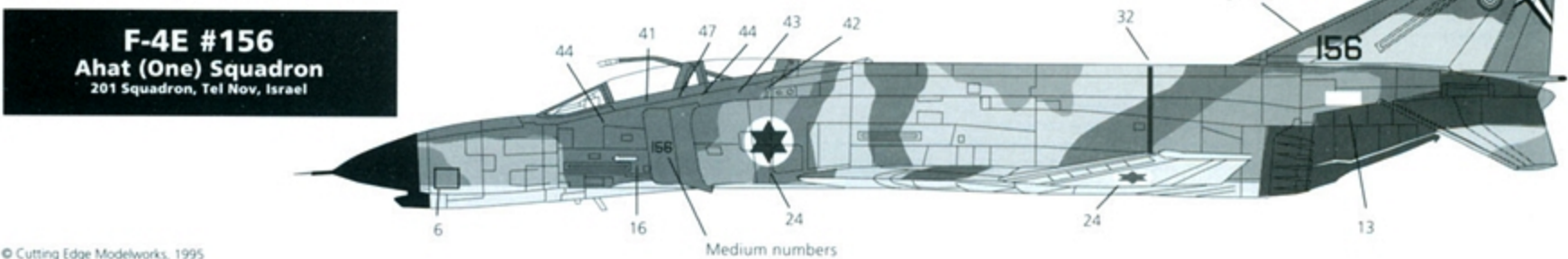
F-4E #124
Zanov Katom (Orange Tail) Squadron
 107 Squadron, Hatzetim, Israel



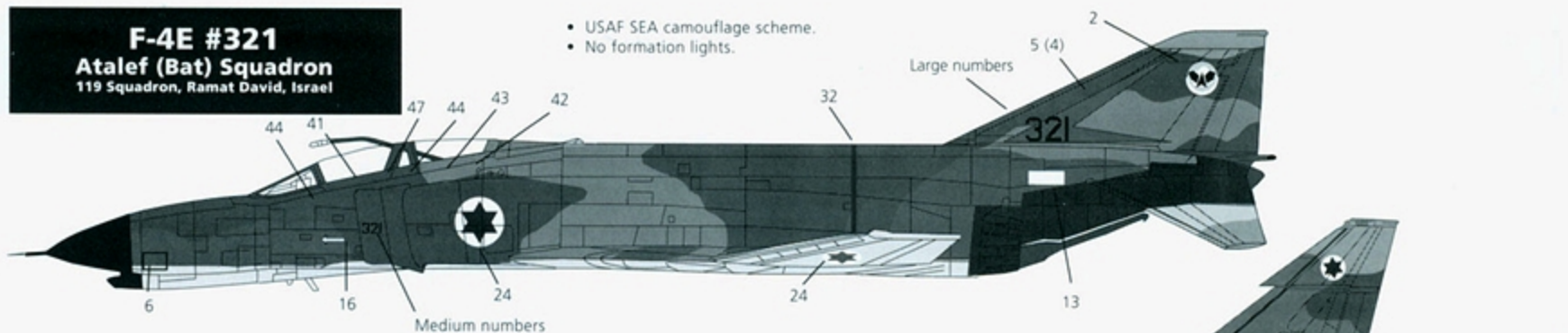
F-4E #303
Patishim (Hammers) Sq
 69 Squadron, Ramat David, Israel



F-4E #156
Ahat (One) Squadron
 201 Squadron, Tel Nov, Israel



F-4E #321 Atalef (Bat) Squadron 119 Squadron, Ramat David, Israel



General

- The first F-4 aircraft was received in September 1969 at Hazor (Hatzor).
- F-4Es delivered before the Yom Kippur war had the short M61 Vulcan cannon blast diffuser until shortly before the '73 Yom Kippur war, when they were replaced by the long Midas 4 gun blast diffuser. The original short muzzle caused a loud whistling sound that could be heard before the aircraft was seen, and caused engine flameouts when the gun was fired!
- During the '73 Yom Kippur war, Israeli F-4E losses were extremely heavy. President Nixon approved rapid transfer of replacement F-4Es to Israel directly from USAF operational units (4 TFW & 401 TFW), resulting in the almost overnight disappearance of an entire USAF squadron at Torrejon. Named Operation Nickel Grass from the old TAC fighter pilot's song with the refrain "Throw a nickel on the grass, save a fighter pilot's ass!," 36 aircraft were ferried to Israel between 12-15 October 1973. At least one F-4E went into battle still wearing the "SJ" 4th TFW tail code! These aircraft were delivered in standard USAF SEA (Southeast Asia) camouflage, which most retained until the mid-'80s.
- The Israeli F-4s were delivered without slats and TISEO (Target Identification System Electro-Optical) until after November 1972. Most aircraft were retrofitted after the Yom Kippur war with TISEO.
- The external refueling probe was fitted from 1981. The probe tubing enters fuselage just in front and slightly left of the standard IFR receptacle. A short length of capped pipe remains when the probe is removed.
- All aircraft have slotted stabilators.
- A few aircraft have been photographed with the fin tip AN/APR-32 RHAW antenna, but most do not have it (see Kurnass 2000 section below).
- A very good description of Israeli F-4 operations appears in the WAPJ book—highly recommended!

Kurnass 2000

Kurnass 2000 External Differences at a Glance

- Fairing under gun tub for 3 or 4 knob antennas
- RHAW antenna at top rear of fin
- New (different) communications antenna on top of fuselage center
- Hebrew title "Kurnass 2000" on both sides of fuselage

- Given the age and hard use Israeli Phantoms have been subjected to, a major upgrade program named Kurnass 2000 was undertaken by the Bedek Division of Israeli Aircraft Industries in the mid-'80s. The first flight of a refurbished aircraft was on 11 August 1987 and the first delivery to an operational squadron on 9 April 1989. First combat operations began on 5 February 1991, with the last of the 50 aircraft modified delivered to the IDF on 12 April 1994.
- Upgraded aircraft have the inflight refueling probe, slatted wings and slotted stabilators, TISEO, and new outer wing panels.
- Cockpit changes include Kaiser (Elop) 981 wide angle HUD, dual multi-function CRT displays, etc.
- Rebuilt aircraft received new three-digit identification numbers.
- This upgrade program has been so successful that the Spanish Air Force has contracted with IAI to upgrade 50 of its aircraft to approximate Kurnass 2000 standards, including the inflight refueling probe.

F-4E(S)

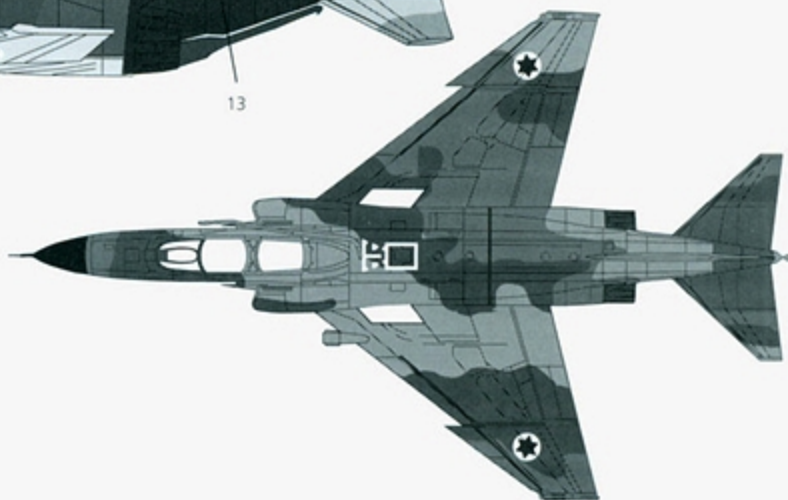
- The F-4E(S) ["S" for Special] is called the Oref (Raven) by the Israelis.
- Three Israeli Block 44 unslatted, non-TISEO F-4Es were sent to General Dynamics in 1974 for conversion to carry the General Dynamics HIAC-1 LOROP (Long Range Oblique Photography) and KS-87 cameras in the nose. The radar and gun were removed and the resulting nose is 12" longer than the standard F-4E nose. These three aircraft were the only operational airplanes to emerge from the larger "Peace Jack" upgrade program. Incorrect designations for this variant have surfaced over the years such as F-4P, F-4(X), RF-4(X), and RF-4E(X).
- A special sight for aiming the camera is mounted on the inside canopy sill.
- An excellent description of this program is on pp 4-5 of Minigraph 13 and in the WAPJ monograph.
- One aircraft was reportedly shot down by a SAM on 24 July 1982. Certainly the other two remain in service.
- The aircraft wear standard Israeli F-4 camouflage with painted on black "radomes."
- They have unslatted wings and slotted stabilators.
- These aircraft are reported to now have an electronic warfare role, and since they and their mission are secret, photos of them in operational service are scarce. The only photo we know of shows #498 with 119 Squadron markings and an unexplained Iraqi MiG kill marking on the side!

RF-4E

- The initial RF-4s delivered were in the standard Israeli camouflage scheme. Later aircraft in the 75-418 to 75-423 range were delivered in the overall Compass Ghost scheme similar to that of the South Korean AF.
- These aircraft have unslatted wings and slotted stabilators.
- These aircraft can carry Sidewinders and Pythons.
- As usual with RF-4s, photo flash cartridge ejectors were fitted.
- The final deliveries included AN/UPD-4 SLAR & antennas/data link in a modified centerline fuel tank.
- The RF-4 mission now includes ELINT, so additional equipment, antennas, etc., have been added to the airframes. These installations remain secret, so the aircraft are seldom photographed.
- We believe the RF-4s have always been allocated to the fighter squadrons rather than grouped in a separate recon squadron.

Stores

- All Israeli F-4s and RF-4s can carry offensive and defensive armament.
- An example list of types of missiles and bombs Israeli Phantoms have carried includes: Gabriel, AGM-78 Standard ARM, AGM-45 Shrike, GBU-15, Maverick, AIM-9 Sidewinder (on standard pylons and in the forward Sparrow bays), AIM-7 Sparrow, Python, Luz, Vulcan 20mm gun pod, Popeye, Pyramid, Opher, Griffin, Guillotine, Sampson & Delilah drones, the full range of standard USAF bomb series as carried on US Phantoms (low drag, high drag, and precision), as well as all other stores carried by US Phantoms.



- The Israelis use the 370 gallon Sargent-Fletcher drop tanks on the wings almost exclusively; the 600 gallon tanks are almost never seen in photos.
- Electronic pods carried include the ALQ-71, ALQ-72, ALQ-101, ALQ-119, and undoubtedly others. The AVQ-23 Pavé Spike TV-laser pod can be carried in the forward left Sparrow bay.
- It has been reported by some sources that the Israeli F-4s are capable of carrying the range of Israeli atomic bombs, but we have no specific information on this.

Camouflage and Markings

- Your Cutting Edge decal set includes a multitude of markings for Israeli Phantoms—far more than just the insignia for the planes illustrated on this sheet. Different number styles, wing walks, kill markings, etc., give you the option of modeling nearly any operational Israeli Phantom—go wild!
- The basic factory scheme for Israeli F-4Es was FS 30219 / 34227 / 33531 / 35622 applied according to a single pattern (see diagram), and were remarkably uniform when the first aircraft were delivered. However, over time, while the colors have remained the same and the patterns look alike at quick glance, now no two Phantom patterns are exactly the same. As usual, check your references carefully for the specific aircraft you're modeling!
- Aircraft delivered directly from USAF stocks or operational units arrived in standard USAF SEA (Southeast Asia) camouflage of FS 30219 / 34102 / 34079 / 36622. These aircraft generally remained in this scheme until the mid-1980s, when they were repainted in standard Israeli colors. The green camouflage earned these aircraft the nickname Karpadah (Toad)!
- The red stripes on the wings (decal #33) is applied only on slatted wings.
- The large three-digit aircraft number (which periodically changed for security reasons) was originally painted on the upper center of fin. It was later moved to the lower forward fin.
- Medium aircraft numbers were repeated on intake splitter plate from the mid-'80s.
- The aircraft number also appeared on the nose wheel gear door in small digits.
- The aircraft were stenciled with standard American data markings when they left the factory and continued carrying them until the late '70s. However, certain Hebrew language stencils were applied from 1971. We give you the main variants on our decal sheet. Panel descriptions were eventually removed and only the panel numbers remained. Finally, the aircraft received complete Hebrew stenciling.
- Drop tanks can be seen in both Israeli camouflage and USAF SEA camouflage—sometimes one of each on the same aircraft. Tank tips are nearly always painted red or black, probably as a safety marking.
- Until the late '70s, wing walkways were black outlines only. Yellow walkways began around that time, and the gray walkways were seen starting with the Kurnass 2000 aircraft (although some K2000s still have the yellow walkways).
- There has been much conjecture about the ownership of aircraft with the cranked red or red/white arrow along the fuselage. This is a 105 (Scorpion) Squadron marking, although some aircraft were transferred to other squadrons still wearing the marking.
- We have not included the much represented #187 sharkmouth. This marking appeared on only one aircraft and has been variously represented as the squadron commander's personal aircraft, an Israeli deception attempt to represent a nonexistent squadron, or as a test aircraft. Actually it was the test bird for the Israeli fixed leading edge slats, although it flew one operational sortie during the Yom Kippur war. It was battle damaged on that mission and sat out the rest of the war in a hangar, where the famous photo was taken.
- The purpose of the "+" marking on wings and tail is unknown, although it may be for gunsight alignment or perhaps balancing the parts assembly.

Bibliography

- *F-4 Phantom II: Israeli Phantoms in combat*, by David Eshel, Born in Battle Special War Data #5, Eshel Dramit, 1979.
- *Israel's Air Force*, by Samuel M. Katz, Motorbooks International, 1991
- *Israeli Air Force, 1948 to the present*, by Yehuda Borovik, Warbirds Illustrated #23, Arms & Armour Press, 1984.
- *McDonnell Douglas F-4 Phantom: Spirit in the Skies*, by Jon Lake, World Air Power Journal, 1992. This book is the best single reference available on the Phantom series aircraft.
- *McDonnell Douglas F-4E Phantom II*, by Tim McGovern, Minigraph 20, Aerofax, 1987.
- *McDonnell Douglas RF-4 Variants*, by Jay Miller, Minigraph 13, Aerofax, 1984.
- *Mid-East Aces, The Israeli Air Force Today*, by Philip Handleman, Osprey, 1991
- *Open Skies, The Israeli Air Force: 40 Years*, edited by Aharon Lapidot, Israeli Ministry of Defense, 1988.
- "Colours," by Mike Keep, Scale Aircraft Modelling, p 567. (shows sharkmouth #187, 618, 198).
- "Foreign Phantoms," by Ronald Drucker, Scale Aircraft Modelling, pp 441-455. (shows #110, 114, 642, 311)
- "Israel Aircraft Industries Displays F-4E Super Phantom Conversion," *Aviation Week & Space Technology*, June 29, 1987, p 92 & cover.
- *Israel Air Force Magazine*, Numbers 63, 64, 70, 83, 98, 176, etc., Ministry of Defense, Israel.
- "The Israel Code," by Paul Jackson, *Air Forces Monthly*, June, 1994, pp 40-47.
- "Report from Le Bourget," photography by Katsuhiko Tokunaga, Koku-Fan, August 1987, pp 21-24. Shows first Super Phantom.
- *Plastic Kits Revue*, #15, 1993 (F-4E(S))
- "Two Decades of Phantoms," by Ysgav Nakdemon, *Israel Air Force Magazine* 1990 Annual, pp 21-31.

More notes!

It may be a sign that you're putting too much information into a decal instruction sheet when the information you want to present runs to a ninth 5 1/2" x 8 1/2" page! Anyway, here is some additional information you'll need if you're building the Kurnass 2000 (and some other stuff as well).

Formation Lights

Formation light decals are included on the sheet in case your kit does not include them or has those awful yellow formation lights. Use them in the usual places (BUT check your sources carefully as some aircraft did not carry them, e.g., #3211).

Hebrew "Remove Before Flight" Pennants

Those long, thin, dayglow dealybobbles with the pointy ends and white Hebrew markings are plastic "Remove Before Flight" pennants with the Hebrew words on one side only. They are used interchangeably with the standard US "RBF" streamers.

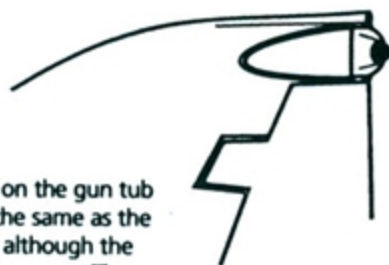
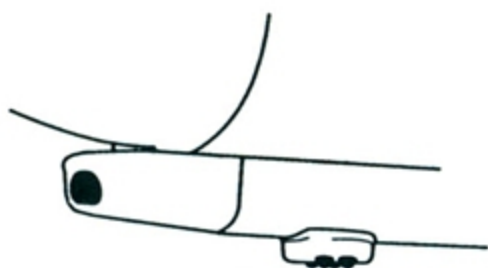
Slats and Slots

In case you can't follow the permutations of which aircraft had which (I can't, and I wrote it!), here goes:

- RF-4Es have unslatted wings and unslotted stabilators.
- F-4E(S)s have unslatted wings and slotted stabilators.
- F-4Es all have slotted stabilators.
- F-4Es received slatted wings from about the 1973 war to the present, including the Kurnass 2000s.
- So, there!

RF-4E Conversions

Paragon Designs (they master and mold the Xtraparts line too) makes gorgeous 1/48 RF-4 early and late profile nose conversion sets, which are available from Meteor Productions. The early profile stock number is PDU48087 and the late profile set is PDU48088.



Kurnass 2000 RHAW Antennas

These two drawings show the RHAW antennas mounted on the gun tub and each side of the fin. The blister above the rudder is the same as the APS-107 RHAW antenna base seen on some USAF F-4Es, although the antenna cover on each side has a knob antenna like on the nose. The antenna base plates are the same as the background camouflage color and the antenna covers are black.



Full size templates

Kurnass 2000 UHF Antennas

The scale drawings show the UHF blade antenna. One is mounted in the center of the spine with its rear base 15° in front of the red turbine warning stripe. An identical antenna is placed in the middle of the main nose gear door. Both antennas are light gray FS 36375.

Color Cross References

(taken from the **IPMS Color Cross-Reference Guide**—used with permission)

The Israeli colors are by now quite common in most lines of paint. A few common examples are listed here:

FS 30219	Xtracolor X102, Humbrol 119, ModelMaster 1742, Gunze Sangyo H310
FS 33531	Xtracolor X105, Humbrol 121, ModelMaster 1706, Gunze Sangyo H313
FS 34227	Xtracolor X148, Humbrol 120, ModelMaster 1716, Gunze Sangyo H312
FS 35622	Xtracolor X149, Humbrol 122, ModelMaster 1722, Gunze Sangyo H314
FS 34079	Xtracolor X110, Humbrol 116, ModelMaster 1710, Gunze Sangyo H309
FS 24102	Xtracolor X116, Humbrol 117, ModelMaster 1713, Gunze Sangyo H303
FS 36622	Xtracolor X140, Humbrol 28, ModelMaster 1733, Gunze Sangyo H311
FS 36375	Xtracolor X136, Humbrol 127, ModelMaster 1728, Gunze Sangyo H308
FS 36320	Xtracolor X135, Humbrol 128, ModelMaster 1741, Gunze Sangyo H307

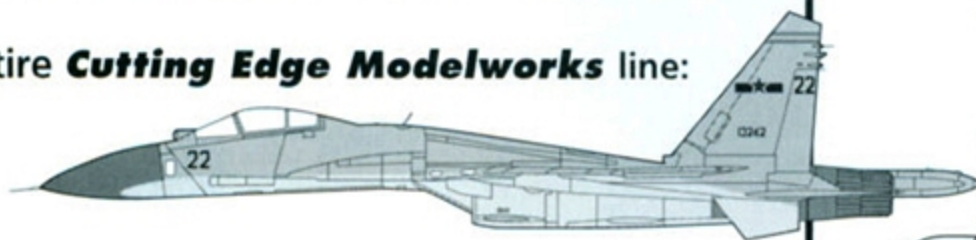


Enjoy the entire **Cutting Edge Modelworks** line:

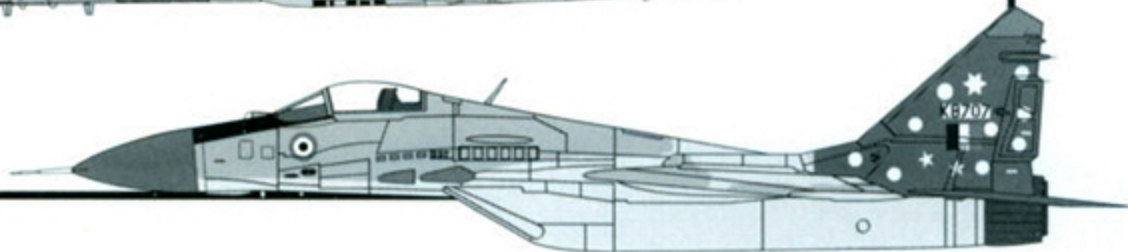
Decals!

Conversions!

Kits!



**Cutting
Edge**®
MODELWORKS



Applying the Decals

You probably already know all this stuff, so feel free to use your regular process...however, if you're new to aftermarket decals, here goes:

- Generally, use the Microscale Finishing System. We don't recommend extremely strong decal solvents such as Solvaset.
- Your model must have a smooth, glossy surface, as decals won't adhere well to matte surfaces. Use gloss paints or your favorite clear gloss overspray over matte or semigloss paint.
- Cut each subject out *without* trimming off the slight excess film (this helps the decal film disappear when dry).
- Put the decal in warm water that has a drop or two of liquid dishwashing soap or photo-flo for 10 seconds.
- When the decal will slide off the backing paper without forcing it, apply it to the proper position on your model. Slide the backing paper out from underneath.
- Gently blot off excess water and smooth out bubbles under the decal surface. If you wish, carefully brush on a mild decal softener such as Micro-Sol.
- When all decals are completely dry, gently wash off all excess decal adhesive.
- Finally, overcoat your model with a good quality gloss coat, followed by your choice of matte or eggshell clear topcoat.

Good luck and good modeling!

Write, call, or e-mail for our 80+ page catalog of decals, kits, conversions, tools, books, magazines, etc., and we'll send it to you right away!

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