

29 June 1999

White Ensign, 1st edition Errata

Page A-12: *Queen Elizabeth* class. Number in class: 2

Page A-15: *Trafalgar* class. 1998 post SDR: All *Trafalgar*-class submarines will be equipped with Tomahawk Block III. Will receive full *Astute*-class sonar suite as part of Update program (including Sonar 2065).

Swiftsure class. All except the lead boat have a shrouded pump jet propulsor (VQuiet signature).

Page A-19: Ca/Ch class: Change "Mk4 114mm" to "Mk5 114mm."

Page A-20: *Boxer* (Type 22/2) class. *London* (F95) onwards are COGAG, giving 30 knots speed.

Page A-20/21: *Leander/3A* (Sea Wolf): No F(2)1 Mk 6 114mm/45//1 Radar 903. 24 manual reloads for Sea Wolf. All have Sonar 2016, except *Jupiter* and *Scylla* (Sonar 2050).

Leander/2 (Exocet): GWS 22 system as below: F/SA/PA(4)3 GWS-22 w/4 Sea Cat//2 Radar 903

Leander/2TA (Exocet Towed Array). Four converted from *Leander/2*. Signature: Quiet (new ancillary machinery) In service 83? - 97?, 2nd Gen towed decoy, F GWS 22 and 1 Radar 903 removed. Mk9 40mm replaced with Mk4 20mm/80. Radar 965 removed. Sonar 2031 added. *Cleopatra* has no hangar, but still has pad for Lynx-sized aircraft helos.

Leander/1 (Ikara): GWS-22 system as below: SA/PA(4)2 GWS-22 w/4 Sea Cat//1 Radar 903

Page A-27: *Ocean* class has three Mk15 Phalanx arcs F, PA and SA. 30 mm guns as follows: P&PB/S&SB/SA/P(2)4 GCM-A03 30mm/75.

Page B-8: Harrier GR.7. 2 AIM-9L in all configurations.

Jaguar GR.1. Since 1991 - 2 AIM-9L in all configurations (overwing mount). From 1998 - FLIR, NVG, helmet sight, 3rd Gen D and Advanced bombsight.

Page B-9: Lynx HMA.8 (no longer HAS.8). As HAS.3 except has 3rd Gen ESM (Orange Crop), turret-mounted FLIR (120° arc).

Merlin HM.1 (no longer HAS.1) Nicknamed "the Flying Frigate" because it is as big and expensive as one!

Nimrod MRA.4 radar details unknown - use Searchwater, 3rd Gen ESM, decoys?, improved range (new engines) - assume 10%(?) 2 additional external hard points for 2 Harpoon or 4 AIM-9L.

Page B-10: Harrier F/A.2 (not FRS.2)

Page B-12: The Shackleton AEW.2 is fitted with the APS-20F radar, and the Orange harvest (1st Gen) ESM. It has a maneuver rating of 0.5/0.5.

Page B-13: Tornado F.3. Starting in late 1998, they can use ASRAAM in lieu of Sidewinders.

Tornado GR.4 No radar details provided – assume Tornado nose radar.

Page L-1 ECR-90. LD/SD, LPI, TF, Phased Array, performance superior to Blue Vixen. The Managing Director of Eurofighter GmbH has indicated the ECR-90 range is 200 nm vs. bombers and 100 nm vs. fighters (IDR September 1998). Range:
Lrg/Med/Sml/Vsml/Stlh: 200/128/80/36/20.

Page 79: *Invincible* class 1998 Air group: 7 Sea Harrier F/A.2, 7 Sea King HAS.6, 5 Harrier GR.7, 3 Sea King AEW.2

Page B-6 of the *Harpoon*⁴ Data Annex: Eurofighter Typhoon (all proposed changes are from 1st September 1998 IDR interview with the managing Director of Eurofighter GmbH). ECR-90 performance as indicated above. IRST max range is 74 km in air-to-air role. Maximum of 10 AAMs. Single centerline 1000 L drop tank may be carried and still classify aircraft as “lightly loaded”.

New Loadouts:

- 4 AMRAAM and 2 ASRAAM in all configurations:
 - 2 1000L tanks and 3 Storm Shadow ASMs (use Apache {France/Annex G4} until further information is available)
 - 18 Brimstone (use Hellfire {USA/Annex G4} with AMMRH until further information is available), 1 1500 L tank
 - 2 ALARM or AMRAAM, 3 GBU-24, 2 1000 L tanks
- Other loadouts include additional ALARM, iron bombs, BL755, LAU 5003. Sea Eagle cannot be carried at moment.

Future upgrade program options include:

- Thick wing strike version – increase range and payload
- AMSAR radar 360° coverage 50% range increase on ECR-90
- AMRAAM replaced with BVRAAM
- 3D Thrust vectoring (+1/1 D-ATA)

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