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SCALE Aircraft Modelling

THE INTERNATIONAL MAGAZINE FOR SCALE AIRCRAFT MODEL BUILDERS

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- * Jim Howard builds a two-seat Gustav
- * Terry Marriott asks, 'Is this what we need?'
- * Ian Huntley column: Morane Saulnier 230 paint scheme

MODELDECAL DECALS 1:72nd SCALE

- 2 F-4 Phantoms, late 1960s: VMFA-531 USMC, 497 TFS USAF, 767 Sqn. Royal Navy.
- 9 US Navy: A-1J Skyraider VA-176 1966, A-7E Corsair VA-195 1970, SH-3A Sea King 1967.
- 13 T-34 Luftwaffe 1968, Fiat G-91R/3 Luftwaffe 1969, F-104G Starfighter MFG1 1970.
- 14 RAF: Sabre F.1 234 Sqn. 1954, Vampire FB.5 12 Sqn. 1951, Chipmunk T.10 2 FTS 1971.
- 15 A-7E Corsair VA-113 'Stingers' USS Ranger USN 1970, AV-8A Harrier VMA-513 USMC 1971-72, F-4B Phantom VF-111 USN 1971.
- 17 T-33 4th Wing RCAF 1967, F-35 Draken 725 Sqn. Danish Air Force 1971, Mosquito FB.6 4 Sqn. RAF 1949, A-4G Skyhawk 805 Sqn. Royal Australian Navy 1969.
- 18 Royal Navy: Gannet Mk.4(COD) Ark Royal 1965, Sea Hawk F.1 898 Sqn. 1954, Wessex Mk.1 SAR Flight Ark Royal 1970, Avenger Mk.6 831 Sqn. 1958.
- 25 RAF: Lightning F.2A 19 Sqn. 1974, Canberra B.II 16 Sqn. 1972, Hunter FGA.9 45 Sqn. 1974, Harvard T.2B 500 Sqn. 1952.
- 26 RAF: Buccaneer S.2B 15 Sqn. 1974, Hunter FGA.9 58 Sqn. 1974, Canberra B.2 10 Sqn. 1956, Gazelle HT.3 CFS 1973, Royal Navy Gazelle HT.2 705 Sqn. 1974.
- 28 RAF: Canberra E.15 98 Sqn. 1974, Lightning F.3 29 Sqn. 1971, Jet Provost T.5.3 FTS 'The Swords' 1974, Royal Navy Hunter T.8 764 Sqn. 1964.
- 30 RAF: Phantom FGR.2 29 Sqn. 1975, Javelin FAW.8 41 Sqn. or 85 Sqn. 1963, Jaguar GR.1 17 Sqn. 1975, Jaguar T.2 17 Sqn. 1975, Dutch Navy Tracker 320 Sqn. 1974.
- 33 British a/c post-war serial letters (black): 16 in., 18 in., 20 in., 24 in. heights. Examples of types using these sizes: Meteor, Sabre, Jaguar, Lightning, Harrier.
- 34 British a/c post-war serial letters (black): 30 in., 36 in., 48 in. heights. Examples of types using these sizes: Canberra, Phantom, Buccaneer, Gannet.
- 35 British a/c post-war serial numerals (black): to be used with sets 33 and 34.
- 36A British a/c post-war serial letters, numerals and titles (black): 4, 8, 12 inch heights. Titles in varying sizes, include 'Royal Navy', 'Royal Air Force', 'Army' and 'Royal Marines'.
- 37 RAF: Phantom FGR.2 56 Sqn. 1976 or 2 Sqn. 1971, Sabre F.1 20 Sqn. 1955, USAF F-111E 20th TFW 1976 in full Bi-Centennial markings. L'Armee de l'Air Mirage III E.C.2/4 1976, L'Armee de l'Air CM170 Magister with several options included.
- 38 RAF: Provost T.1 1FTS 1959/60, Vampire FB.9 58 Sqn. 1953, Jaguar GR.1 2 Sqn. 1976, S.A. Bulldog T.1 2FTS 1973 or London UAS 1976, L'Armee de l'Air Mirage MSF E.C.3/13 1973, Belgian A/F F-84F Thunderstreak 2nd F.B. Wing 1966.
- 39 WW2 British roundels and fin flashes, types A and A1. Type A diameters: 25, 30, 35, 40, 42, 45 inches. Type A1 diameters: 20, 28, 30, 34, 35, 42, 45, 45 1/2 inches. Fin flash widths: 15, 18, 21 inches.
- 40 WW2 British roundels and fin flashes, types A, A1, C, C1. Type A diameters: 45, 50 inches. Type A1 diameters: 49, 56 inches. Type C diameters: 40, 63 inches. Type C1 diameter 48 inches. Type A fin flash widths: 9, 12, 24, 27, 36 inches. Type C width: 24 inches.
- 41 WW2 British roundels and fin flashes, types C and C1. Type C diameters: 16, 32, 48, 50, 54, 56 inches. Type C1 diameters: 18, 36 inches. Fin flash widths: 12, 24, 36 inches.
- 42 WW2 British roundels, Type B. Diameters: 15, 25, 30, 32, 35, 40, 44, 48, 49, 50, 54, 56, 59, 63, 66 1/2 inches.
- Sets 39-42 give a comprehensive selection of standard styles and sizes of national markings as carried by British military aircraft of small to medium size during the 1938-47 period. Total content is 296 roundels and 60 inches (app) of assorted widths flashing.
- 43 RAF: Jaguar GR.1 141 Sqn. 1977, Jaguar GR.1 20 Sqn. 1977, JASDF F-4E/J Phantom 301 or 302 Sqn. L'Armee de l'Air F-84F Thunderstreak E.C.1/19 1961, Dutch A/F F/TF/RF-104G Starfighter, choice between either 306 Sqn. 311 Sqn. V1BVKL or 'Dutch Masters'.
- 45 IAT 1977(1). RAF: Lightning F.3 or F.6 11 Sqn., Hawk T.1 CFS. Armee de l'Air Mirage F.1c E.C.1/12. Norwegian A/F F-5A 'Jokers' 336 Sqn., Australian Navy Sea King HAS.50 817 Sqn.
- 46 IAT 1977(2). RAF: Harrier GR.3 233 OCU, Jaguar GR.1 226 OCU. Belgian A/F Mirage 5BA 8 Sqn. 3rd Wing. L'Armee de l'Air Super Mystere B.2 E.C.1/12 plus a camouflaged alternative. Luftwaffe F-4F Phantom '37+69' or '38+57' Jabo 36.
- 47 British military a/c Type D roundels and fin flashes, 1947 to date. Roundel diameters: 9, 12, 18, 24, 30, 33, 36, 48, 54, 84 inches. Fin flash widths: 12, 15, 18, 24, 30, 36 inches. Total content is 95 roundels and 21 inches (app) of fin flashing.
- 48 British military a/c post-war serial letters, numerals and titles (white), in 4, 8, 12 inch heights. Titles in varying sizes as described in set number 36.
- 49 Royal Navy: Sea King HAS.1 choice between 824 Sqn. 1970, 819 Sqn. 1977, 706 Sqn. 1978. HAS.2 choice between 824 Sqn. 1978, 820 Sqn. 1977, 826 Sqn. 1978 (complete markings for 1 a/c only). USN F-14A Tomcat VF-14 1976, CAF CF-104 Starfighter 429 (Tiger) Sqn. 1977. L'Armee de l'Air F-84G Thunderjet E.C.2/1 1963 or F-84E Thunderjet E.C.1/3 1953.
- 50 RAF: Hawk T.1 234 Sqn. 1978, Jaguar GR.1 31 Sqn. 1977, USAF Thunderjet 77th FBS 1963 or 307th FES 1952. Australian Navy A-4G Skyhawk 805 Sqn. 1977 as at IAT. L'Armee de l'Air SA330B Puma 1976-77 sky from three machines.
- 51 RAF WW2 (post August 1941) Sky squadron codes letters, in 18, 24, 30 inch heights, and a variety of styles, total of 286 letters.
- 53 RAF 1938-41 Medium Sea Grey squadron codes letters, 30 and 48 inch heights.
- 54 British military a/c red/blue roundels and fin flashing, 1970 to date. Roundel diameters: 8, 12, 18, 25, 27, 30, 36, 48, 54, 84 inches. Fin flash widths: 12, 18, 24, 36 inches. Total content is 82 roundels and 26 inches (app) of fin flashing.
- 55 IAT 1979. RAF: Phantom FGR.2 XV424 in Alcock and Brown commemorative flight scheme. Lightning F.3 Lightning Training Flight, Hawk T.1 63 Sqn. TWU.
- 56 RAF Lightning F.3 56 Sqn. 1965, Royal Navy: W. Lynx HAS.2 702 Sqn. 1978-80, choice from six options. Attacker FB.2 718 Sqn. or 1831 Sqn. 1965, L'Armee de l'Air T-33A 1976.
- 57 Royal Navy: Buccaneer S.2 700B Sqn. 1965 or 801 Sqn. 1965 or 800 Sqn. 1971. Sea Hawk FB.3 897 Sqn. 1956 or FGA.6 810 Sqn. 1956, RAF Sea King HAR.3 202 Sqn. 1978-9. L'Armee de l'Air Alpha Jet 314 Gp.Ecole or CEAM., 1978-9.
- 58 British military a/c post-war serial letters (white): 16, 18, 20, 24 inch heights.
- 59 British military a/c post-war serial letters (white): 30, 36, 48 inch heights.
- 60 British military a/c post-war serial numerals (white) to be used with sets 58 and 59.
- 61 British military a/c post-war serial letters and numerals (white), in current and earlier square styles, all 48 inches height.
- 62 Post-war French roundels and anchors: 240-900 mm.
- 63 Post-war French Air Force Sqn. Codes (black), in various styles: 240-530 mm.
- 64 RAF: Phantom FG.1 43 Sqn. 1981 or FGR.2a 56 Sqn. 1981 or 19 Sqn. 1980 or 23 Sqn. 1981 all these options with three-tone grey finish. Phantom FGR.2 92 Sqn. 1977 with grey/green camouflage. Hawk T.1 151 Sqn. 2 TWU 1981, Tornado GR(T)1 TTTE 1981.
- 65 RAF: Phantom FG.1 111 Sqn. 1980 or FGR.2a 92 Sqn. 1981 or 64 Sqn./228 OCU 1981 or 29 Sqn. 1981 all these options with three-tone grey finish. Phantom FGR.2 23 Sqn. 1978 or 19 Sqn. 1977 both with grey/green camouflage. Lightning F.6 5 Sqn. 1981 with two-tone grey finish. Royal Navy Sea Harrier FRS.1 899 Sqn. 1980.
- 66 Royal Navy (Falklands) April-Sept 1982: FRS.1 Sea Harriers 800, 801, 899 Sqn. all finished in E.D.S. Grey schemes. One complete a/c can be modelled from a 14 a/c selection. Sea King HC.4 846 Sqn. 1980-82 or as on return from Falklands. RAF Lightning F.6 5 Sqn. or 11 Sqn. 1982 both in three-tone grey finish. Additional decals provided for a 5 Sqn. grey/green Lightning F.6 as an alternative to the 11 Sqn a/c on set 45.
- 67 Royal Navy (Falklands) April-Sept 1982: FRS.1 Sea Harriers 809, 899 Sqn. all finished in Medium Grey schemes. One complete a/c can be modelled from an 11 a/c selection. RAF: Tornado GR.1 9 Sqn. or TWCU 1982. Puma HC.1 33 Sqn. 1980 or 230 Sqn. or 240 OCU 1982.
- 68 L'Armee de l'Air: MD450 Ouragan 2nd/4th Escadres de Chasse 4 ATAF 1963-55. An a/c from any one of eight units can be modelled. T-28A Fennec (Trojan) 1980, any one of five units. Alouette III F-MJBP Detachment d'Helicopteres de la Gendarmerie 1981.
- 69 L'Armee de l'Air: F-100D/F Super Sabres 3rd and 11th Escadres 1960-78, 7 units represented. Mirage F.1B/C 5th, 10th, 12th, 30th Escadres 1976-82. Aeronavale Vought F-8E(FN) Crusader 12th, 14th Flotille 1964-83.

- 70 RAF: Vulcan B.2/B.2A, all a/c finished in anti-flash white: 9 Sqn. 83 Sqn. 12 Sqn. 35 Sqn. all in 1963, 27 Sqn. 1962 230 OCU 1963. Tornado GR.1 617 Sqn. or ASF 1982-3. Lightning T.4 74 Sqn. 1965. Royal Navy Sea Harrier FRS.1's 800, 801, 899 Sqn. represented 1982-3.
- 71 RAF: Vulcan B.2/B.2A, all a/c camouflaged: XM597 101 Sqn. and 'Black Buck' ops, 1982-3, 50 Sqn. 1982-3, 35 Sqn. 1976, 617 Sqn. 1979, 27 Sqn. 1977, 35 Sqn. 1977, 230 OCU 1980, 9 Sqn. Sea King HAR.3 202 Sqn. Falklands 1982. Royal Navy Sea Harrier FRS.1 809 Sqn. 1982.
- 72 ABAAE Phantom FG.1 XT597 July 1983, as displayed in special Phantom 25th anniversary markings at the IAT. RAF: Phantom FG.1 111 Sqn. July 1983 as at IAT. Victor K.2 55 Sqn. or 57 Sqn. 1983. (Dark blue and red phoenix emblems also included as option for 57 Sqn. machine.) All finished in hemp scheme.
- 73 RAF: Tornado GR.1 27 Sqn. or TOEU Boscombe Down 1983-4. Phantom FGR.2's as at IAT 1983, 23 Sqn. or 29 Sqn. or 56 Sqn. Further alternative 23 Sqn. a/c RAF Stanley 1983.
- 74 NATO Fighting Falcons: Dutch Air Force choice between F-16A's 'J-252' 322 Sqn. July 1983 in special 40th anniversary scheme, 322 Sqn. (standard) 1983, 323 Sqn. 1983, 315 Sqn. 1984, 311 Sqn. 1984, RF-16A 306 Sqn. 1983, F-16B TCA 1983, Belgian A/F F-16A's 31 Sqn. 349 Sqn. 350 Sqn., F-16B 10th F.B. Wing, all as in 1983. Danish A/F F-16A's 1984, Esk 723, Esk 730, F-16B Esk 727 1983. Norwegian A/F F-16A's 331 Skv 1982, 334 Skv 1984, F-16B 332 Skv 1983. RAF: Harrier GR.3's choice between 3 Sqn. as in 1977 and 1983, 1 Sqn. 4 Sqn. 1977, 'HARDET' 1453 Fitt 1983, 1417 Fitt 1980, or T.4 233 OCU 1980-82 as at Yeovilton, or T.2A 20 Sqn. 1974.
- 75 RAF: Tornado GR.1 15 Sqn. or 16 Sqn. 1984, also nose emblem only for TWCU/45 Sqn. to update ZA562 on set No.67. Jaguar GR.1 41 Sqn. Sept 1983, amended fuselage and fin emblems plus individual letter only. Victor K.2 57 Sqn. 1984, 'LVII' only to add to set No.72. Royal Navy Harrier T.4N 899 Sqn. 1984. Names for 809 Sqn. Sea Harriers to update set No.71 also included.
- 76 RAF: Phantom F-4J(UK) 74(F) Sqn. 1984-85. Any one of the fifteen squadron aircraft can be modelled. Tornado F.2 229 OCU 1984-85. Belgian A/F Mirage 5BR 42 Smaldeel (Sqn.) 2 Wing 1984, in special scheme for the 30th anniversary of the squadron.
- 77 RAF: Tornado GR.1 20 Sqn. 1984 or 31 Sqn. 1984-85. Lightning F.3 or F.6 Lightning Training Flight 1983-85, both with three-tone grey finish. Also included as options for the 5 Sqn. Lightnings on sets 65 and 66 are two sharkmouth sets as applied during mid 1984.
- 78 RAF: Lightnings of the non-operational units, choice between F.1A or T.4 226 OCU/65 Sqn., 1972, T.5 226 OCU/145 Sqn. 1970, F.1A 60 MU 1974, F.1A Binbrook TFF 1973, F.3 27 Sqn., 226 OCU 1974, F.1 AFD Sqn. CFE 1961. (Note: this wide range of Lightning options precludes the inclusion of underwing serials due to lack of space, but these can be taken from sets 33 and 35.) Harrier GR.3 choice between XV809 3 Sqn. with dark green overall upper surfaces, or XV738 4 Sqn. with dark sea grey overall upper surfaces, 1984.
- 79 'Raspberry Ripples' all. Dakota C.3 ZA947 RAE Farnborough, as at the IAT July 1985, in special Dakota 50th Anniversary Scheme. Alternatively may be finished in normal everyday scheme. Hunter T.7 choice between XL563 RAF Institute of Aviation Medicine 1982 or XF321 RAE Bedford 1980. Gazelle HT.2 XZ396 ETPS 1983-85.
- 80 RAF: Tornado GR.1 14 Sqn. or 17 Sqn. 1985. Hawk T.1/T.1A's in grey schemes 1984-85, choice from the following options: 1 TWU Brawdy 79 Sqn. or 234 Sqn., or 2 TWU Chivenor 63 Sqn. or 151 Sqn. Hawk T.1 ETPS 1985 in 'Raspberry Ripple' finish. Set also includes final unit emblems as applied to Harrier GR.3's of No.1453 Fitt. Falklands, 1984.
- 81 British WW2 dull red letters and numerals for standard 48 in. high by 24 in. wide by 6 in. stroke squadron codes. Intended primarily for large and some medium-sized aircraft.
- 82 British WW2 dull red letters in commonly used 48 in. high by 30 in. wide by 6 in. stroke squadron codes, for large and some medium-sized aircraft.
- 83 British WW2 dull red 48 in. high by 30 in. wide by 6 in. stroke numerals for use with set 82. Also includes complete alphabets and numeral blocks for standard 8 in. high serial numbering, in various styles.
- 84 British WW2 dull red 36 in. high by 4 1/2 in. and 6 in. stroke letters and numerals. Frequently used for squadron codes on medium-sized aircraft, and sometimes on the larger types.
- 85 RAF: Wyton-based Canberras, choice between E.15 100 Sqn. Sept/83, T.4 231 OCU July/83, T.17 360 Sqn. Sept/85, PR.9 1 PRU 1985. Italian Air Force Starfighters, choice from F/R-104G's of 3rd Stormo, and F-104S machines of 5th (Fairford 1985), 9th, and 53rd Stormos.
- 86 RAF: Hunters, choice between F.4 71 Sqn. 1956-7, F.6 1 Sqn. 1959, F.6 26 Sqn. 1958, FGA.9 1 Sqn. 1962, FR.10 4 Sqn. 1964. Hawk T.1 4 FTS Valley Sept/81. L'Armee de l'Air Mirage IIIIE, 1985 Special Schemes, choice from E.C.3/2, E.C.2/3, E.C.1/3.
- 87 German Tornado IDS aircraft, choice from TTTE Cottmores 1981, JBG.38 Jever 1983, WaKo Erding 1982, Erprobnustelle 61, Manching 1980. Separate codes included enable a wide modelling choice of different aircraft from the units listed. Belgian Air Force Mirage 5BA 'BA63' 8 Sqn. Oct/1984 in Special 15th Anniversary scheme.
- 88 RAF: Meteors selection, FR.9 8 Sqn. 1959, F.8 64 Sqn. 1957 or NF.12 64 Sqn. 1957 or NF.14 64 Sqn. 1958, NF.11 68 Sqn. circa 1958 (C.O.'s aircraft), F.8 153 Sqn. 1956 or NF.12 153 Sqn. 1957 or NF.14 153 Sqn. 1957, F.8 604 Sqn. 1957. (Note: this wide range of Meteor options does not include roundels, fin flashing and underwing serial numbering. The former two are intended to come from the kits, or Modeldecals set 47, the latter from sets 33 and 35.) L'Armee de l'Air: Mirage IIIIE E.C.2/3 1978, Mirage 5F E.C.3/3 as in 1974 or 1976, Mirage IIIIC E.C.2/10 1979 or 1985, Mirage 5F E.C.2/13 1980, Mirage IIIIR E.R.1/33 1978.
- 89 RAF: Phantoms, choice between FG.1 XV571 'A' 43 Sqn. Leuchars, as in 1984/5, August 1986 (70th Ann. scheme), or later 1986 scheme, two letter having black/white chequered spine and fin variations, FGR.2 XT900 'CO' 228 OCU/64 Sqn. Coningsby/Leuchars April 1987, FGR.2 XV333 'CA' 228 OCU/64 Sqn. Coningsby April 1987, HC.1 Chinook, 18 Sqn. 1981, 240 OCU 1982/5, 1310 Fitt. 1984, 78 Sqn. 1986/7, emblems and codes only provided as variations to decals in Matchbox kit. Puma HC.1 1563 Fitt. 1986/7, and Sea King HAR.3 78 Sqn. 1987, emblems only to update markings in sets 67 and 71 resp. Belgian A/F F-16A Fighting Falcon, FA-18 350 Sqn. 1 Wing 1986/7 in Special 45th Anniversary Scheme.
- 90 RAF: Tornado selection, F.3 ZE203 'BA' (C.O.'s), or F.3T ZE208 'BT' 29 Sqn. or F.3s ZE156 'AM' or ZE158 'AK' 229 OCU/65 Sqn. all as at Coningsby, April 1987. Phantom FG.1 XV574 'Z' 111 Sqn. Leuchars, 1985-87 with black spine and fin variations.

'MODELDECAL' style fully illustrated sheet, giving decal locations and full-colour scheme details, is included with all Modeldecals (except set Nos. 33-36, 39-42, 47, 48, 51-54, 58-63, 81-84 incl) and a selection of photographs is also included with most sets.

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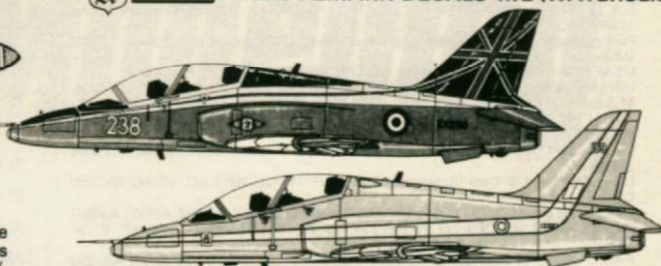
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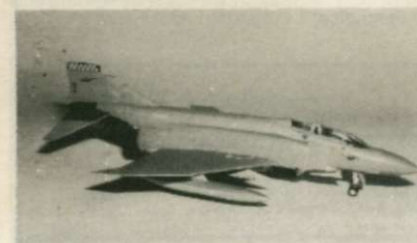
72-065	F-4B (3) VF-103 AC/207 Kittyhawk; VF-102 AF/108 Enterprise; VF-84 AG/208	72-324	RF-4B/C (5) VMFP-3 RF/23 Green Tail; VMFP-3 RF/14 Low Vis; 63-7753 General
72-066	F-4B/J (3) VF-31 AC/100 Saratoga; VF-33 AE/212 America; VF-64 AG/209		Graham CO Tac Recon Command; 63-753 Alabama ANG Photo Meet; 65-905 11
72-075	F-4B USMC (4) VMFA-323 WS/14; VMFA-323 WS/4; VMFA-232 WT/2; VMFA-314 VW/9	72-333	CAW 7 (3) F-4J VF-33 AG/200 CAG; also F9F-2 Panther VF-72 L/206; A-7E VA-12
72-076	F-4C/E (6) 557TFS 'XC'; 559TFS 'XN'; 556TFS 'XT'; 34TFS 'JJ'; 469TFS 'JV'		AG/400 CAG
	Shark mouth	72-338	CAW 8 (3) F-4J VMFA-333 Shamrocks AJ/113; AD-5W VAW-12 AJ/702; F9F-8
72-106	Israeli AF (4) F-4E; also A-4E, Mirage IIIC		VF-61 E/00 CAG
72-111	F-4B/J (3) VF-51 NL/100 CAG Coral Sea; VF-96 NG/100 CAG America; VF-114	72-344	Israeli AF (5) F-4E No. 187 with large shark mouth; also Spitfire, DH.89A; A-4M;
	NH/100 CAG		F-15A
72-112	F-4C/E (5) Vietnam, 489TFS 'JV'; 555TFS 'FG'; 34TFS 'JJ'; 58TFS 'ED'; TF-4C	72-369	RF-4C (4) 65-0897 Nevada ANG; 64-1063 Kentucky; 64-1050 1982; 65-8320
	11TR5 'OO'		Nebraska 1981
72-137	Fancy Phantoms (4) VC-7 Red; VX-4 Black Bunny; VX-4 Cam Blue/Green; YF-4C	72-371	F-4D/E (3) Wing COs. 4 TFW 1969 Seymour Johnson; 31TFW 1980 ZF; 3TFW 1979
	White		PN Clark AFB
72-144	USAF MiG Killers (5) F-4D Ritchie; 555TFS; also F-105D, F-86, MiG-15	72-380	F-4C (3) 64-0289 482 TFW AFRES FM; 64-0766 (2) Oregon ANG camouflaged and
72-145	USN MiG Killers (3) VF-111 Weigand; VF-142 NK/212 Davis; VF-161 NF/100 USS		ADC Grey
	Midway	72-385	F-4C/E (4) 63-7589 36TFS UK; 68-0493 1978 William Tell; 67-0275 3TFW; 68-420
72-155	F-4B/J (4) CoMAG-22 DW/100; VMFA-312 DR/4; VMFA-235 DB/9; VMFA-232		45TFS FB
	WT/10	72-410	CAW 6 (3) F-4J VF-102 AE/100 CAG; A-7E VA-87 AE/400 CAG; F-14A VF-32
72-164	F-4 Phantom Data. Black. Stencil data, Warnings, Instrument Panels etc. 2 USAF,		AE/205 or AE/212
	2 USN	72-412	USMC Low Vis (4) F-4J VMFA-115 VE/7; F-4S VMFA-333 DM/-; A-4M VMA-311
72-174	F-4B/J (3) VX-4 Bi-Cent 'Screaming Eagle'; VF-111 NL/200 CAG; VF-142 NK/200		WL/450; VMA-211
	CAG	72-420	CAW 9 (2) F-4B 151409 VF-92 NG/200 CAG Ranger; A-7E 156831 VA-146 NG/311
72-198	F-4D/E (12) Inc 22, 23, 334, 335, 336TFS, N. Dakota; 57FIS; 49TFW; 4TFW; ADWC		Constellation
72-199	F-4J (5) VF-11 AA/100; VF-21 NE/206; VF-33 AG/202; VF-74 AA/210; VF-92	72-431	F-4E (5) 67-233 336TFS SC; 67-261 Okie; 70-269; 68-313 Spunky VI 34TFS JJ;
	NG/207		69-290 334TFS
72-200	F-4B/J USMC Bi-Cent (3) VMFA-312 DR/3; VMFA-321 MG/6; VMFA-451 AA/200	72-440	F-4N/S (3) 152226 VF-171 AD/257; 155864 VF/302 NO/204; 153908 VF/301
72-201	RF-48 (4) VMFP-3 RF/22; VMFCJ-1 RM/515; VMFP-3 RF/10; Bi-Centennial; F-4J		ND/101 Heater/Ferris
	VMFA-212 WD/03	72-441	F-4N/S (3) 153053 VF-154 NK/105 Coral Sea; 153872 VF-103 AA; 158767 VF-171
72-218	CAW-19 CAG (4) F-4B VF-51 NM/100; also A-1h, A-7A, F-8J		AD/201 Low Vis
72-224	F-4C/E (4) 63-7584 58TFW Bi-Cent & 1977; YF-4E 65-0713 Edwards; 5,000th	72-468	F-4C/D (4) Minnesota ANG; Alabama ANG; Louisiana ANG Coonass Militia 2 styles
	Phantom		F-4 Walkways. Black, Grey and Outline Walkways for USAF aircraft
72-237	F-4 Phantom Data. White. Stencil Data, Warnings, Instrument Panels etc. 2 USAF,	72-485	F-4 Walkways. Black, Grey and Blue/Grey Walkways for USN/USMC aircraft
	2 USN	72-486	F-4F/J (3) W. German 25th Anniversary JG-71; JBG-35; 74 Sqn 8 serials/codes
72-238	F-4M (1) XV424 Alcock and Brown Commemorative Aircraft		TIGER SQN
72-293	F-4D/E (4) USAF ADC Grey. 57FIS Iceland; North Dakota ANG; Hawaii ANG;	72-487	RF-4E (2) W. German 25th Anniversary AKG-51 25 + 75 Immelmann; AKG-52
	Michigan ANG		25 + 75 Tiger Meet 84
72-309	F-4N (2) VF-151 NF/201; VF-161 NF/100. Both USS Midway Bi-Centennials	72-490	CAW 11 (3) F-4J 155882 VF-213 NH/100 CAG; F-4G 150642 VF-213; A-6E 152521
72-310	F-4J/N (3) VMFA-232 WT/- Bi-Centennial; VMFA-531 EC/10; VF-151 NF/205 USS		VA-95 NH/503
	Midway	72-492	F-4C/D (3) Michigan ANG William Tell 1982 and 1984; Texas ANG; F-4D 89TFS
72-316	CAW 5 (2) F-4N 151400 VF-151 NF/200; also A-7A 153675 VA-56 NF/400 CAG		AFRES Dayton
72-317	CAW 4 (4) F-4J VF-101 AD/101; also F4U-4 Silber; AD-6 VA-105 AD/406; A-7E	72-541	F-4D/S (3) 66-681 160 TFS Alabama ANG; S 155827 VMFA-312 DR/05; 153860
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72-320	RF-4B/C (4) VMFCJ-3 TN/-; 64-009 363 TRW 'JO'; 66-423 153 TRS Mississippi ANG	72-554	Phantom FG.1/FGR.2 (4) XV590 892 Sqn 001/R; XV469/T 56 Sqn; XV467/Q 92
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EDITORIAL STAFF

Managing editor:
Alan W. Hall

Editor:
Mike Keep

Production:
Reg Baram
Ivor Minchinton

Editorial assistants:
Lindsay Peacock
Terence Marriott
Ernie Lee
Ian D. Huntley
Mike McEvoy
Brian Thorne

Photographic advisory service:
B.N. Stainer,
Aviation Photo News

Advertisement manager:
John Haslam

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SCALE Aircraft Modelling

THE INTERNATIONAL MAGAZINE FOR SCALE AIRCRAFT MODEL BUILDERS

Editorial

SUCCESS BREEDS SUCCESS

NO ONE I have spoken to, to date, has said anything to lessen the success of the 1987 International Plastic Modellers Society National Competition at Stoneliegh in the beginning of November. It was indeed pleasing to see so many people, estimated to be over 4,000 and just about double the 1986 record, come through the doors and also to listen to all the trade stand proprietors saying that they had either sold out completely or that they had never had a better year. It seems that the modeller saved up his hard earned cash for this event and spent it lavishly on the many new kits and accessories that were available. There was hardly a single stand that did not have something new worth buying.

IPMS seem to have got the formula right and although everyone wants to see growth, in this particular case, is it worth it? The Nationals have become such an institution and attendance of such importance to everyone in the trade as well as the modellers themselves that it would be wrong to over commercialise it in the way that the Model Engineer exhibition at Wembley deals with the same sort of thing but on a much larger and far more professional way. I think we can safely say that for the next few years at least those of us who have seen IPMS grow would prefer to leave things exactly as they are and let the amateurs run this show.

Of course they make mistakes, who doesn't? But it is because of the amateur status of the show that creates the spark of enthusiasm rather than dampens it under a cloak of officialdom and certainly greater expense for everyone concerned. The Model Engineer exhibition is needed and long may it survive, but let's leave Stoneleigh as it is at present and not try to change it. I sincerely suggest to the IPMS committee organisers that they would do well to keep stand prices low, keep the entrance fee at its present economical level and leave it to the modeller to make the Nationals a commercial success because he cannot afford to miss it.

We will be producing our own report on the event in the next issue as the time difference between our getting home and this month's press date was too short to ensure a satisfactory summary of the weekend but one's initial reactions and those to whom we have spoken, show that everybody went away fully satisfied. We believe that there were less models on show this year but once again the standard seems to have risen and there were many examples of superb workmanship on display. What genius there is at work that can make plastic turn into such creations of engineering perfection.

Those who went to the manufacturers seminar heard the panel give their views on the ever present question of whether or not we are seeing the start of a revival of interest in plastic modelling. Obviously those present thought that there were grounds for optimism and this can only be echoed by the success of the Nationals themselves. Standards have been set, the earlier problems seem to have been solved and we can do little but look forward to a similarly classic weekend next year.

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Front cover: A rare colour picture of a wartime Anson Mk.I. Little is known about this picture apart from the fact that it was taken at North Weald and shows the method of hand cranking the aircraft's Cheetah engines. (Charles E. Brown/RAF Museum)

AIRCRAFT IN DETAIL



AVRO ANSON Mk. I-X

Alan W. Hall details the history of Avro's general reconnaissance monoplane that became a world famous trainer during World War 2.

ALTHOUGH the Anson was to have an unequalled wartime role, few realise that its conception was as a fast, twin-engined low wing airliner designed for up to six passenger seats and capable of cruising at about 150 mph over a range of some 600 miles. The idea was founded by some of the then famous Fokker designs which were adapted from high to low wing by Roy Chadwick, Avro's design team head and given the company designation of Avro 652.

The design had great potential, but during the same period, that is around 1933-34, the Air Ministry were also seeking new designs from British industry to make up for some of the obvious gaps and otherwise outdated aircraft that were at that time in use by RAF squadrons. It was a time of re-armament and the specification placed before Avros by the Air Staff could easily be fitted by the Avro 652 with a little adaptation and the addition of armament.

The two designs went ahead side by side. Imperial Airways ordered two Avro 652s which they named 'Avalon' and 'Avatar' and registered G-ACRM and G-ACRN. The latter was however, hurriedly renamed as on a tour of the Balkans it was discovered that the word had rather rude connections and the aircraft very rapidly became 'Ava' to avoid a political incident. Both aircraft gave exemplary service to Imperial Airways flying the route between Croydon and Brindisi in Italy at an average speed of 165 mph, almost unheard of until that time. Both were eventually sold after war was

Anson ancestor. G-ACRN was an Avro 652, the original civil airliner, two of which were built for Imperial Airways in 1934. This one was named 'Ava' and was eventually sold to Air Service Training ending its days during the war with the Royal Navy. (MAP)

declared to Air Service Training Ltd and they both went to work as navigation trainers at No.11 Air Observers Navigation School, Hamble where they were impressed into the RAF in 1941 and sent to No.1 School of Photography, Farnborough before moving to the Navy at Lee-on-Solent five months later and eventually ending their days at that airfield.

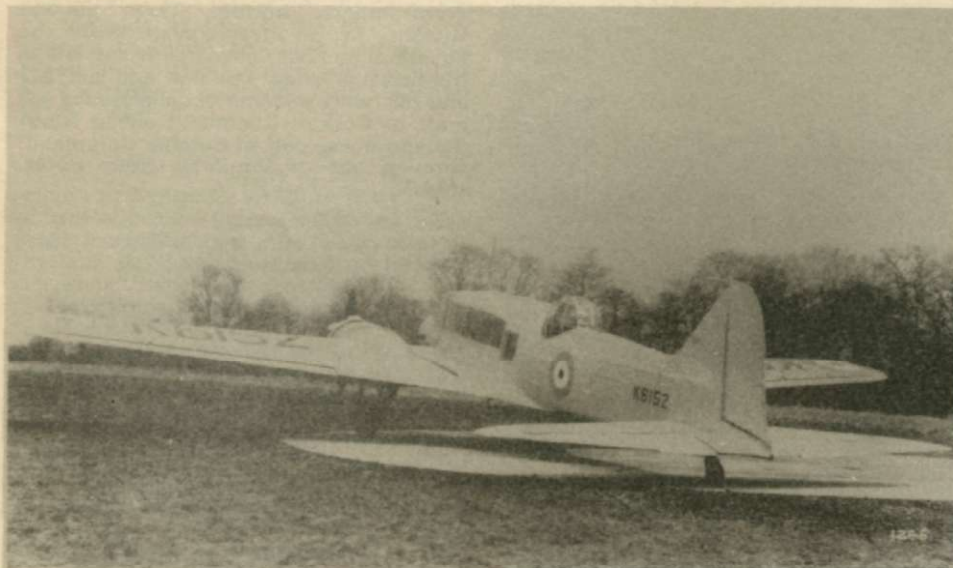
THE MILITARY VERSION

Air Ministry Specification 18/35 was written around Roy Chadwick's proposals for a military general reconnaissance version of the Avro 652 and based on designs submitted in May 1934 in which the manufacturers designa-

tion was given as the Avro 652A. The aircraft was to be fitted with 295 hp Cheetah engines in helmeted cowlings and have a single Lewis gun in an enclosed turret in line with the wing trailing edge and another machine gun in the nose. The bomb load was to be 360 lbs carried in the centre section.

The first prototype K4771 flew on 24 March 1935 and service trials took place at Gosport where the Avro 652A's rival, the de Havilland DH.89M, a military version of the Dragon Rapide, came off second best. The Air Ministry placed an order for 174 Ansons and the first production prototype flew from Woodford, Cheshire on 31 December 1935 serialised K6152.

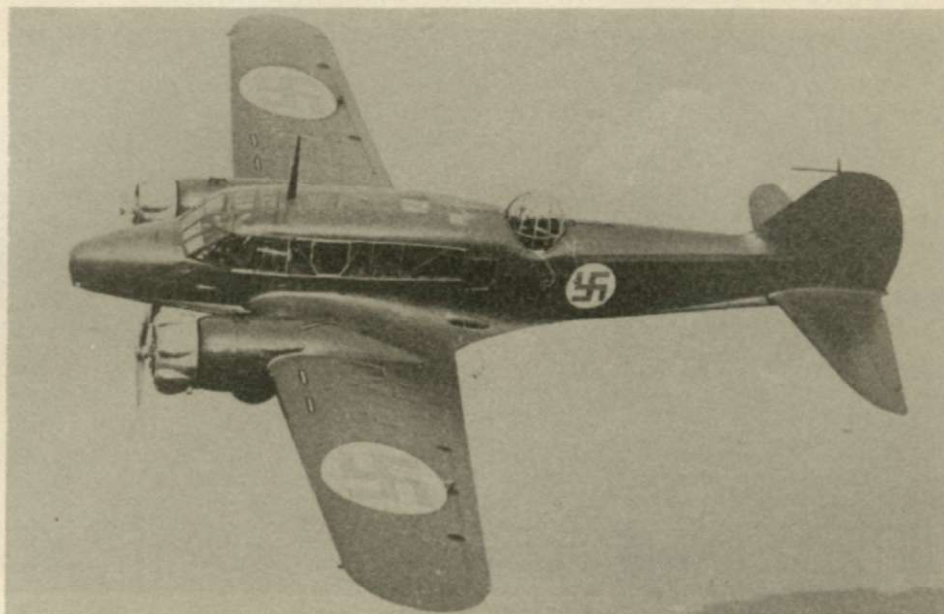




The first production Anson K6152 flew from Woodford on 31 December 1935. It was retained for trials by A.V. Roe but was later issued to No.220 Squadron on 5 May 1939. Note the serials marked on top of the wing, a practice that appears to be exclusive to the early Ansons. (MAP)

The actual time taken to get the designs approved and into production was less than two years, something of a record when considered against present day gestation periods for modern military aircraft.

Tests at A&AEE Martlesham Heath had concluded that the prototype should have a 25 per cent increase in tailplane span and a reduction in elevator area. The design finalised continued thereafter with very few alterations apart from a change in the angle of the windscreen and the removal of the fluted cowlings and their replacement by smooth surfaced ones right through to the end of production. Shortly after the Munich crisis, this Anson Mk.I has been camouflaged in the standard Bomber Command scheme with black undersides. It belonged to No.52 Squadron whose unit number was retained in white on the fuselage sides. (MAP)

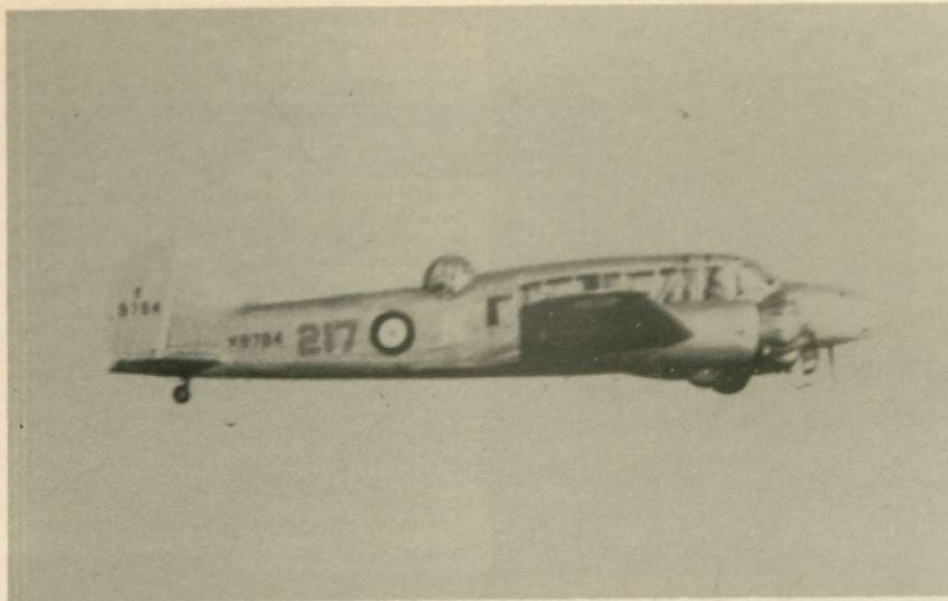


duction of the Anson Mk.I.

Small improvements were made to the Anson as it entered service and teething troubles were overcome. One of these was the ever present problem common to all pilots who had learned to fly on fixed undercarriage aircraft in that on occasions they forgot to wind down the Anson's wheels before landing. Several avoidable crashes occurred until a warning horn was installed (Modification No.106). This provided audible warning when the aircraft slowed to landing speed. All Ansons were retrospectively fitted with this device. External oil coolers were also fitted to the engines which appeared on the starboard side of each nacelle.

After entering service the sloping windscreen of the original production batch aircraft was found to leak badly in wet weather. To overcome this it was decided to install a simpler two panel unit which also had the advantage of improving visibility during bad weather conditions.

With the coming of war Ansons were camouflaged. AN101 was one of three Anson Mk.I's delivered to Finland before the war. (MAP)



From top to bottom. Three pre-war Ansons in all-silver finish with the squadron number conveniently painted on the fuselage sides. The first and last, 217 and 269, were general reconnaissance aircraft of Coastal Command whilst No.61 Squadron was part of Bomber Command, forming one of the first Group Pools. (MAP)

flaged and contemporary records show that the addition of the extra amount of paint added some 30 lbs to the all-up-weight.

OPERATIONS AND TRAINING

The first Anson delivered to the RAF was K6153 which arrived at RAF Manston, Kent, on 6 March 1936. It was handed over to No.48 Squadron who, apart from their operational duties, also took on the task of navigation training for what was to become RAF Coastal Command. The School of Navigation which was also at Manston merged with No.48 Squadron making the unit the largest to operate Ansons pre-war.

No.206 Squadron, the next to be formed also started its Anson days at Manston but later moved to Bircham Newton, Norfolk in July 1936, its initial equipment consisting of Ansons K6175 and K6179. Production now being in full swing, there followed a number of other units destined to use the aircraft operationally for some time before and after the outbreak of war. Nos.220, 269, 224, 217 and 233 were all equipped by May 1937 and several Auxiliary Air Force squadrons changed their role to general reconnaissance to supplement the strength of Coastal Command which was formed at about that time. Nos.500, 502, 608 and 612 Squadrons became equipped with the type during 1938 and 1939.

It is interesting to note that the Anson was, up until the Munich crisis, left in silver dope overall and an unusual feature was that many had their serial numbers painted above the wing as well as underneath. The exact reason for this unique marking has never precisely been defined. After Munich the temperate land scheme of camouflage which consisted of dark earth and dark green was applied to all upper surfaces while the undersides were painted black or light grey.

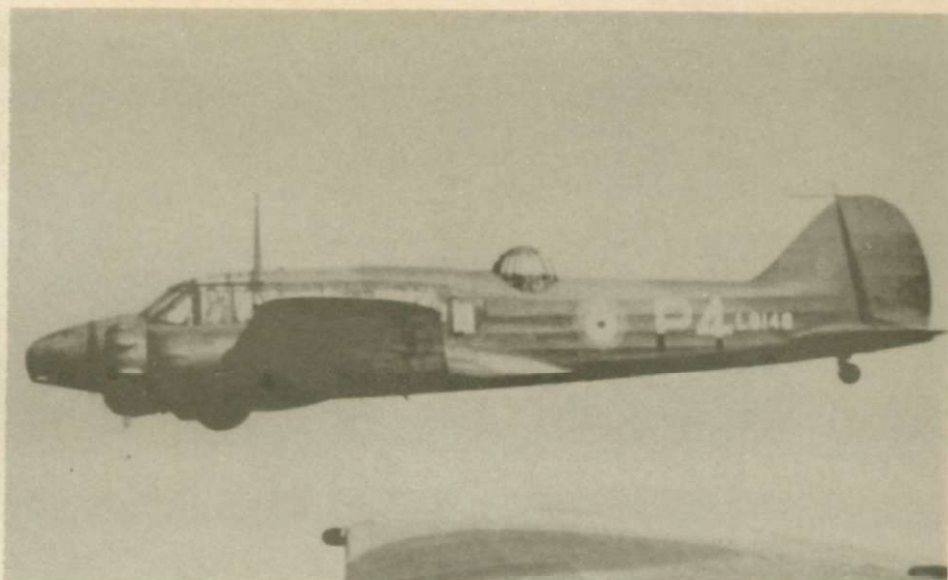
With the introduction of so many new

The unusual presentation of the code 'P4' on the side of this Anson Mk.I which appears to have the lower half of the letters in a different colour was traced to No.1 Air Observe School from its serial L9148. (MAP)

squadrons a further order for Ansons was placed by the Air Ministry in 1936 when 135 more were contracted, K8720 being the first of these to have the upright windscreen and a further modification which incorporated hydraulically operated Schrenk flaps to steepen the aircraft's approach when landing.

Out of this batch three were diverted to Finland and one to the Estonian Air Force. In October 1936 a special Anson registered SU-AAO was cleared for a take-off weight of 8,000 lbs and flown to Egypt where its suitability was demonstrated to the Egyptian Army Air Force as a bomber transport. Other Ansons manufactured for overseas destinations were two for

Anson N9838 was part of the School of Air Navigation and was one of the original aircraft shipped to Canada in 1940. (MAP)

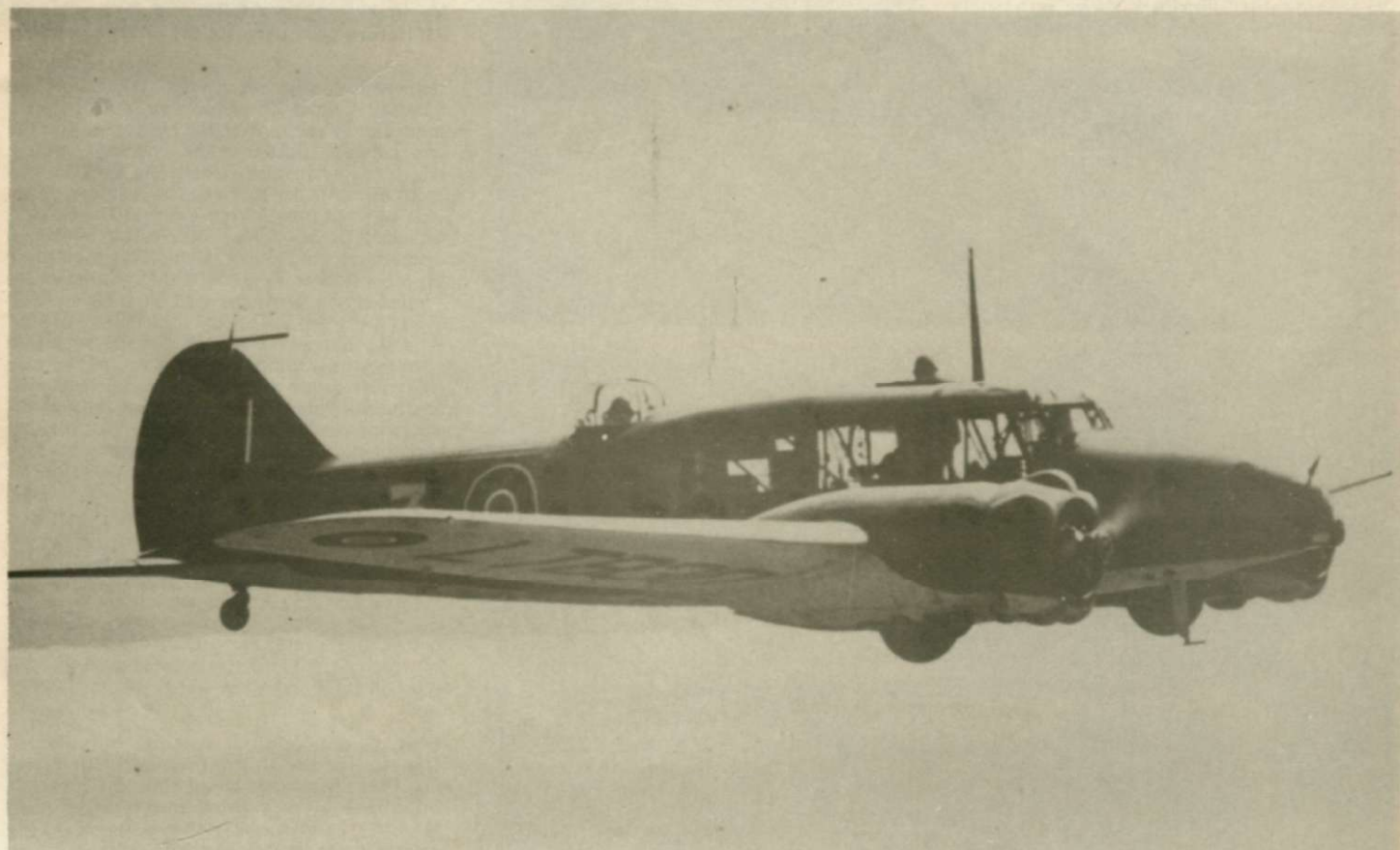


the Irish Air Corps (serialled 21 and 22), six reached Turkey out of an order for 25 which had to be curtailed because of the war whilst a further 12 reached Greece again in civil markings. Many of these were destroyed or captured by the Germans following the invasion of Greece but a few escaped and set up a light bomber squadron of the Greek Air Force in Egypt which was absorbed into the RAF and engaged in the desert war. The final disposition of Ansons to foreign powers was a small number of RAF aircraft which were transferred to the Royal Iraqi Air Force between 1938 and 1939 but were destroyed during the Mosadeq uprising in May 1941.

COASTAL PATROLS

At the start of the war the Anson was the

An Anson Mk.I fitted with the Bristol B.1 Mk.VI turret for gunnery training. The aircraft's unit cannot be identified but it obviously had the standard training colour scheme of dark green and dark brown on the upper surfaces and yellow undersides.





Above: A number of Ansons were formed into two squadrons composed of ex-Dutch aircrew who escaped from Holland during the German invasion. This one, K6285/MW-F, was with No.321 Squadron and has the Dutch triangular insignia on the fin. Left: Anson N5331 had an interesting career, remaining in the UK throughout. It was initially delivered to No.27 ERFTS and subsequently served with No.10 FTS, No.6 AONS and finally No.10 RS before being struck off charge in 1945.

numerically superior aircraft available to Coastal Command and war patrols were immediately set up over the North Sea and the gap between Scotland and Norway through which enemy surface raiders and U-boats had to transit in order to reach the Atlantic.

It was not long before the first U-boat was attacked by an Anson of No.500 Squadron operating from Detling, Kent. This took place on 5 September 1939 and although ineffective reminded the Germans that aircraft were to exert great influence in the Battle of the Atlantic that was to follow. No.500 Squadron carrying the traditions of the RAuxAF were an aggressive group and armed their aircraft with two additional machine guns firing through the side windows while one aircraft was provided with an illegally acquired 20 mm cannon which was fitted to fire through the aircraft's floor as an anti-submarine weapon.

During the opening stages of the war Hitler's first secret weapon, the magnetic mine, was being laid in quantity in the estuaries of Britain's coastal waters by aircraft such as the Heinkel He.115. Ansons were used to thwart these incursions by maintaining standing patrols and several encounters took place, most of which were ineffective between both aircraft types in running battles which left both out of

One of the original Ansons shipped to Canada for the Commonwealth Air Training Plan. Many retained their RAF serials but these were painted much larger than standard practice at home. Otherwise, the aircraft was yellow overall.



The original Anson Mk.IV was converted to Wright Whirlwind engines in England and then shipped to Canada. Serialled R9816, it is seen in prototype markings at Boscombe Down.

ammunition before a vital shot could be secured. More positive results were secured by an Anson of No.269 Squadron which shot down a Dornier Do.18 flying boat in September 1939 and another aircraft of No.206 Squadron attacked and badly damaged a surfaced U-boat on 3 December in which the pilot, Pilot Officer R.H. Harper, became the first recipient of the DFC for a member of an Anson squadron.

During the evacuation of France by the BEF in 1940 Ansons were used aggressively to protect the fleet of small ships that went to the rescue of the beleaguered British troops. They met with enemy air opposition and although a number of RAF aircraft were shot down they succeeded in giving as good as they got. One Anson took on six Messerschmitt Bf.109s and by excellent airmanship which caused the Germans to overshoot their target several times managed to shoot down two and damage a third before the action was broken off. An Me.110 and a Heinkel He.111 were also shot down by Ansons during this period.

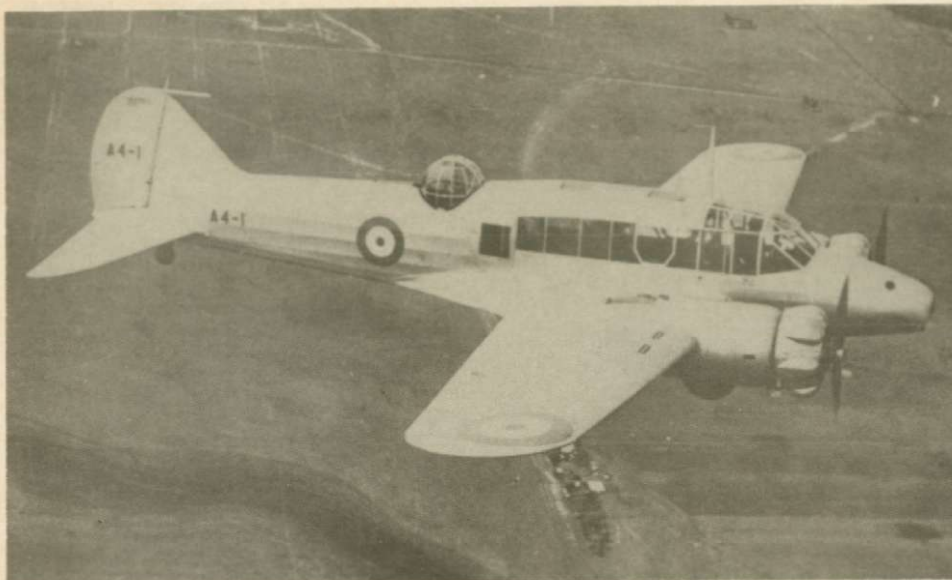
OBSOLESCENCE

But the Anson was limited in range and defensive fire power. Its bomb load was puny compared to other aircraft about to come into service such as the Hudson from the United States and one by one the original Anson squadrons re-equipped with other aircraft more capable of doing the job required by their Coastal Command masters.

Some were fitted with an early type of ASV radar and served in air sea rescue squadrons to good effect up until 1942 but the majority were assigned to training duties with navigation and

Left: Sporting SEAC markings, this Anson, EC504/MK-S, was used for communications work whilst in the Far East. The location was more than likely in Australia. Below: Anson Mk.III 11371 with Jacobs engines and part of the side windows blanked off. These aircraft were also fitted with hydraulic undercarriage and flaps.





Left and below: Two of the first Ansons of the original batch that eventually totalled 48 aircraft and which reached Australia for coastal patrol duties before the war. Both A4-1 and A4-34 were finished in overall silver with black numerals.



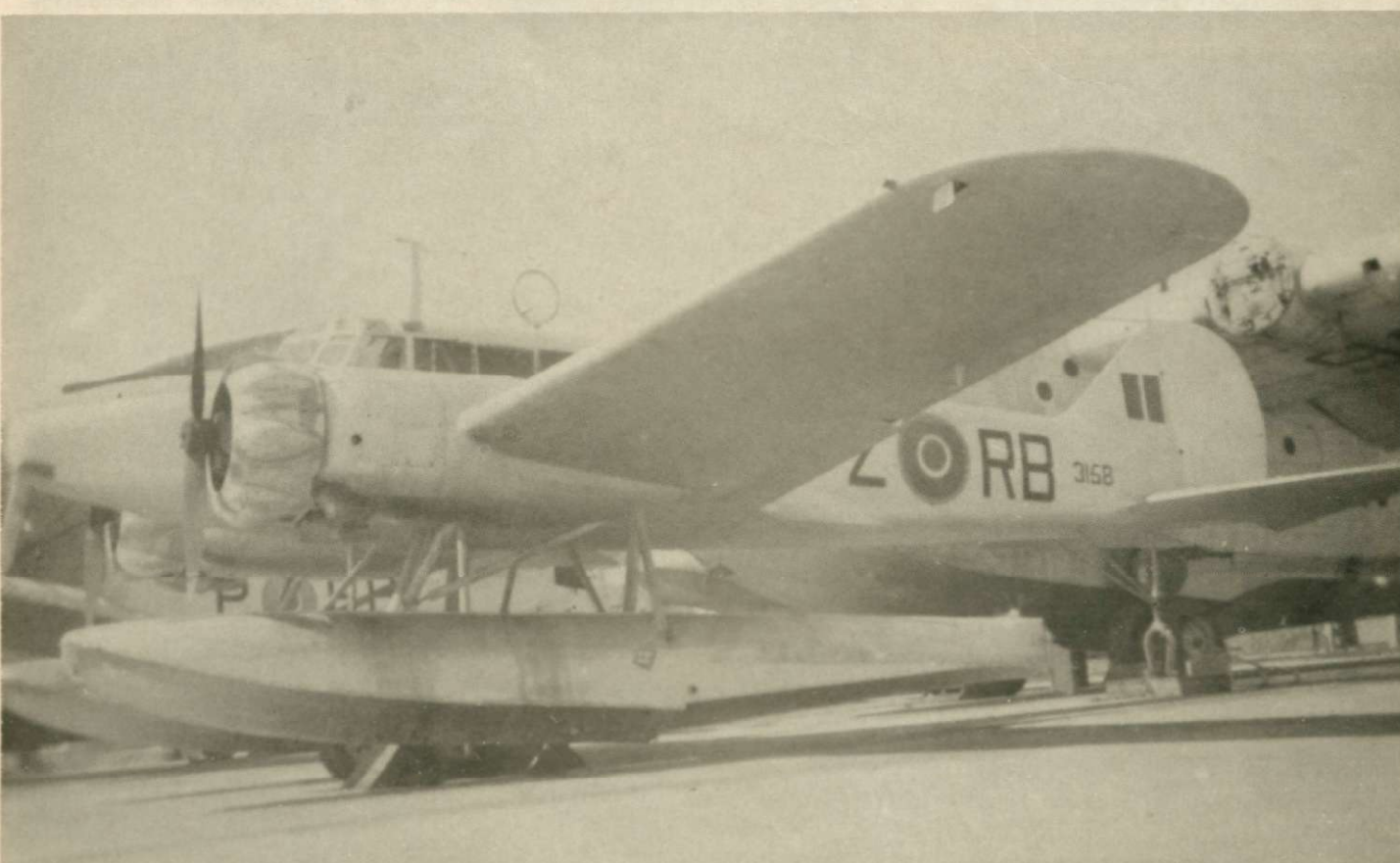
air gunnery units in various parts of the country. In many cases the rear turret was removed and in the case of aircraft used for navigation training an astrodome was fitted behind the pilot's cockpit. Many Ansons used for gunnery training had the turret replaced by a twin .303 Browning machine gun Bristol Mk.VI unit similar to that fitted to the Blenheim. A total of 313 Ansons were fitted this way on the production line and others were modified in the field.

Supplementary orders placed in 1939 by the Air Ministry called for a further 1,500 Ansons to be built and this was later added to by a further order for 800.

Many of these found their way into overseas commands where the Empire Air Training Scheme was getting under way. Most went to Canada but even before the war the Royal Australian Air Force received a batch of 12 Ansons serialled A4-1 to A4-12 which were delivered by sea to Melbourne in November 1936. This order was later increased to 48 and they were issued to Nos.2, 3 and 5 (GR) Squadrons of the RAAF. Subsequently a further 40 were loaned to Australia for the same role and equipped Nos.2, 4 and 6 Bomber Squadrons. Operationally others went to the South African Air Force to replace Junkers Ju.86s on coastal patrol duties with No.60 Squadron off East Africa. One of these was fitted with a pair of Blackburn Roc floats for flying boat training and came as a total surprise to the author when investigating the Sunderlands of the SAAF at Congella dockyard, Durban immediately after the war.

The Anson served with all RAF Commands during the war. Bomber Command, for example, had a considerable number which were usually a part of the Bomber Group Pools

An Anson on floats. A very rare picture of 3158/RB-Z of No.35 Squadron, SAAF, seen at Congella Dockyard, Durban, in 1946 and used for flying boat training. The floats came from a Blackburn Roc. (Author)





The old and the new. Anson Mk.I NK478/Z-H seen at RAF Thornhill, Southern Rhodesia in 1946 with its replacement Anson Mk.20 in the background. (Author)

using other aircraft such as the Battle or early marks of Whitley for operational training. Even one Fighter Command Operational Training Unit, No.62, had an Anson Flight of 14 aircraft as this was responsible for night fighter training and had to instruct navigators in the task of airborne interception radar. Ansons were used to plot the beams used by German night raiders known as X-Geräte and Knickebein systems and help in counter-measures work. They were also employed on Standard Beam Approach training flights where crews were given instruction on one of the earliest blind landing devices. These aircraft were painted with large yellow triangles on the fuselage and other aircraft soon learned to keep out of their way as they followed the radio beams transmitted from the ground station.

COMMONWEALTH ANSONS

Undoubtedly turning out the greatest number of aircrew during World War 2, the Canadians needed aircraft from Britain urgently after the Commonwealth Air Training Plan was initiated on 17 December 1939. Their own aircraft industry was small and due to the closeness of the United States depended to a large extent on products from American firms to fill their needs for air training. This could have gone on but the Americans were not at war with Germany and there were many in the USA who advocated isolationist policies and a desire to keep out of the conflict.

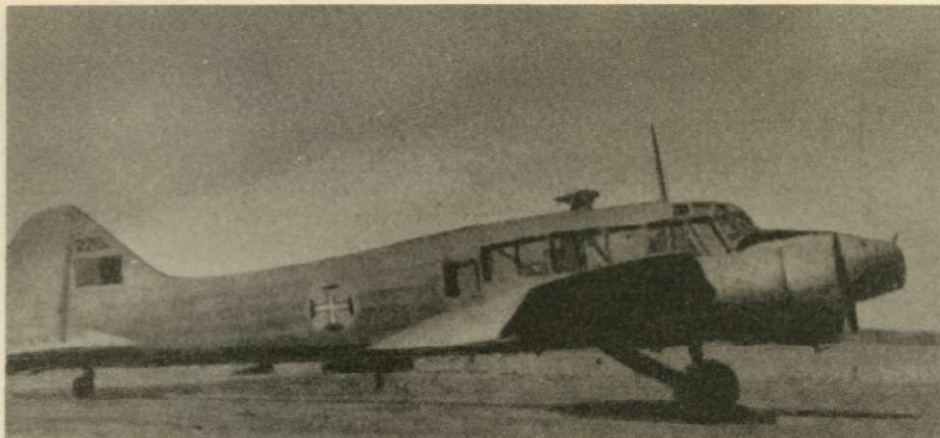
Consequently Canada looked to Britain for aircraft supplies and these were soon forthcoming. The Anson was high on the list of aircraft types supplied. In fact, 1,528 actually arrived in the Dominion with the remainder coming from Canadian sources once industry had been mobilised for aircraft production.

It was soon discovered that the Anson with its long glass side windows was a draughty unheated aircraft not exactly suited to the climatic conditions experienced in a Canadian winter. Consequently cockpit heating, panelling inside the fuselage and carburettor heating had to be installed on the aircraft's arrival in Canada.

Most of the Anson Mk.Is sent to Canada had the standard Cheetah IX engines but a few



Above right and right: The Royal Navy acquired Ansons for radar training of Observers. These two pictures show the installation of the scanner under the nose and the general markings scheme. The nose pitot head was moved to the right of the upper nose surface during the conversion. (MAP)



Several Ansons were sold to Portugal in the immediate post-war period when many that were surplus to requirements were put on the open market. It was used for communications work between 1953 and 1954.

were modified to have Cheetah Xs. Later, after arrangements for local manufacture had been concluded, fuselage and wing sections were shipped and initially Canada supplied the power plants and adaptations of existing American engines were considered as alternatives. The Jacobs L-6MB engine of 330 hp became standard and was fitted to imports and newly manufactured airframes built in Canada. This resulted in a new mark version, the Mk.III which was externally identical to the Mk.I and II but with smooth engine cowlings. With the advent of winter weather further modifications were made including the blanking off of much of the fuselage window area and the fitting of hydraulically operated undercarriages. The first aircraft to be flown as a Mk.III was 6008 (ex-N9935) which had been imported as a Mk.I and converted by the National Steel Car Company as the improved version in May 1941.

As a further alternative the Wright Whirlwind R-975-E3 was selected and Anson R9816 was modified with these engines as the Mk.IV not in Canada but in the United Kingdom at Boscombe Down where it was thought that an alternative powerplant might be needed. This aircraft was eventually shipped to Canada where the Whirlwind engine was used for a



Left: A Canadian Navy Anson Mk.V seen in post-war markings. The Canadians used their Ansons for a much longer period than any other military service in the post-war years. (MAP). Below: The last Canadian Anson is 12417 which is a Mk.V and still kept airworthy by the Canadian Warplane Heritage at Hamilton, Ontario. (Author)





An Australian Anson converted by Marshall Airways into a six-seat passenger transport. (APN)



number of conversions from Mk.I standard and later when it was thought that Jacobs engines were going to be in short supply. It is thought that a total of 223 Mk.IV airframes were built but when these got to Canada they were given whatever power plant was available at that time and confusion exists about the actual number that were eventually fitted with Whirlwind engines. In some cases aircraft started out as Mk.Is, were converted to Mk.III standard and later were again re-engined with Whirlwinds just to confuse the issue.

WOODEN WONDER

The Mosquito was not the only 'wooden wonder' built during World War 2 as the Canadians found that their own aircraft industry could adapt better to the building of an all-wooden version of the Anson and thus save stocks of steel used in the original airframe. A prototype fuselage was made by Vidal at Bristol, Mass and given the Canadian serial 8649X. It flew in the early part of 1942 and heralded the production of 1,070 navigation trainers under the designation Anson Mk.V at three Canadian factories. A single Mk.VI was built with the inclusion of a Bristol B.1 Mk.VI turret but this version was not subsequently built in quantity. Similar fates awaited the Mk.VII, VIII and IX which were allocated to Canadian production but were not taken up.

The Mk.V proved to be an excellent machine. It had three portholes in the fuselage sides replacing the Anson's traditional glass-house, 450 hp Pratt and Whitney Wasp Junior R985-AN12B engines, a full hydraulic system

The last Anson. Left: Seen as G-AMDA when in the service of Derby Aviation with a magnetometer under the fuselage for geophysical work over southern England. Below: It was bought by the Skyfame Museum and kept in flying condition repainted as VX-F. An accident ended its airborne career and it is now part of the Imperial War Museum's collection at Duxford. (APN)





One of two Anson Mk.Is used by the College of Aeronautics for experimental purposes. Lancaster PA474, the RAF's BoBMF aircraft can be seen in the background when it was being used by the College for wing shape experiments. (APN)

for the undercarriage and flaps and proper fuselage heating.

This version remained in Canadian Air Force and Navy service until well after the war and at least one has been preserved in flyable condition by the Canadian Warplane Heritage at Hamilton, Ontario after it had been bought following a career as a photographic survey aircraft in civil markings.

No less than 19 SFTSs were established in Canada, along with 10 Air Observer Schools, 11 Bombing and Gunnery Schools and five Air Navigation Schools. Ansons also served with Nos.1 and 31 General Reconnaissance Schools and Nos.31, 32, 34 and 36 Operational Training Units as well as the Canadian Central Flying School and three Flying Instructor Schools.

MISCELLANEOUS UNITS

A similar story to that of the Anson in Canada can be told of the other Commonwealth countries that took part in the BCATP. Australia for example, had 969 Anson Mk.IIs in service and some of these were initially allocated to operational coastal patrol squadrons and communications units. In the training role the Anson served in Nos.2, 3, 4 and 8 SFTS, Nos.1, 2 and 3 Air Observer Schools, the Air Gunnery School and the General Reconnaissance School.

In South Africa Ansons were used for operational duties with Nos.12, 28, 35 and 60 Squadrons whilst others were employed in the communications and supply role. Ansons equipped seven flying training schools, four Air Observer and Gunnery Schools and five navigation training establishments. No.1 School of General Reconnaissance at George was the natural successor to the original school of that designation set up before the war at Manston. It had moved to Thorney Island after the start of the war but as coastal airfields were very much in demand it was decided to re-establish the School in South Africa and the initial move was made in September 1940. Not a great number of Ansons were used in Southern Rhodesia and records show that they only equipped two units, the Central Flying School at Norton and No.24 Bombing Gunnery and Navigation School at Moffat.

Various other exports have already been mentioned that took place before the start of the war but afterwards Ansons turned up with regularity at many other establishments in India and New Zealand whilst at home they were employed in a miscellany of different duties.

The interior of the Canadian Warplane Heritage Anson V. Bench seating and dual controls have been fitted.

The USAAF used Ansons for ferry purposes along with many other British aircraft that

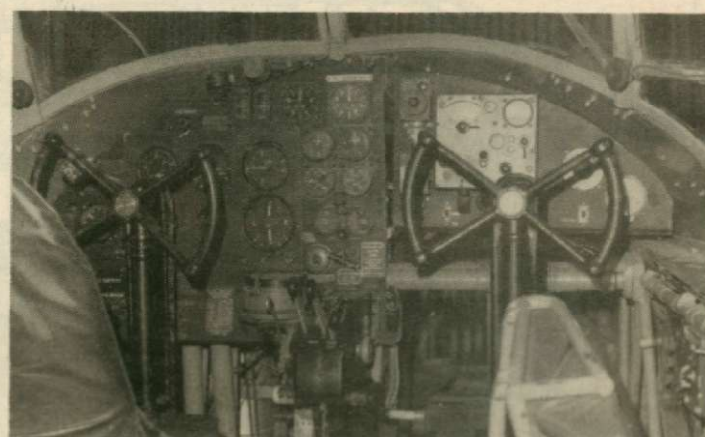
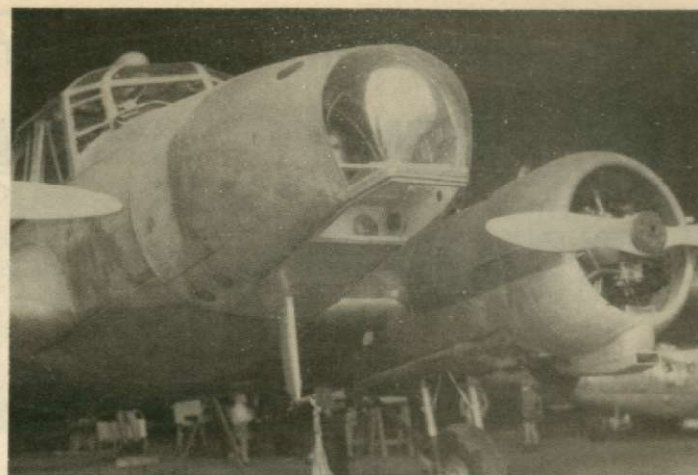
were given in reverse lease-lend whilst the American forces were in Britain. The Air Transport Auxiliary used Ansons for ferry purposes too and it was a common sight to see the old Annie flogging its way home to White Waltham with a crowd of men and women ferry pilots who had delivered a variety of different aircraft from factory to squadron during the day. Often the aircraft was severely overloaded and it was not uncommon to get 12 passengers in addition to the pilot on board. The take-off run must have been something of a nerve racking experience.

British Navy Ansons were not altogether common as only three training squadrons used them, namely 747, 758 and 783 and then only from 1943 onwards. Most were equipped with radar in an under-nose scanner and used for observer training till well after the war.

ANSON Mk.X

The only other version of the Anson to be built





Three views showing exterior and interior detail of the Anson Mk.I which is part of the Imperial War Museum collection at Duxford.

in England was the Mk.X. This incorporated a strengthened cargo floor and the smooth cowlings which became standard as the all-up-weight of the Anson was progressively increased and the engines became overheated.

The prototype was NK753 which was fitted with Cheetah XIX engines and had a hydraulically retracting undercarriage. It also had a transparent nose. For ambulance duties it was equipped with a special door in the starboard side to be suitable for loading stretchers whilst the engines were still running. Provision for three stretcher cases and two walking wounded were made plus a medical orderly and pilot.

Only 103 Ansons were completed as Mk.Xs and these did exemplary service in the freight role particularly after the invasion of Europe when they carried essential supplies to the Normandy beachhead and worked their way progressively through France and the Low Countries in the wake of the Allied armies.

The transparent nose on this version was the subject of some controversy as a number of Ansons that went to Southern Rhodesia when the air training scheme started there again after the war had Mk.X listed as their designation in each log book. This was later disproved by a check on the serial and construction numbers and was thought to have been a special modification made for these aircraft suiting them for bombing training. The practice was certainly followed on when the Mk.20s arrived in Rhodesia as they were used for similar duties.

POST-WAR ANSONS

Many embryo air forces in Europe that started again after the end of the war were given Ansons with which to get going. Amongst these were Belgium, the Netherlands, Portugal, France and Norway. Further abroad Anson Mk.1s were sold to Egypt, Iran and Saudi Arabia whilst a number turned up in Israel via mysterious routes.

The Anson continued to play an important part in the remainders of Flying Training Command that were left over after the run-

down of British forces post-war. Most of these were Air Navigation Schools, the two main home-based ones being at No.5 ANS Topcliffe and No.10 ANS Driffield. The School of Air Traffic Control at Watchfield and the returned School of General Reconnaissance which was re-established at Leuchars used Ansons whilst three RAFVR Volunteer Reserve Schools at Usworth, Desford and Teversham equipped with them.

A post-war training organisation was set up in Southern Rhodesia where No.3 ANS was based at Thornhill and a variety of surplus Anson trainers were ferried out from Middle East stocks and from the UK. Several did not make the complete journey and were abandoned en route but eventually about a dozen started training sorties though these were replaced before long by Anson Mk.20s which were an entirely different type of aircraft more suited to the work and high altitude of Rhodesia.

With so many surplus RAF Ansons available it was not surprising that many were adapted for civil operations in various parts of the world. It was not worth shipping them back to the UK so they were sold locally for knock-down prices. Some went for the equivalent of £7.50 in places like South Africa and Australia and were bought by farmers to provide spare metal parts for the mechanical equipment and in some cases as temporary barns!

In Canada large numbers of Ansons were sold and many came onto the civil register. In one case Spartan Air Services used Anson Mk.Vs for some 20 years after the war for photographic work. Many modifications were made to the originals including the alteration of the interiors into six passenger aircraft and the long side windows blocked off into a number of smaller windows.

In the UK no less than 98 Ansons acquired civil registrations and names like Blue Line Airways of Tollerton, British Air Transport at Redhill and Transair of Croydon found plenty of work for these surplus aircraft. Other long time users were Fields and the Hunting Group and two Ansons were the initial aircraft

equipment of the newly formed College of Aeronautics at Cranfield.

Out of these Derby Aviation's G-AMDA which was used for geophysical surveys over southern England. It became the last flying example after a total ban on further Anson flying was made in 1962. This went to the Skyfame Museum at Staverton but suffered damage in an accident and is now part of the Imperial War Museum collection at Duxford. It is the last Anson Mk.I survivor in Britain on display.

Total UK production of the Anson which numbered some 130 airframes a week at the peak of production, amounted to 7,066. Put together with Canadian-built aircraft the total exceeds 11,000.

It was a remarkable number considering that only two factories in England, that of A.V. Roe themselves and the shadow factory at Yeadon, Yorks, were committed to production. The transformation of the Anson from a first line combat aircraft which it was at the start of the war into an even better trainer for all aspects of aircrew work is also remarkable but that was the nature of this sturdy, easy to fly machine. The fact that its valuable work has been largely unrecorded in any depth in spite of the fact that so many British, Commonwealth and Allied airmen trained on it is also surprising but those of us who knew the Annie and its forgiving characteristics will remember it with a great deal of affection.

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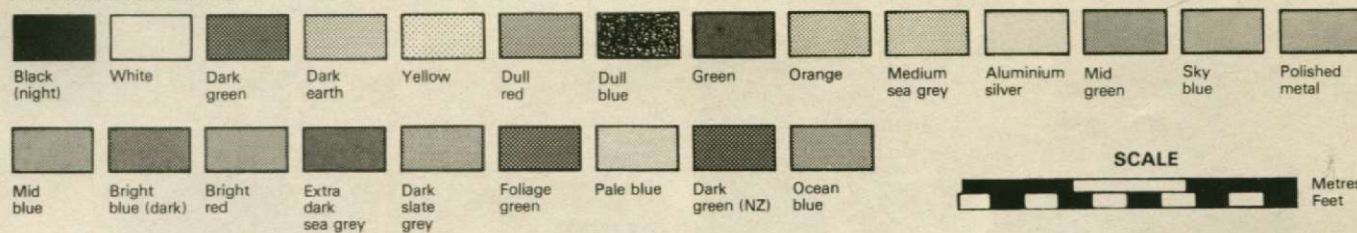
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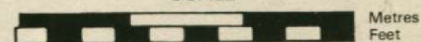
Avro Anson camouflage and markings

AVRO ANSON COLOUR KEY

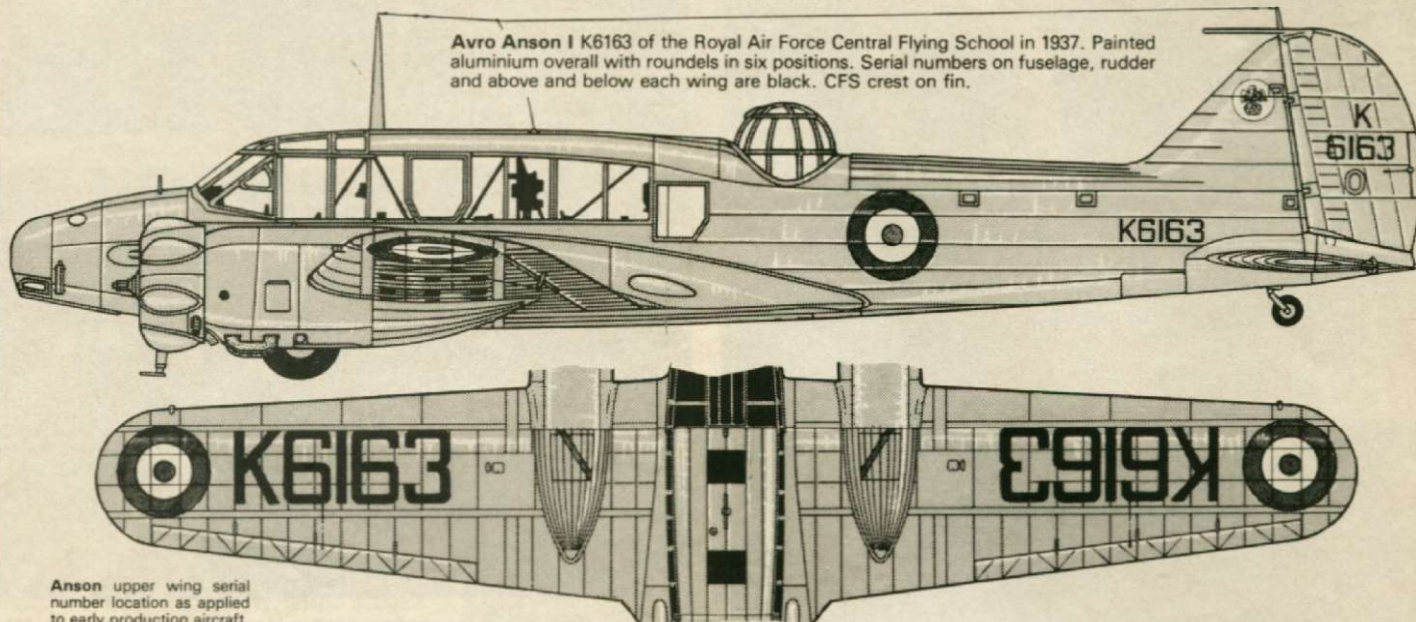


DRAWINGS BY MIKE KEEP

SCALE

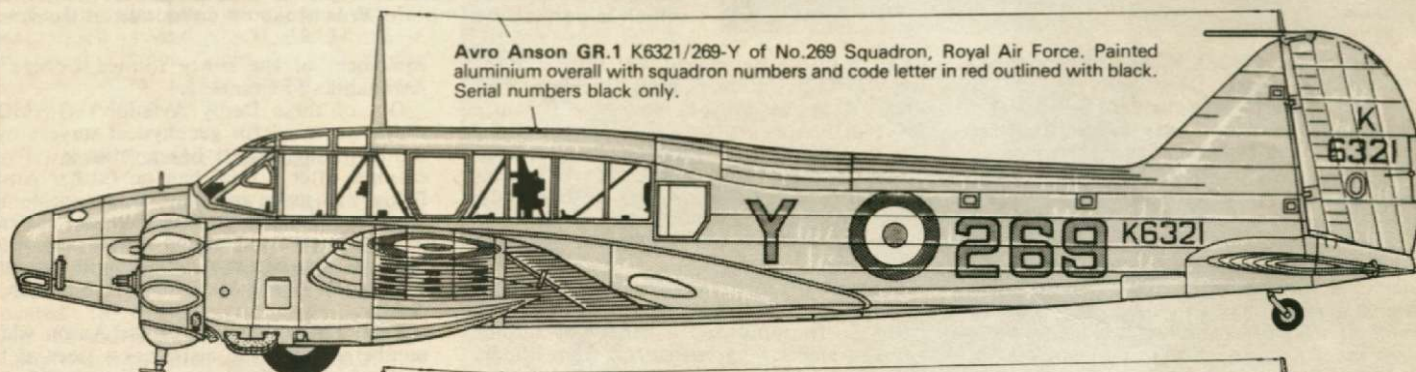


Avro Anson I K6163 of the Royal Air Force Central Flying School in 1937. Painted aluminium overall with roundels in six positions. Serial numbers on fuselage, rudder and above and below each wing are black. CFS crest on fin.

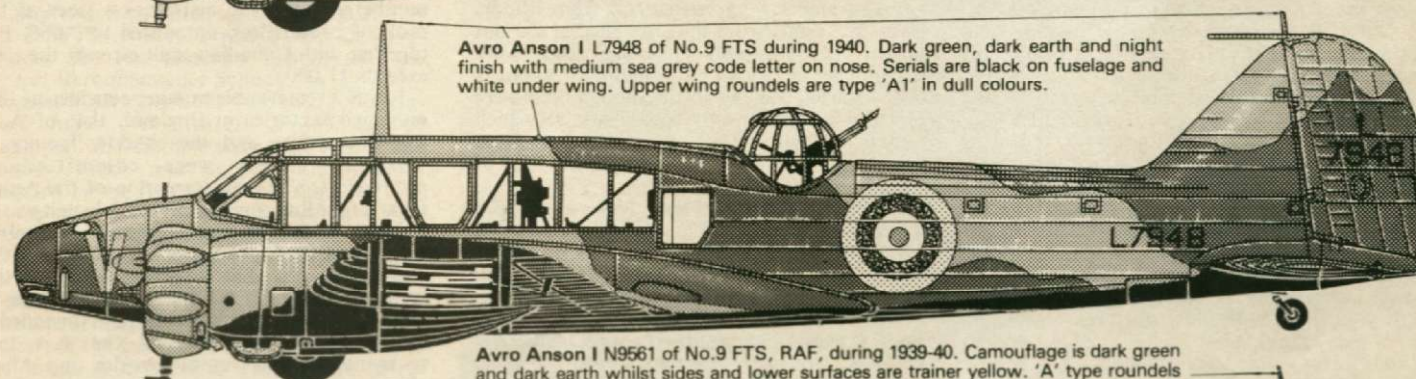


Anson upper wing serial number location as applied to early production aircraft.

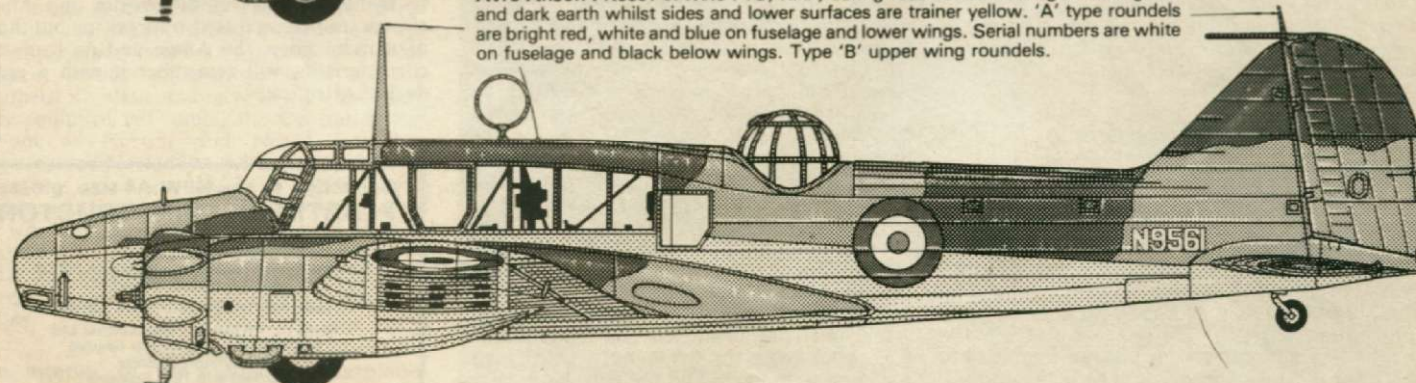
Avro Anson GR.1 K6321/269-Y of No.269 Squadron, Royal Air Force. Painted aluminium overall with squadron numbers and code letter in red outlined with black. Serial numbers black only.

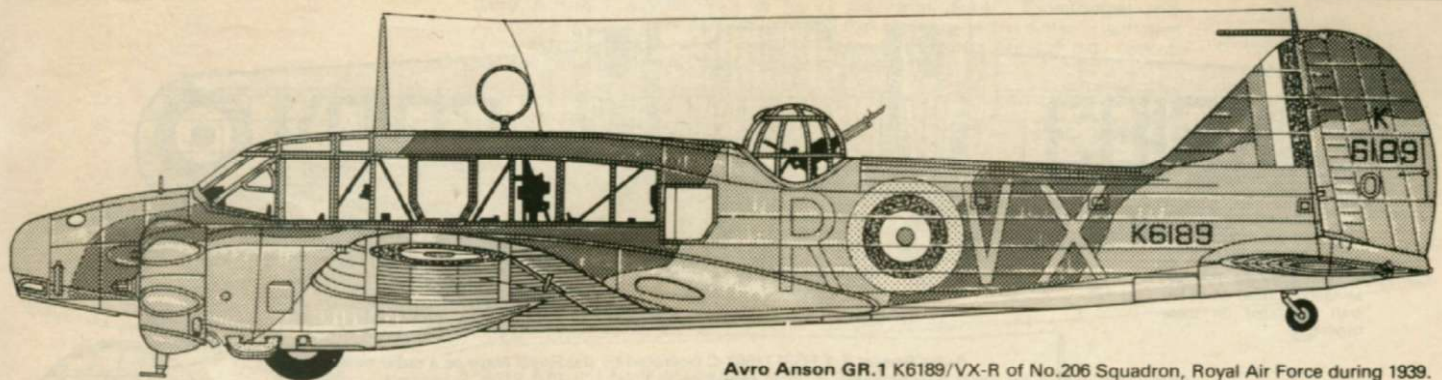


Avro Anson I L7948 of No.9 FTS during 1940. Dark green, dark earth and night finish with medium sea grey code letter on nose. Serials are black on fuselage and white under wing. Upper wing roundels are type 'A1' in dull colours.

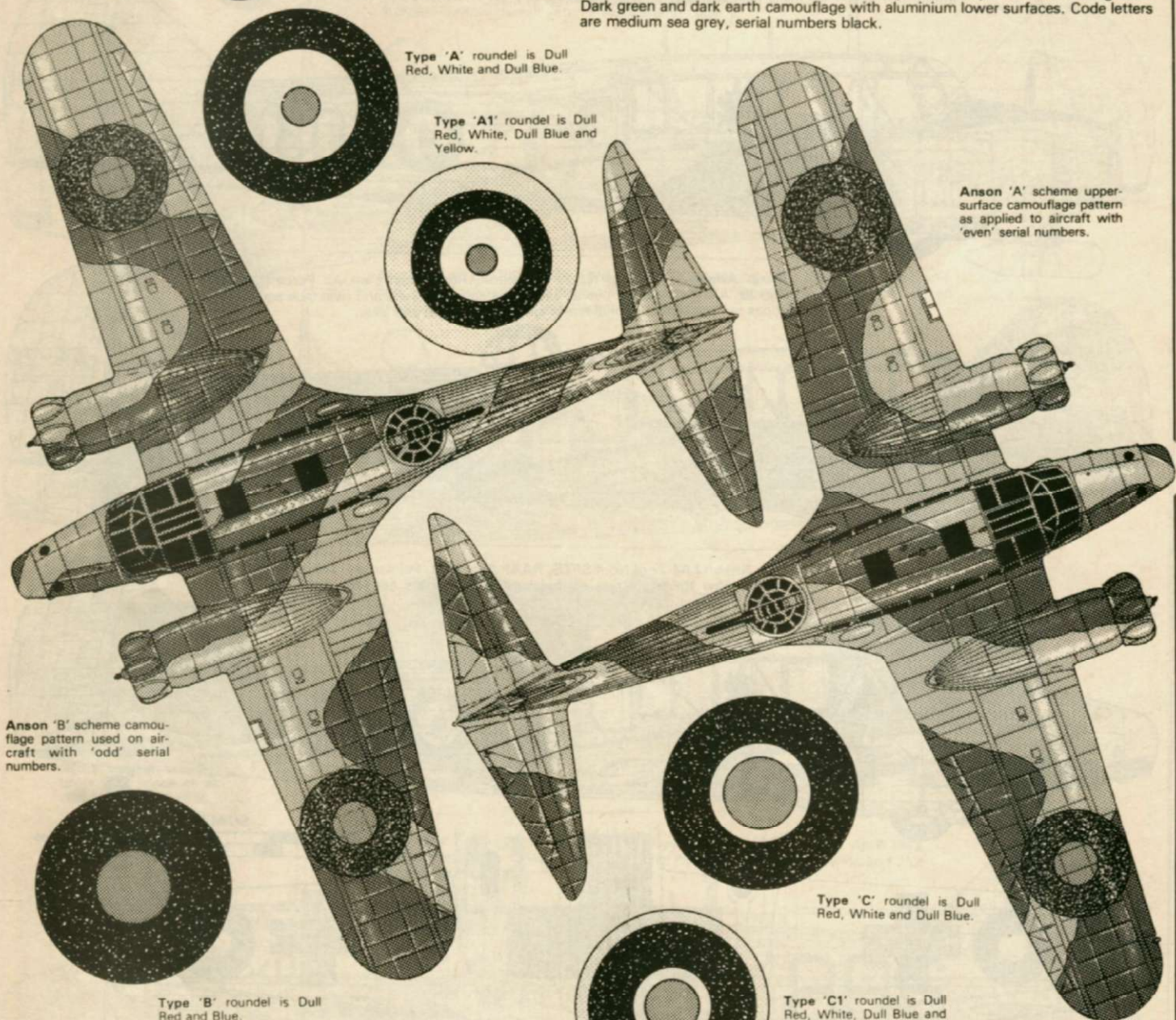


Avro Anson I N9561 of No.9 FTS, RAF, during 1939-40. Camouflage is dark green and dark earth whilst sides and lower surfaces are trainer yellow. 'A' type roundels are bright red, white and blue on fuselage and lower wings. Serial numbers are white on fuselage and black below wings. Type 'B' upper wing roundels.





Avro Anson GR.1 K6189/VX-R of No.206 Squadron, Royal Air Force during 1939. Dark green and dark earth camouflage with aluminium lower surfaces. Code letters are medium sea grey, serial numbers black.



Type 'A' roundel is Dull Red, White and Dull Blue.

Type 'A1' roundel is Dull Red, White, Dull Blue and Yellow.

Anson 'A' scheme upper-surface camouflage pattern as applied to aircraft with 'even' serial numbers.

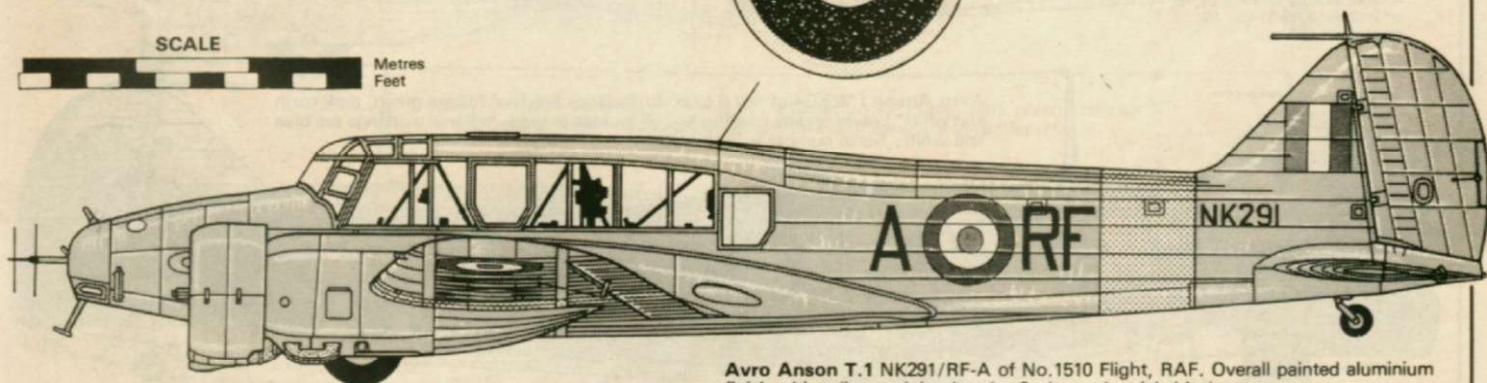
Anson 'B' scheme camouflage pattern used on aircraft with 'odd' serial numbers.

Type 'B' roundel is Dull Red and Blue.

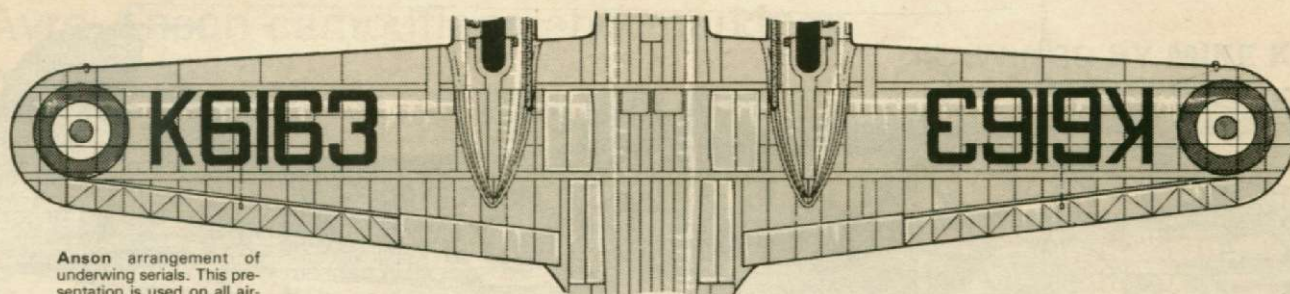
Type 'C' roundel is Dull Red, White and Dull Blue.

Type 'C1' roundel is Dull Red, White, Dull Blue and Yellow.

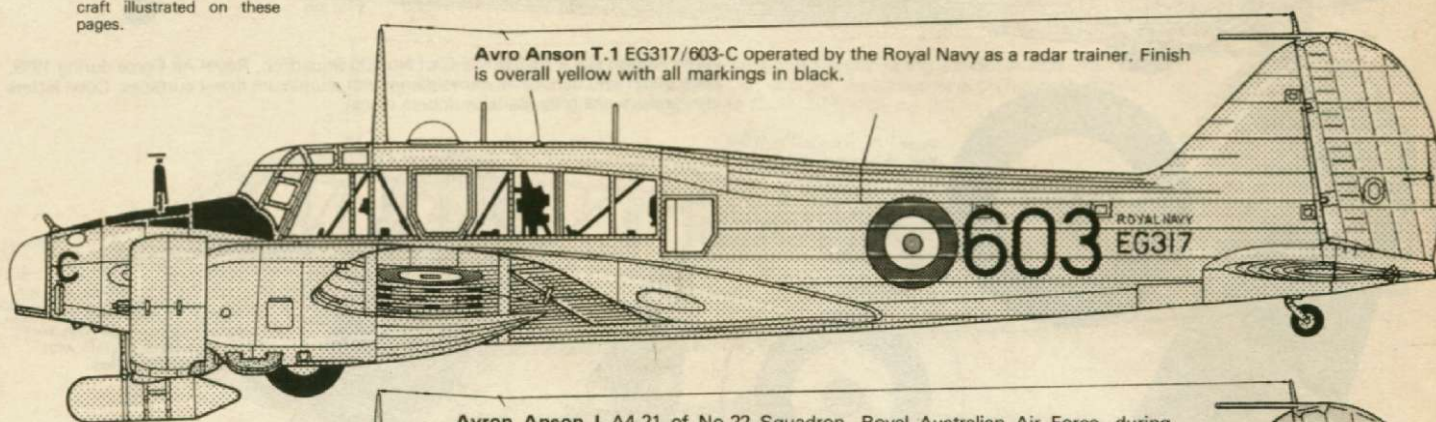
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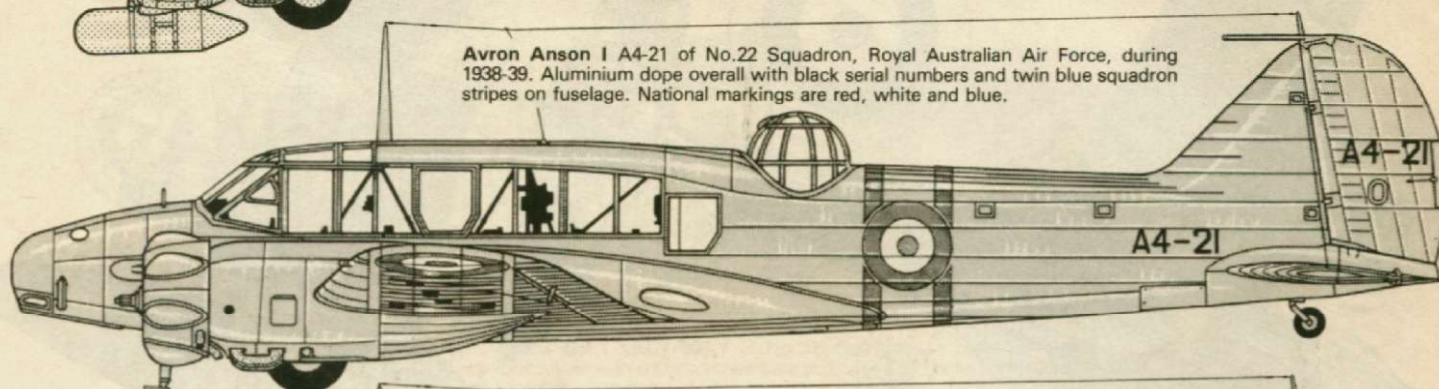
Avro Anson T.1 NK291/RF-A of No.1510 Flight, RAF. Overall painted aluminium finish with yellow training bands. Codes and serials black.



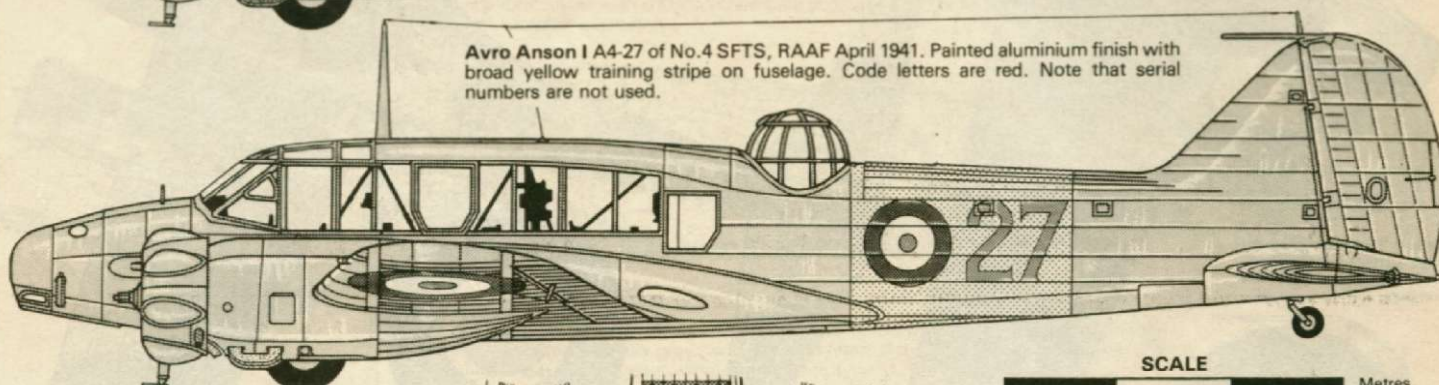
Anson arrangement of undersurface serials. This presentation is used on all aircraft illustrated on these pages.



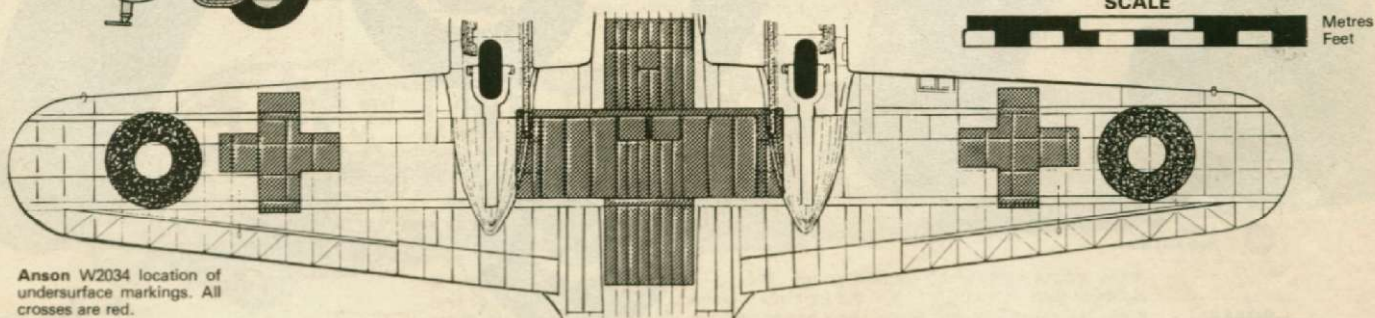
Avro Anson T.1 EG317/603-C operated by the Royal Navy as a radar trainer. Finish is overall yellow with all markings in black.



Avro Anson I A4-21 of No.22 Squadron, Royal Australian Air Force, during 1938-39. Aluminium dope overall with black serial numbers and twin blue squadron stripes on fuselage. National markings are red, white and blue.

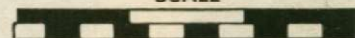


Avro Anson I A4-27 of No.4 SFTS, RAAF April 1941. Painted aluminium finish with broad yellow training stripe on fuselage. Code letters are red. Note that serial numbers are not used.

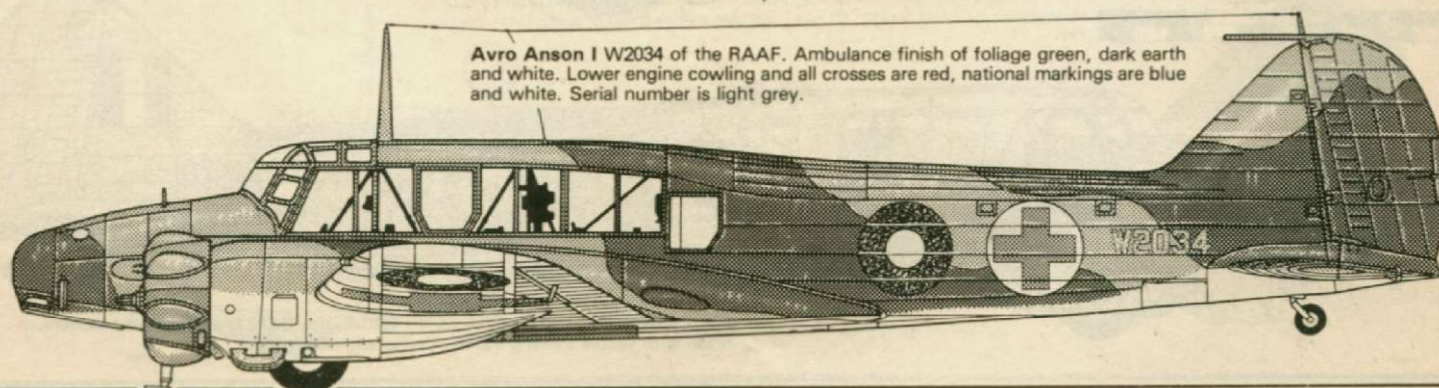


Anson W2034 location of undersurface markings. All crosses are red.

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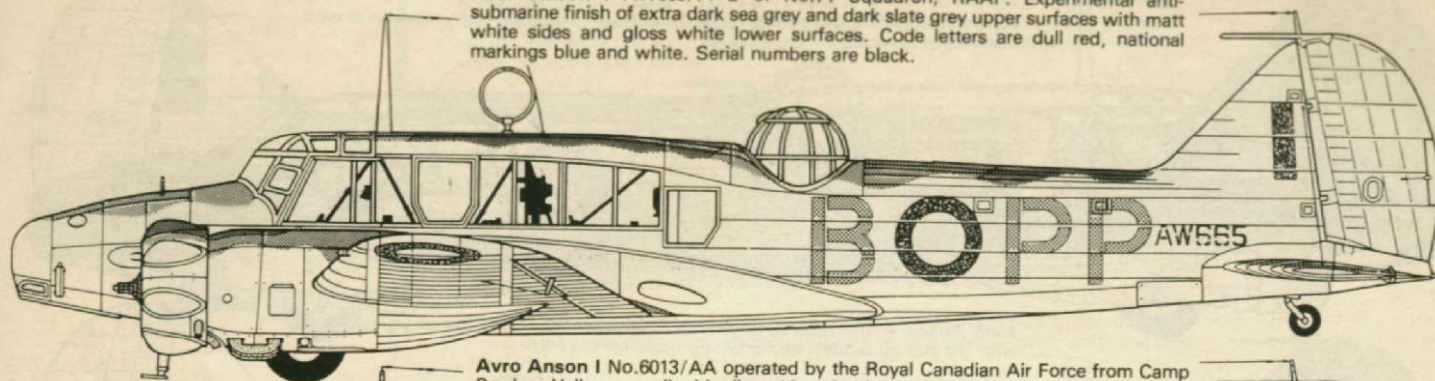


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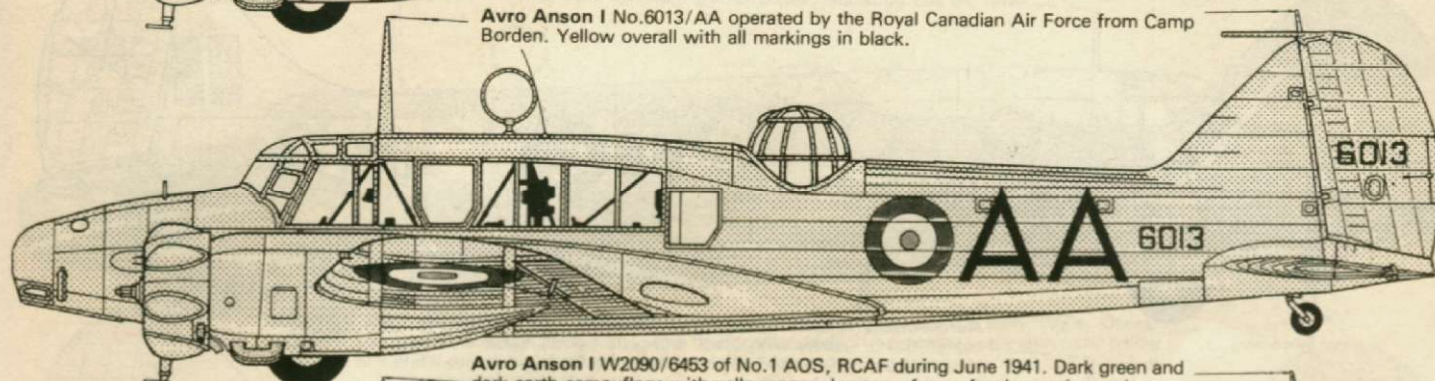


Avro Anson I W2034 of the RAAF. Ambulance finish of foliage green, dark earth and white. Lower engine cowling and all crosses are red, national markings are blue and white. Serial number is light grey.

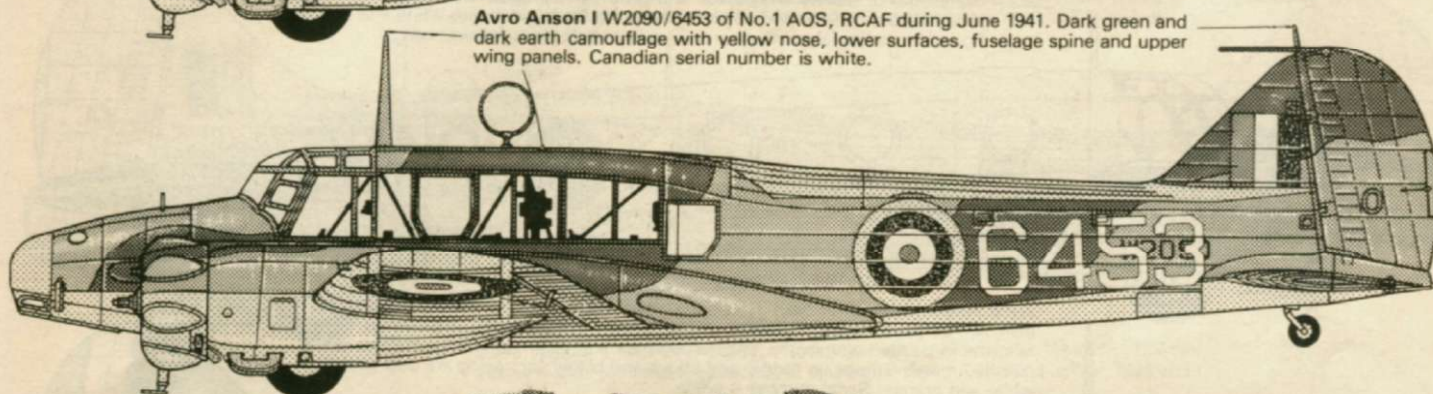
Avro Anson I AW665/PP-B of No.71 Squadron, RAAF. Experimental anti-submarine finish of extra dark sea grey and dark slate grey upper surfaces with matt white sides and gloss white lower surfaces. Code letters are dull red, national markings blue and white. Serial numbers are black.



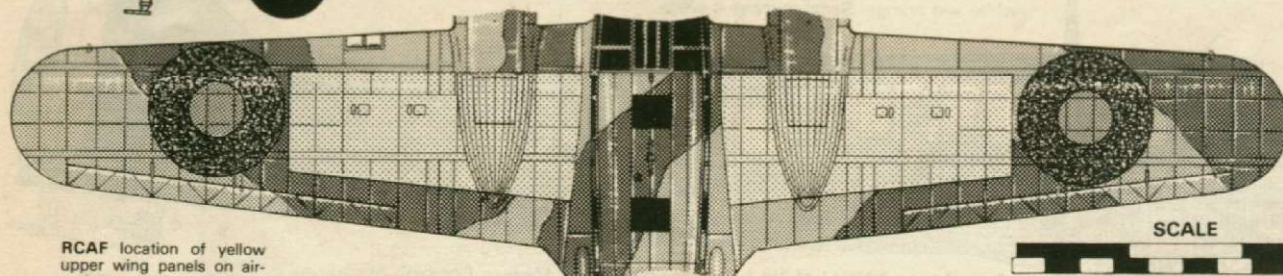
Avro Anson I No.6013/AA operated by the Royal Canadian Air Force from Camp Borden. Yellow overall with all markings in black.



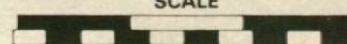
Avro Anson I W2090/6453 of No.1 AOS, RCAF during June 1941. Dark green and dark earth camouflage with yellow nose, lower surfaces, fuselage spine and upper wing panels. Canadian serial number is white.



RCAF location of yellow upper wing panels on aircraft Nos.6008 and 6453.



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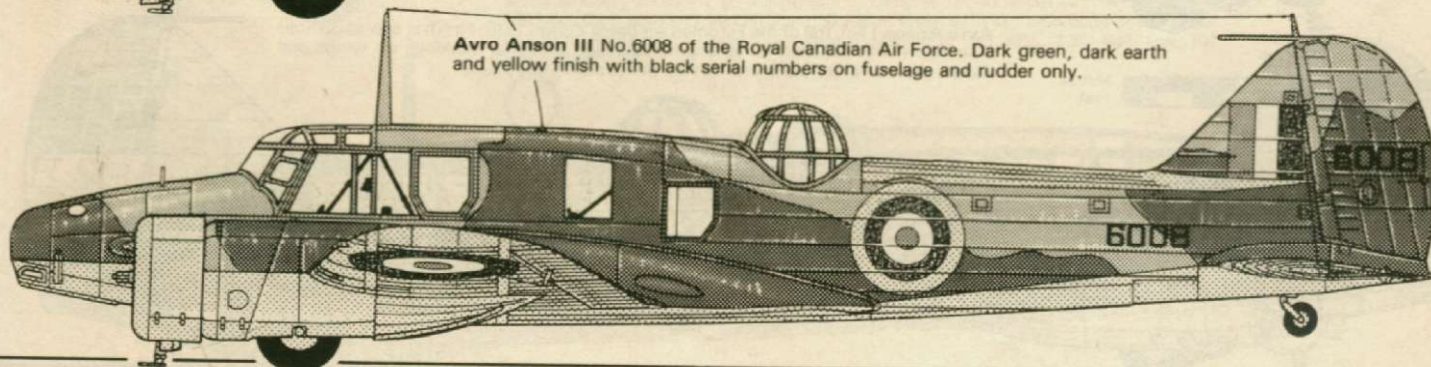


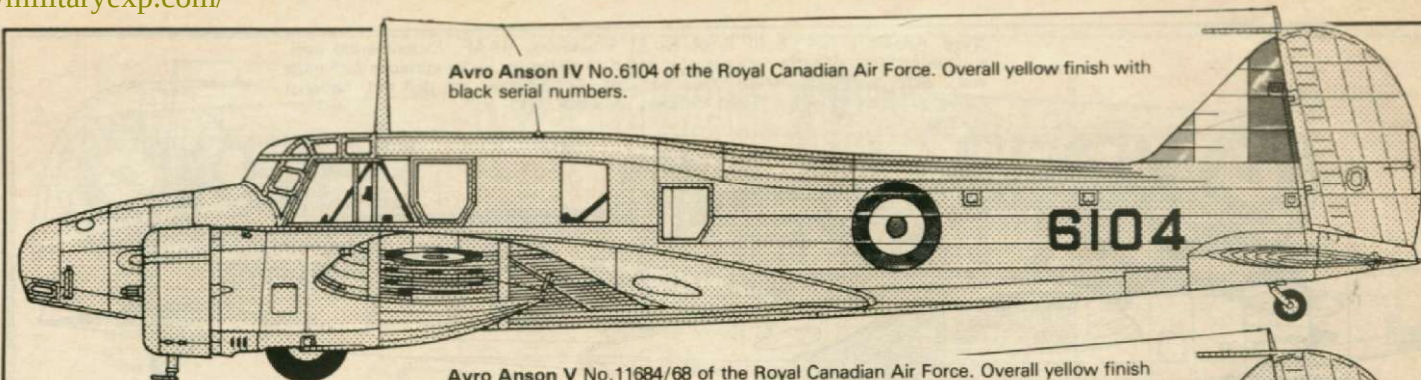
Metres
Feet

Avro Anson II No.886 of No.16 SFTS Royal Canadian Air Force in April 1943. Finish is trainer yellow overall with black serial numbers. Bright red, white and blue roundels in six positions.

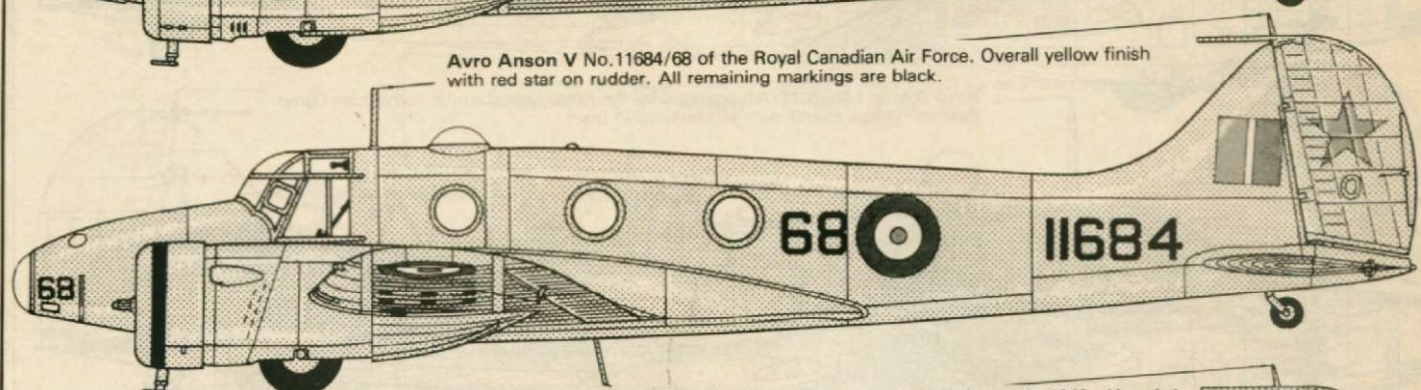


Avro Anson III No.6008 of the Royal Canadian Air Force. Dark green, dark earth and yellow finish with black serial numbers on fuselage and rudder only.

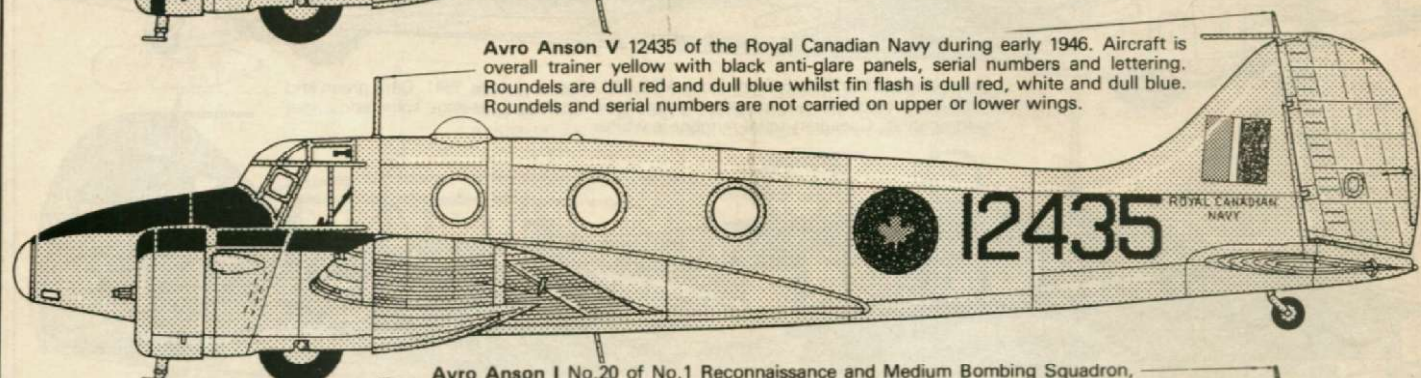




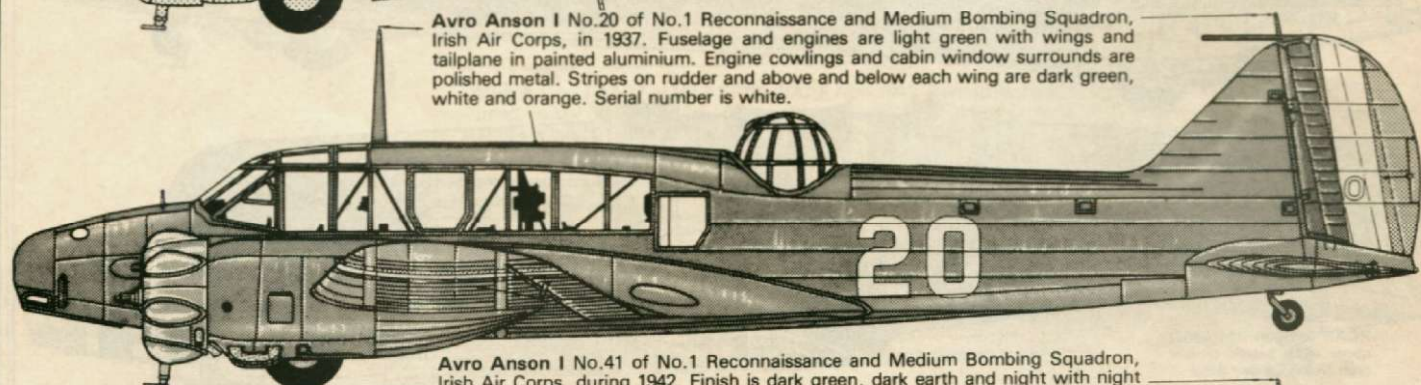
Avro Anson IV No. 6104 of the Royal Canadian Air Force. Overall yellow finish with black serial numbers.



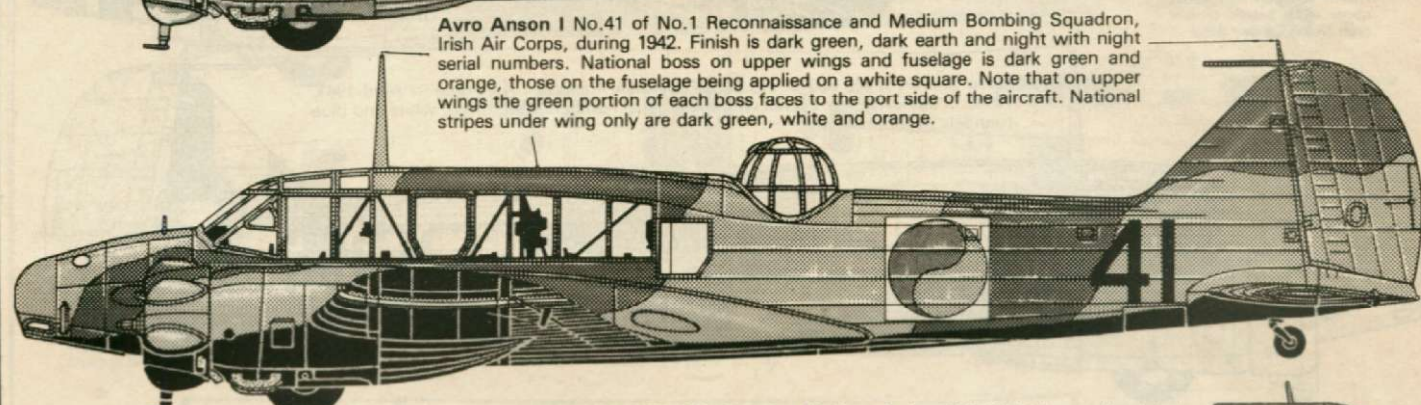
Avro Anson V No. 11684/68 of the Royal Canadian Air Force. Overall yellow finish with red star on rudder. All remaining markings are black.



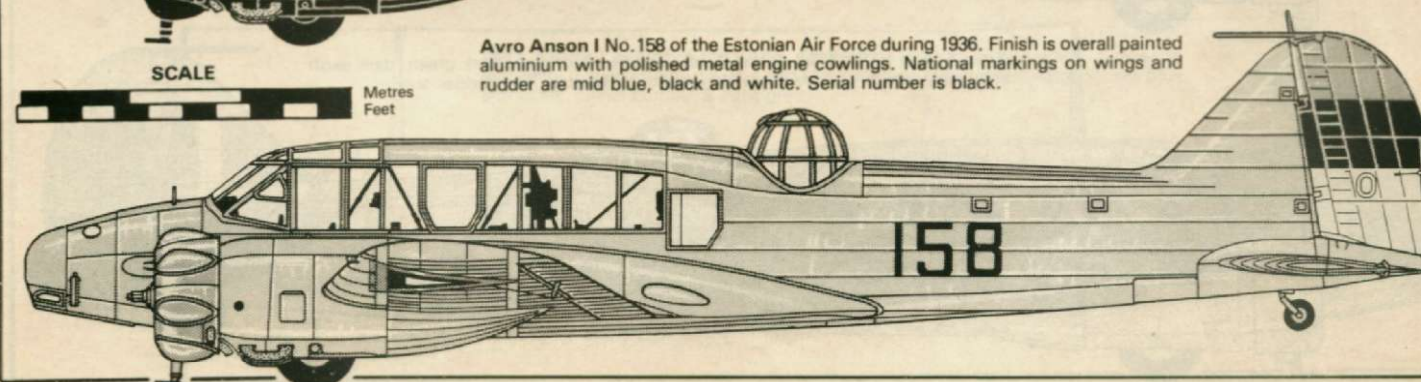
Avro Anson V 12435 of the Royal Canadian Navy during early 1946. Aircraft is overall trainer yellow with black anti-glare panels, serial numbers and lettering. Roundels are dull red and dull blue whilst fin flash is dull red, white and dull blue. Roundels and serial numbers are not carried on upper or lower wings.



Avro Anson I No. 20 of No. 1 Reconnaissance and Medium Bombing Squadron, Irish Air Corps, in 1937. Fuselage and engines are light green with wings and tailplane in painted aluminium. Engine cowlings and cabin window surrounds are polished metal. Stripes on rudder and above and below each wing are dark green, white and orange. Serial number is white.



Avro Anson I No. 41 of No. 1 Reconnaissance and Medium Bombing Squadron, Irish Air Corps, during 1942. Finish is dark green, dark earth and night with night serial numbers. National boss on upper wings and fuselage is dark green and orange, those on the fuselage being applied on a white square. Note that on upper wings the green portion of each boss faces to the port side of the aircraft. National stripes under wing only are dark green, white and orange.



Avro Anson I No. 158 of the Estonian Air Force during 1936. Finish is overall painted aluminium with polished metal engine cowlings. National markings on wings and rudder are mid blue, black and white. Serial number is black.

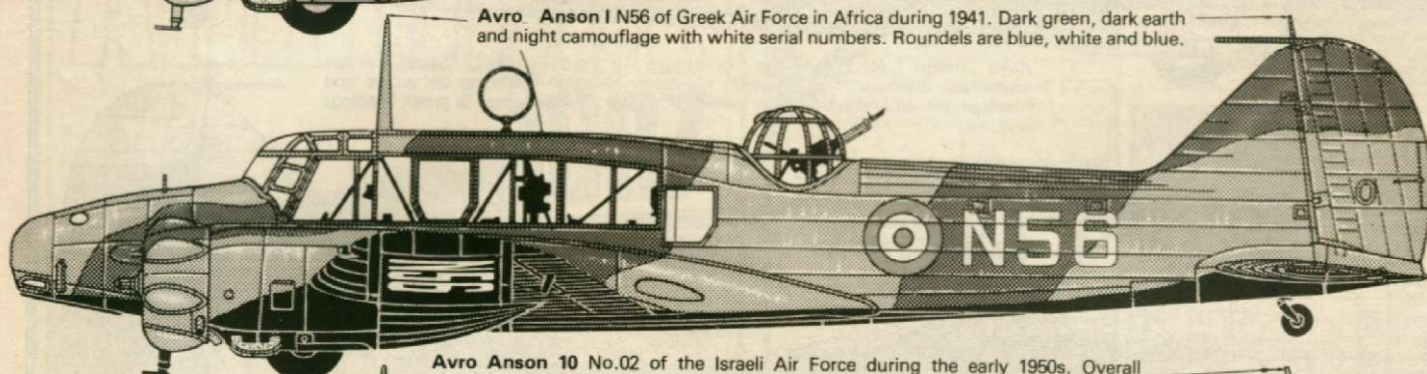
SCALE

Metres
Feet

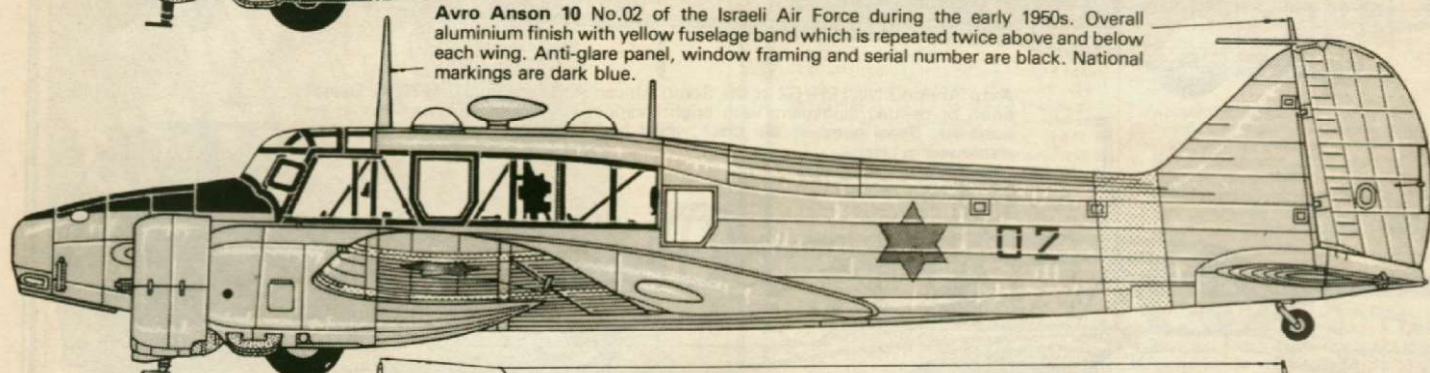
Avro Anson I AN-102 of LeLv. 48, Finnish Air Force during 1942. Upper surfaces are dark green, lower surfaces aluminium dope. Engine cowlings are polished metal whilst lower wing tips and fuselage band are yellow. National markings are blue and white, serial numbers black.



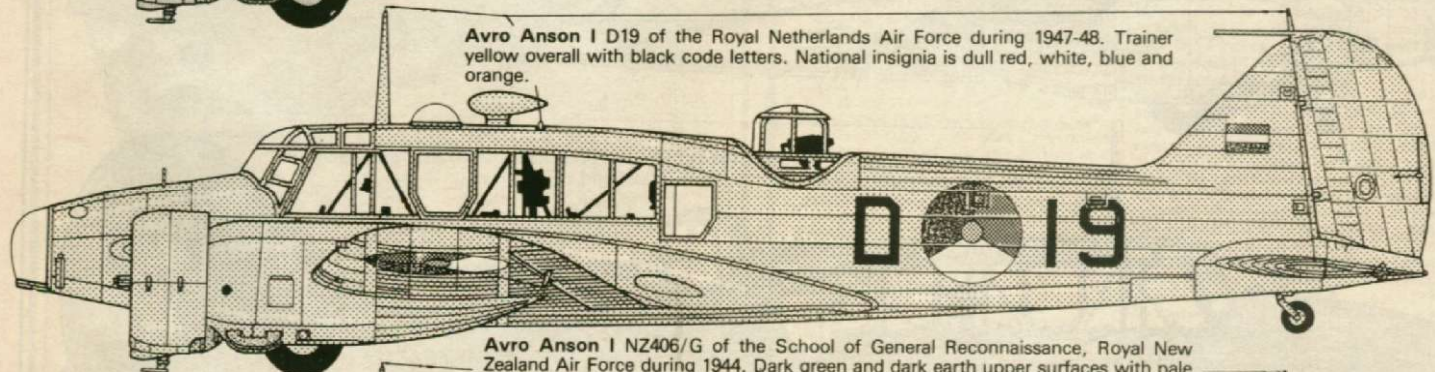
Avro Anson I N56 of Greek Air Force in Africa during 1941. Dark green, dark earth and night camouflage with white serial numbers. Roundels are blue, white and blue.



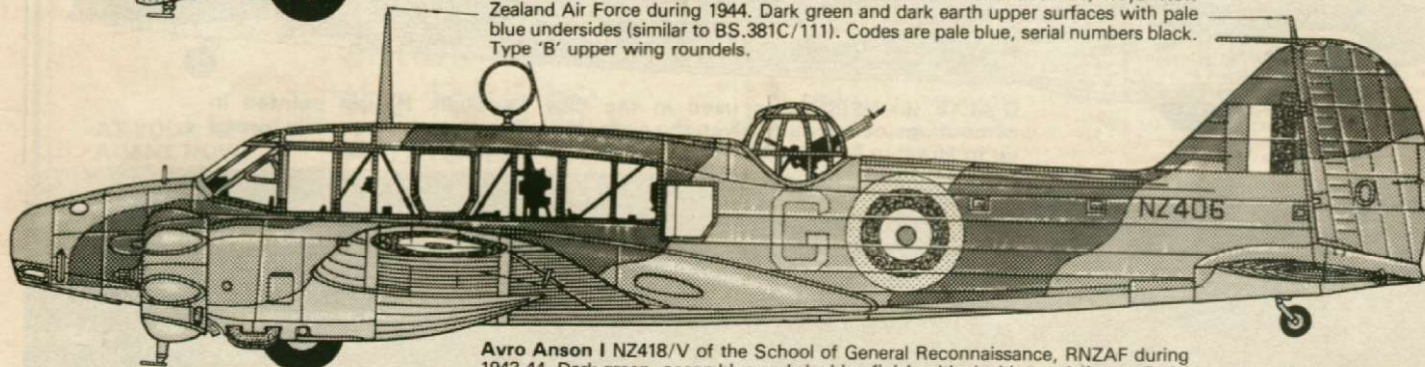
Avro Anson 10 No.02 of the Israeli Air Force during the early 1950s. Overall aluminium finish with yellow fuselage band which is repeated twice above and below each wing. Anti-glare panel, window framing and serial number are black. National markings are dark blue.



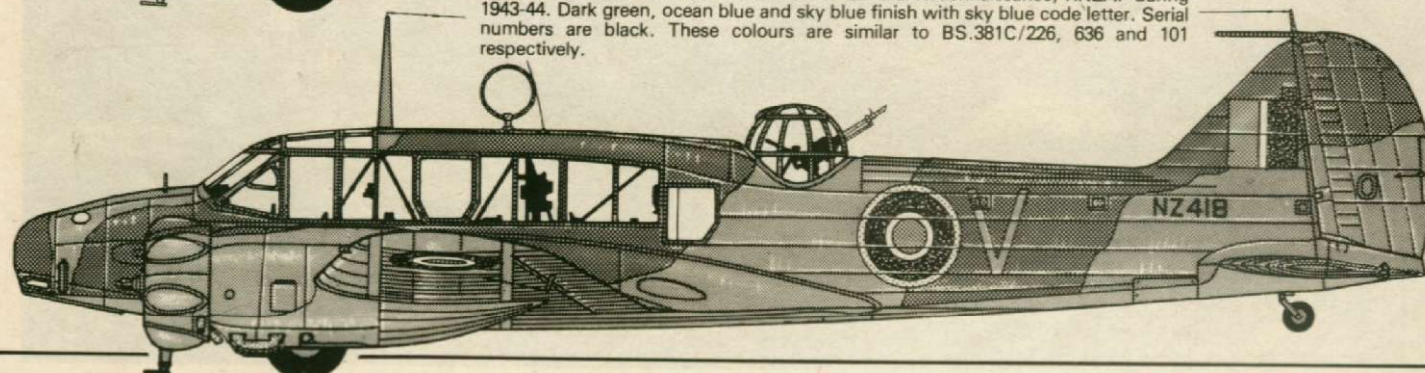
Avro Anson I D19 of the Royal Netherlands Air Force during 1947-48. Trainer yellow overall with black code letters. National insignia is dull red, white, blue and orange.



Avro Anson I NZ406/G of the School of General Reconnaissance, Royal New Zealand Air Force during 1944. Dark green and dark earth upper surfaces with pale blue undersides (similar to BS.381C/111). Codes are pale blue, serial numbers black. Type 'B' upper wing roundels.



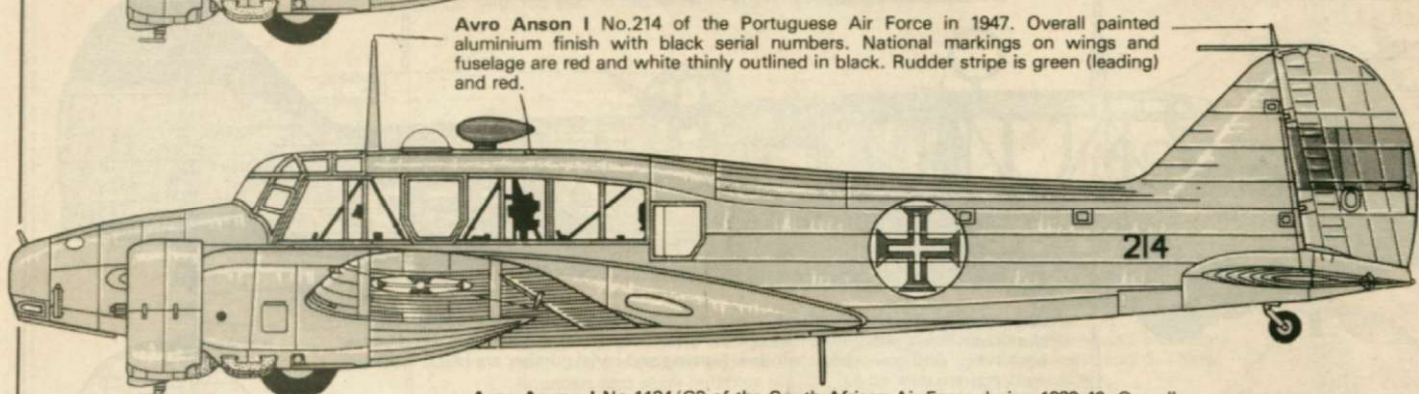
Avro Anson I NZ418/V of the School of General Reconnaissance, RNZAF during 1943-44. Dark green, ocean blue and sky blue finish with sky blue code letter. Serial numbers are black. These colours are similar to BS.381C/226, 636 and 101 respectively.



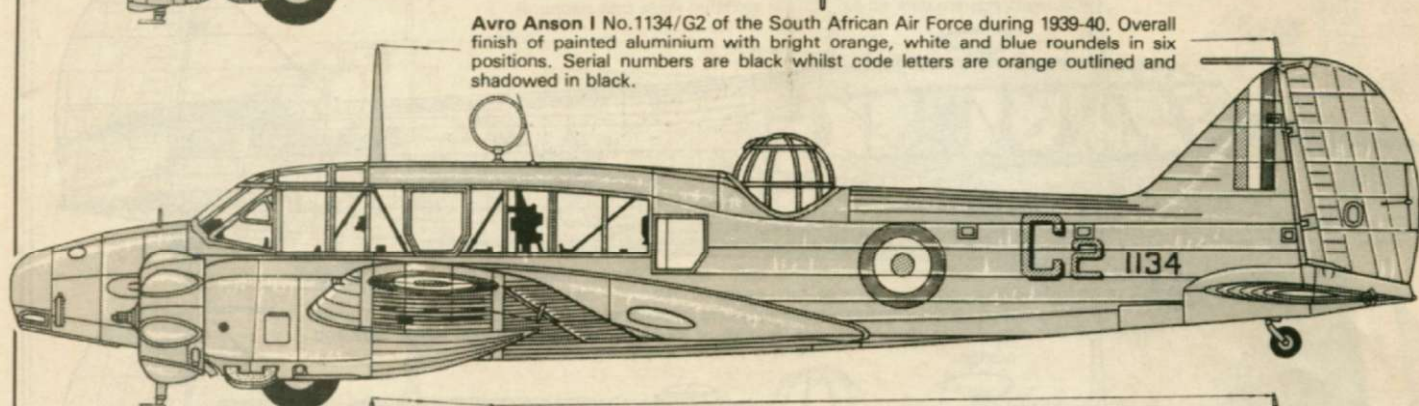
Avro Anson I DJ513 of the Royal Norwegian Air Force during 1946-47. Dark green and dark earth upper surfaces with painted aluminium below. Serials are black, national markings red, white and blue.



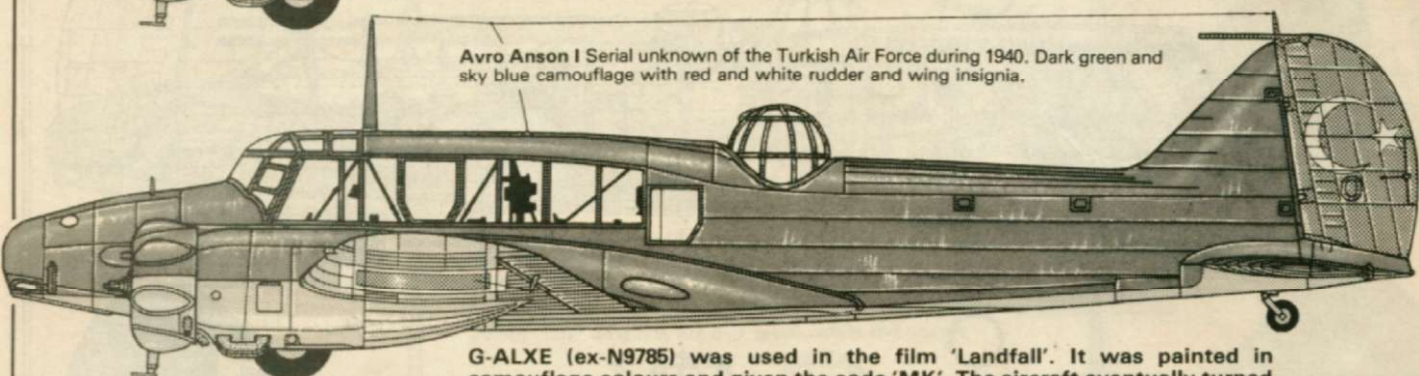
Avro Anson I No.214 of the Portuguese Air Force in 1947. Overall painted aluminium finish with black serial numbers. National markings on wings and fuselage are red and white thinly outlined in black. Rudder stripe is green (leading) and red.



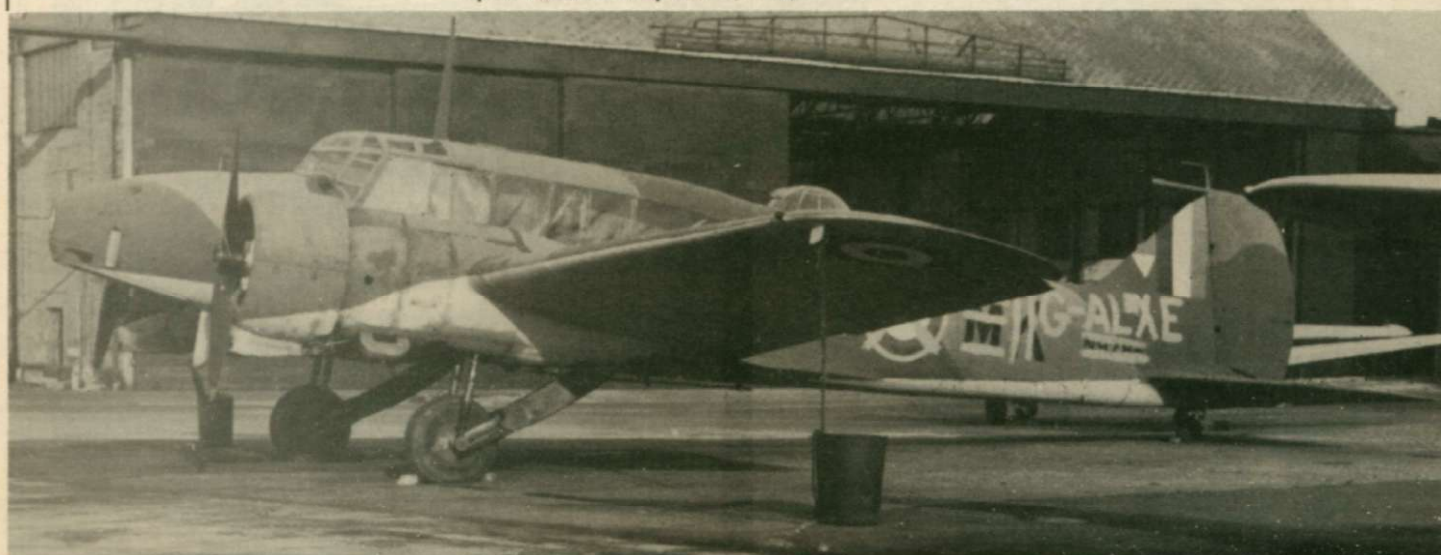
Avro Anson I No.1134/G2 of the South African Air Force during 1939-40. Overall finish of painted aluminium with bright orange, white and blue roundels in six positions. Serial numbers are black whilst code letters are orange outlined and shadowed in black.



Avro Anson I Serial unknown of the Turkish Air Force during 1940. Dark green and sky blue camouflage with red and white rudder and wing insignia.



G-ALXE (ex-N9785) was used in the film 'Landfall'. It was painted in camouflage colours and given the code 'MK'. The aircraft eventually turned up in Israel in May 1950. (APN)



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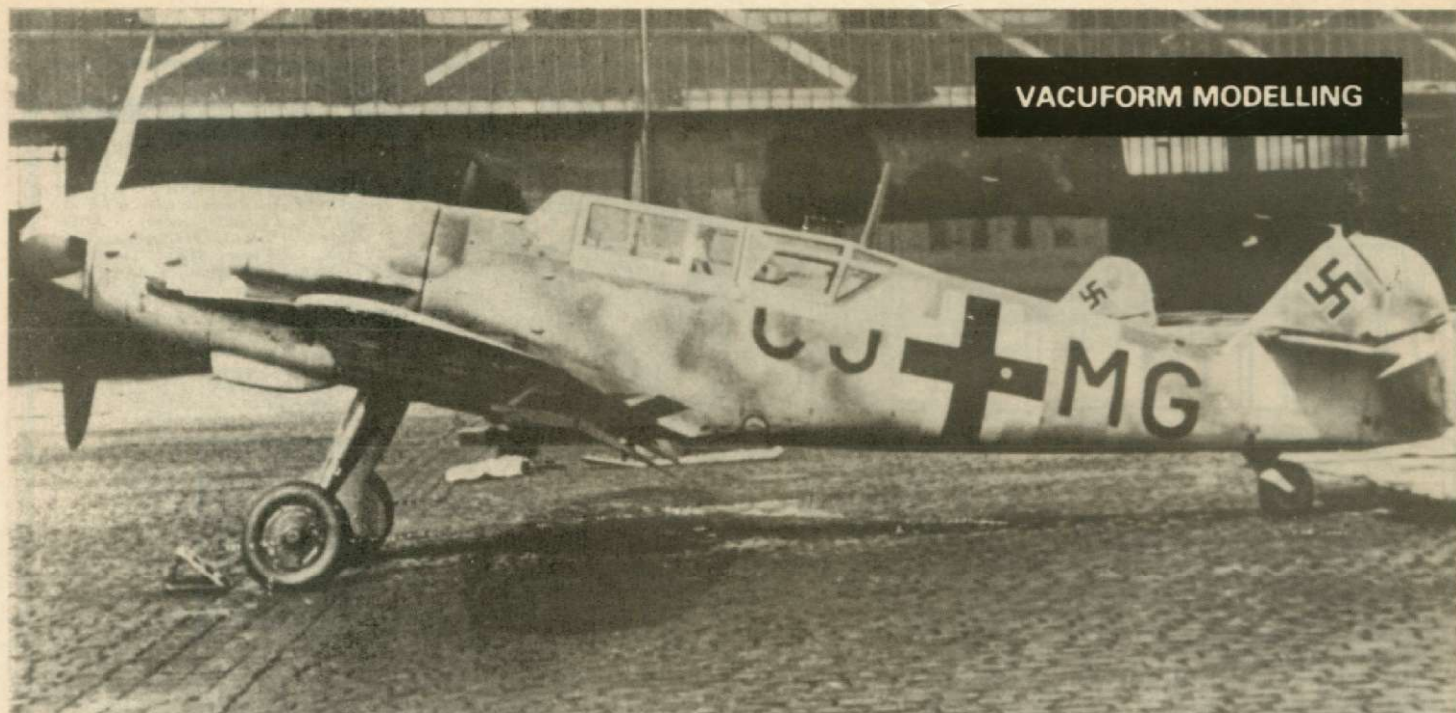
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VACUFORM MODELLING

Jim Howard combines the Revell Messerschmitt Bf.109G-10 with the Falcon conversion kit to produce a . . .

TWO-SEAT GUSTAV

FALCON Industries of New Zealand have recently produced their Triple Conversion Set No.10 which should delight Luftwaffe enthusiasts, enabling them to fill several holes in a 1:48th scale collection. The set consists of new two-seat fuselages for both the Fw.190 and Bf.109 together with a third set of fuselage halves for the single-seat Bf.109G-14. Needless to say, the mouldings are to Falcon's usual high standards, and in the case of the two-seat conversions include the necessary parts, such as floors, bulkheads and instrument panels for the second cockpit. A nice touch for both the single and twin seat Bf.109 conversions is the provision of wing leading edge slats for the modeller who wishes to build his model with these extended, and, after all, most 109s when parked seemed to have these slats hanging out.

Falcon's canopies are always outstanding but in producing those for the two trainer conversions they have really excelled themselves. Moulded in one piece, not only are these sharply defined and crystal clear but also succeed in capturing, without any compromise, the bulged side windows and framing of the aft instructors sections. Technically, this must have been no easy accomplishment and Falcon are to be congratulated on their expertise.

Deciding which of the three alternatives to build first was no easy choice as each has its attractions. Finally, a decision fell in favour of the Bf.109G-12 two-seater, as much as anything because I had stored away a copy of the Revell Bf.109G-10 which could serve as the basis for the conversion. Other alternatives suggested by Falcon, by the way, include the Fujimi Bf.109G/K or Otaki G6. Regardless of the kit chosen some individual modification is going to be necessary. Although mainly concerned with the upper wing bulges and fit of wing to vacuform fuselage attention to detail differences such as elevator trim tabs will also have to be taken into consideration.

In doing some initial research on the project prior to cutting plastic it soon became apparent

that detailed information on the two-seat 109s is not overplentiful, and although a number of books make passing reference to the variant, information is relatively sparse, most of the published photographs being of the prototype aircraft. Fortunately, IPMS (USA) Quarterly for Summer 1986 carries nine pages which include a useful selection of different photographs, two pages of side views and photographs of the interior of the second cockpit and rear instrument panel detail. For those who may not be too familiar with the 'G-12, the following historical details may be of interest.

HISTORICAL DETAILS

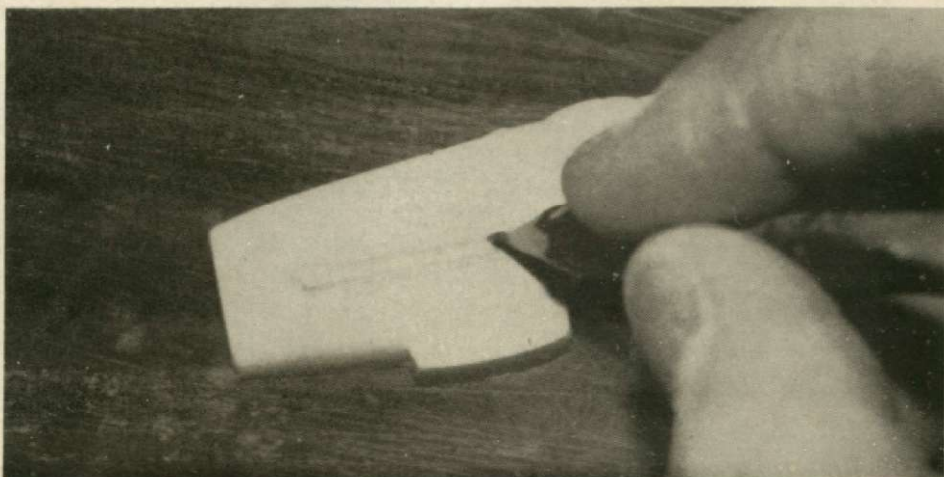
Design studies for a two-seat trainer variant of the Bf.109 were started in 1940, designated Bf.109S, the suffix indicating Schule. However, at that stage of the war the Luftwaffe training machine saw little need for such an aircraft and consequently the design was shelved. By 1942 circumstances had changed, an accelerated training programme and a general lowering of standards giving rise to a higher accident rate, particularly during con-

The two-seat Bf.109G was conceived in 1940 but not put into production until several years later when training standards were lowered and the accident rate rose alarmingly. This picture shows one of the prototypes.

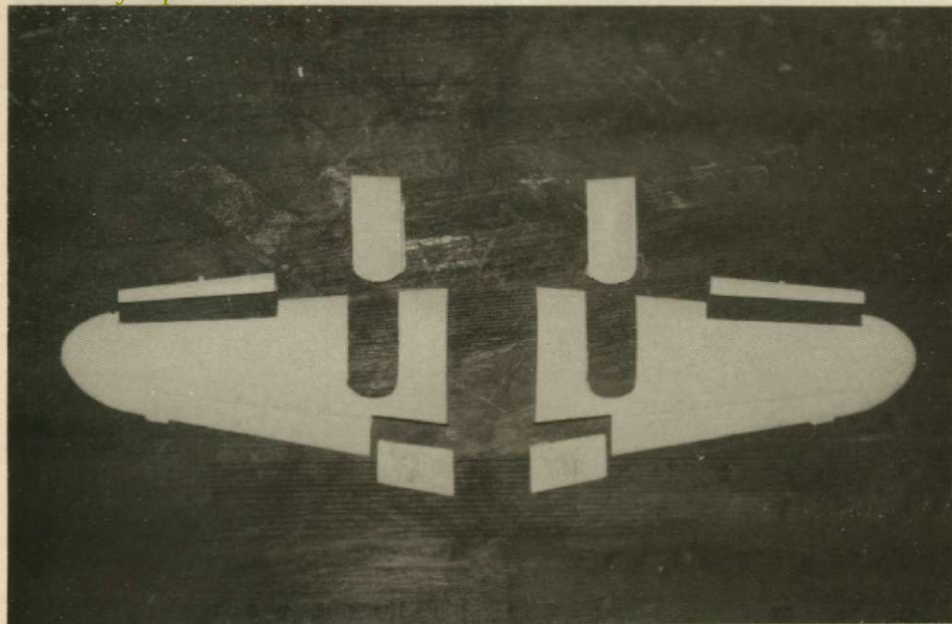
version on to type. The first pre-production Bf.109G-0 was fitted with a mock-up of the extended canopy for aerodynamic trials. Following this initial evaluation a production Bf.109G-6 Trop was fully converted to serve as the prototype two-seater, becoming Bf.109V-52. The original intention had been to convert nearly 1,000 Bf.109G-2, G-3, G-4 and G-6 machines to two-seater G-12 configuration but in practice it seems that less than 100 actually underwent the change.

The positioning of the instructor's cockpit immediately behind the standard cockpit required some equipment relocation. The main 400 litre fuel tank was replaced by a smaller one beneath the cockpit floor containing only 240 litres, the resulting reduction in flight time to around 35 minutes requiring the retro-fit of a 300 litre belly tank with its necessary fuel transfer system. As part of this change the fuel filler cap was repositioned one bay further aft. In addition, all armament was deleted and the battery repositioned from centre fuselage to gun bay.

The first cockpit specification remained virtually unchanged, albeit less the cannon breech cover and Revi gunsight. By contrast, the new rear cockpit had only partial instrumentation but full dual controls. Both cockpits were covered by a one-piece jettisonable canopy, access being gained via two entry hatches hinging on the upper right edges,



Pencilling round the vacuform fuselage exhaust stubs before cutting these out.



The Revell wing needs converting from G-10 to G-6 standard by cutting round the edges of the kit bulges and removing these ready for replacement by the vacuform parts. These two pictures show the various stages and the cutting out of the leading edge slats.

seats, floor and instrument panel items for the new rear cockpit.

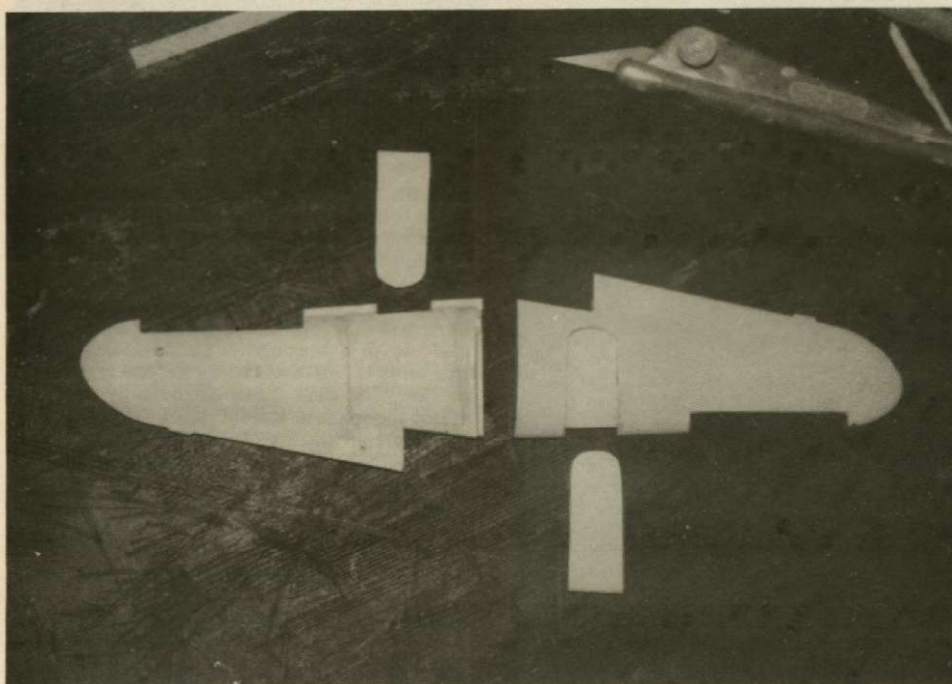
Thus, preparation time before moving on to the more interesting phases of construction and painting is minimal. Naturally, a little extra work is necessary on the fuselage halves, the cockpit opening, oil cooler intake and exhaust areas requiring careful cutting away of the unwanted plastic.

In particular, care needs to be taken with the slots into which the Revell exhaust stubs will eventually go to ensure that the integrally moulded baffles over these are not damaged. To help highlight the section to be cut out I first of all ran a pencil around its edge. In addition, the various air scoops on the cowling need to be carefully drilled out.

WING MODIFICATIONS

Falcon's conversion set represents a G-12 converted from a single-seat G-6. Thus, the modeller using the Revell G-10 has first of all to convert the wing back to G-6 standard. In essence, this requires the removal of the elongated G-10 upper wing bulges and their replacement with the smaller bulges of the G-6. The originals are far too prominent to be merely sanded down flush with the rest of the fin wing surface and instead it was decided to remove them completely, at the same time cutting away the flaps, ailerons and leading edge slats for later repositioning. All the items concerned were removed by carefully running the tip of a razor saw around their edges until they could be gently snapped away from the surrounding area. The photograph illustrates the job at an interim point, the flaps and ailerons still awaiting treatment.

The wing bulges represent a fair percentage of the total wing area and it is worth making sure that rigidity is restored (particularly as the whole of the trailing edge will eventually be removed) as part of filling the gaps left by their removal. This I did in two stages, first of all cementing an overlong piece of 15 thou card inside each of the wings before cutting to exact shape two further pieces approximately the same thickness as the plastic of the wing itself. Those shaped sections were gently bent to roughly the correct aerofoil curvature and care-



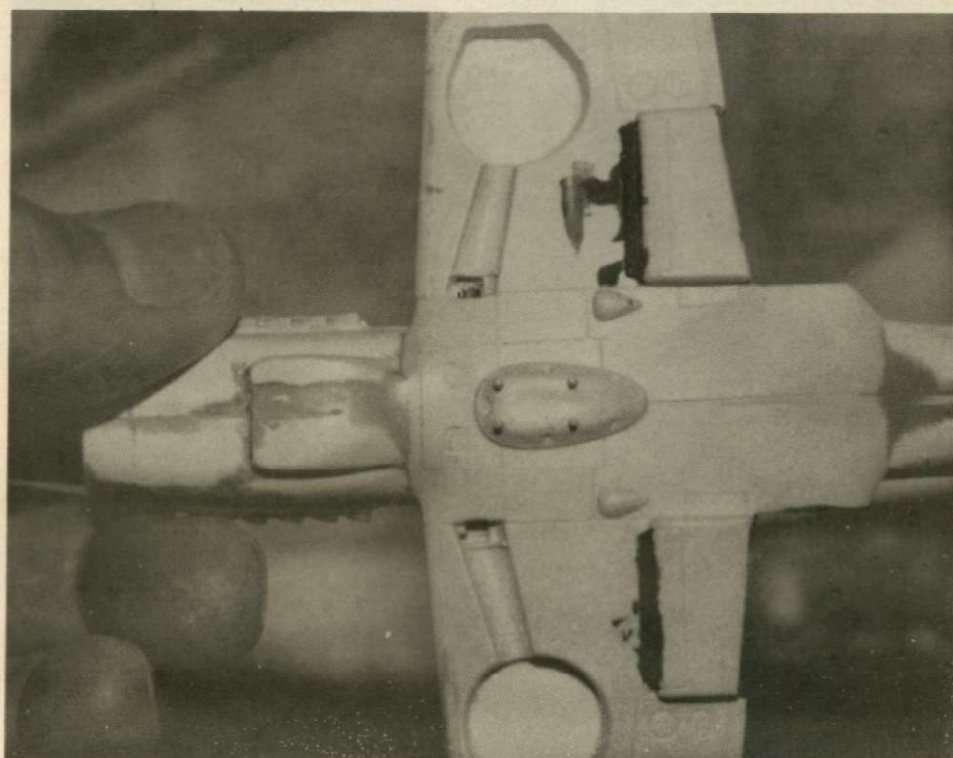
opening from the left.

Modification of selected airframes to trainer variant was the responsibility of Blohm and Voss, Hamburg, with much of the construction and production of components shared with Land und See Leichtbau GmbH, Neumunster. However, it is known that, in practice, many of the conversions were also carried out by Luftwaffe maintenance units. Although some modified aircraft were issued to training units in 1943 it was the following year before they entered service in any number. In addition to their training role a number of two-seaters also saw operational service with at least one long range reconnaissance group, remaining in service until the last days of the war in Europe.

PRODUCTION METHODS

Modellers who hesitate to take on the commitment of a vacuform because of the work necessary to cut out and sand down the various pieces can take heart from knowing that in this particular case the choice is minimised as much of the original Revell injection moulded kit can still be utilised. In fact, the only major vacuform items are the replacement fuselage halves, the other, smaller pieces comprising the

An underside view of the model showing the wing flaps lowered and the amount of filling necessary on the vacuform kit where it joins the Revell wings.



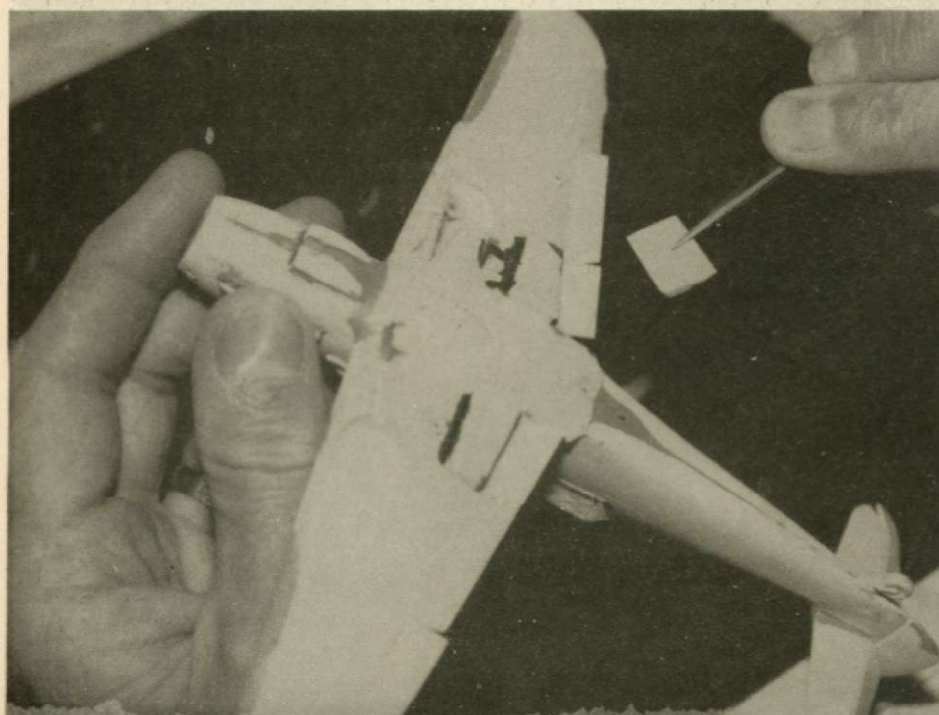
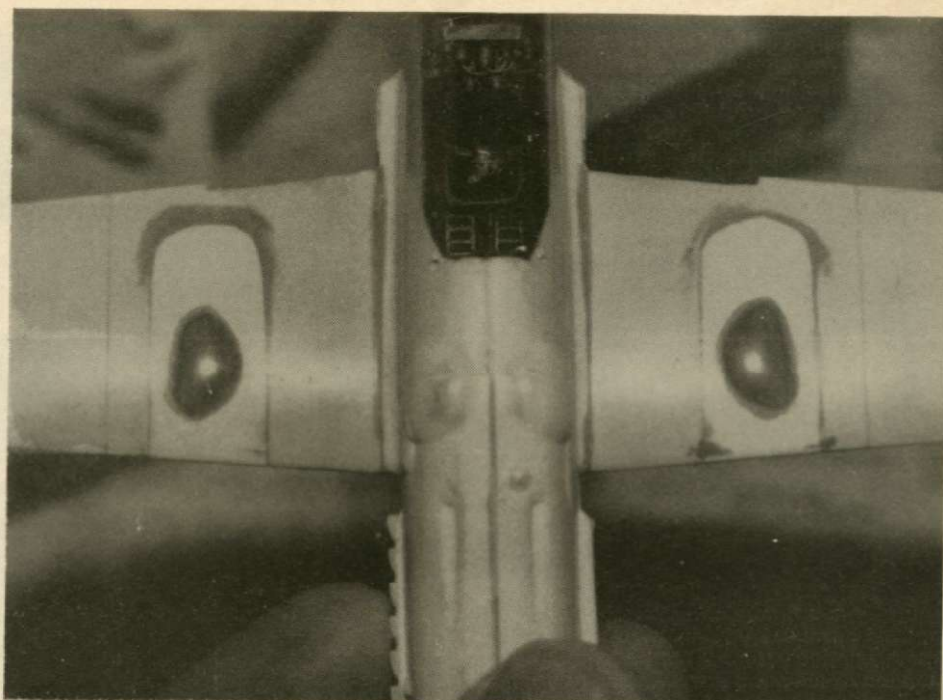
The kidney shaped wing bulges shown completed together with cockpit detailing.

fully cemented into position. As luck would have it they proved to be a tight fit and only a little green stuff and subsequent sanding down with an Aeroclub Flexi-File was necessary to finish that stage. The addition of the correct wing bulges was left until later.

COCKPIT INTERIOR

Having decided to complete the model with the two canopy hatches in the open position I was committed to building up a reasonable degree of interior detail. First of all the cannon breech was removed from the Revell kit floor and the gap filled with a scrap of card. To the rear of this floor section was added Falcon's vacuum-formed extension together with the new rear bulkhead. This assembly was joined by the seats and full marks are due to Falcon for providing a matching pair rather than leaving the modeller to use Revell's more clumsy rendering for the front cockpit. The original front instrument panel was used, less the Revi gunsight, cemented to the floor. It was decided to leave the rear panel until later in the construction sequence.

The cockpit sidewalls were given an



impression of interior ribbing, using microstrip and a certain amount of detail such as throttles and cabling built up. The interior areas were now given an overall coat of black-grey which was, when dry, followed by a dry brushing of medium grey to highlight detail. As a final touch, two sets of Model Technologies excellent etched metal rudder pedal and seat buckle sets were used to give the area a well dressed look.

The fuselage halves and the cockpit module were now carefully cemented together and put aside to dry thoroughly. Before doing this I had some reservations about the fuselage width at the wing root being sufficiently wide to match the space in Revell's wing centre section. However, in practice, the cockpit interior had gently pushed the fuselage walls out to just the right width.

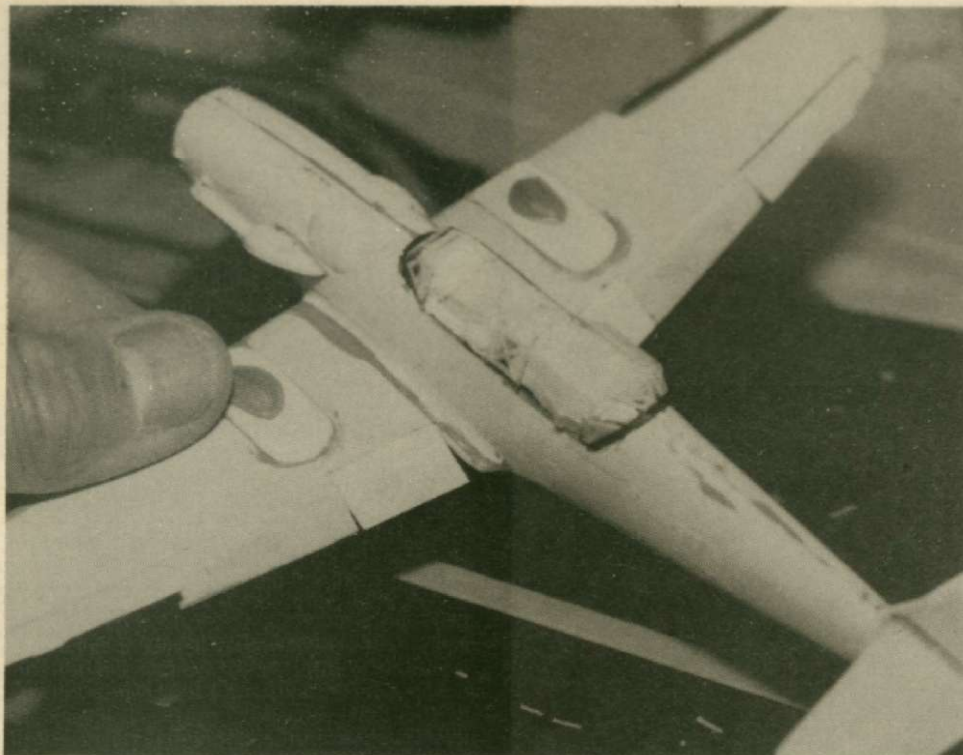
The next major point in the construction was, of course, the making of wing and fuselage, Revell's one-piece lower wing and modified upper wing halves having previously been cemented together and left to dry. Generally, I was relieved to find that the fit was very good although several dry runs and small adjustments were necessary. Inevitably though, green stuff was called for, particularly to blend in the fore and aft ends of the centre section to the adjoining fuselage areas.

Of course, the smaller, kidney-shaped bulges of the G-6 wing had still to be built up and this I chose to do by using as a basis two small sections of Sutcliffe extruded strut. These were first of all roughly cut to shape with a scalpel, coarsely finished with wet and dry and cemented into place, filler being necessary around the edges of both. Finally, the ubiquitous Flexi File was used for final shaping and blending into the wing surface. Note also the filler application necessary on the top surface of the wing roots and along the fuselage joint line.

FINAL ADDITIONS

With the major joint lines sanded smooth, one or two final items were added to the interior, including the trim controls and rear instrument console. This is, in fact, two horizontal clusters positioned one above the other. The upper of the two contains five instruments and is mounted as a bracket above the level of the

Above: A completely new rear cockpit had to be made and the details added to the rear of the instrument panel. Seats came from the vacuform parts but were embellished with hardness and brass-etched buckles. Left: Replacing the flaps that had been detailed and then set in the drooped position.



A mask is made for the cockpit interior before other painting can begin.

canopy into place, using five-minute epoxy as an adhesive.

Once the transparency was firmly positioned the glazed areas and cockpit interiors were carefully masked off with a combination of thin strips of tape and masking fluid before the exterior framing was given an initial coat of black-grey to simulate the interior framework colour.

COLOUR SCHEME

As a colour scheme, I had chosen to model the G-12 illustrated on Falcon's instruction sheet, yellow 60, based at Neubiberg. This called for the all grey Luftwaffe RLM 74/75/76 scheme accompanied by a broad yellow rear fuselage band.

The latter was applied first of all, three thin coats of yellow being airbrushed around the appropriate area. When dry, the band itself was carefully masked off and the whole airframe given a coat of 76 blue grey. This formed not only an undercoat for the lower surfaces but also served to highlight any constructional flaws that might need attention.

Having dealt with the inevitable flaws that this revealed the undersurfaces were given two further airbrushed coats of RLM 76. Once dry, a piece of masking tape was laid on a flat

cockpit sill. Because of its prominence immediately above and behind the front seat I added some pieces of sprue to represent the protruding backs of the cylindrical instrument bodies with some finer sprue to simulate wiring. The horizontal tail was positioned, after the elevators had been gently scored along their hinge lines and realigned and finally the Revell tail wheel and strut was cemented into place on Falcon's fuselage.

The centre flap sections and ailerons, previously removed from the wing trailing edge were prepared to be repositioned, fully lowered and deflected respectively. This involved sticking the various top and bottom sections back together, adding aerofoil shaped leading edges from sprue and green stuff and gently sharpening the trailing edges.

Before repositioning them on the wing the areas they would butt against were carefully pared down with the edge of a scalpel to ensure a good, close fit with no gaps or out-of-scale sections visible.

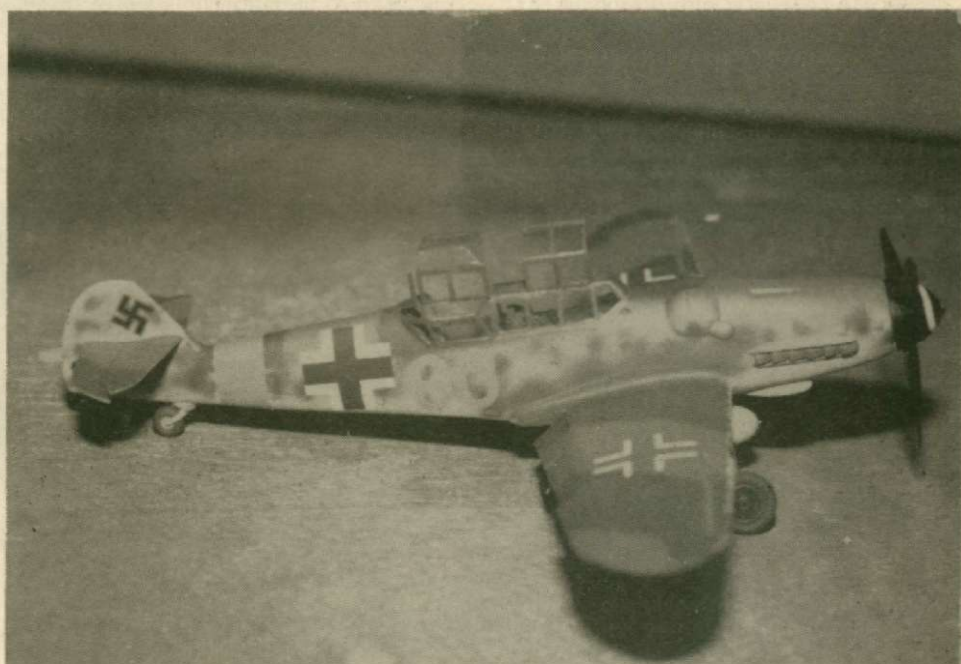
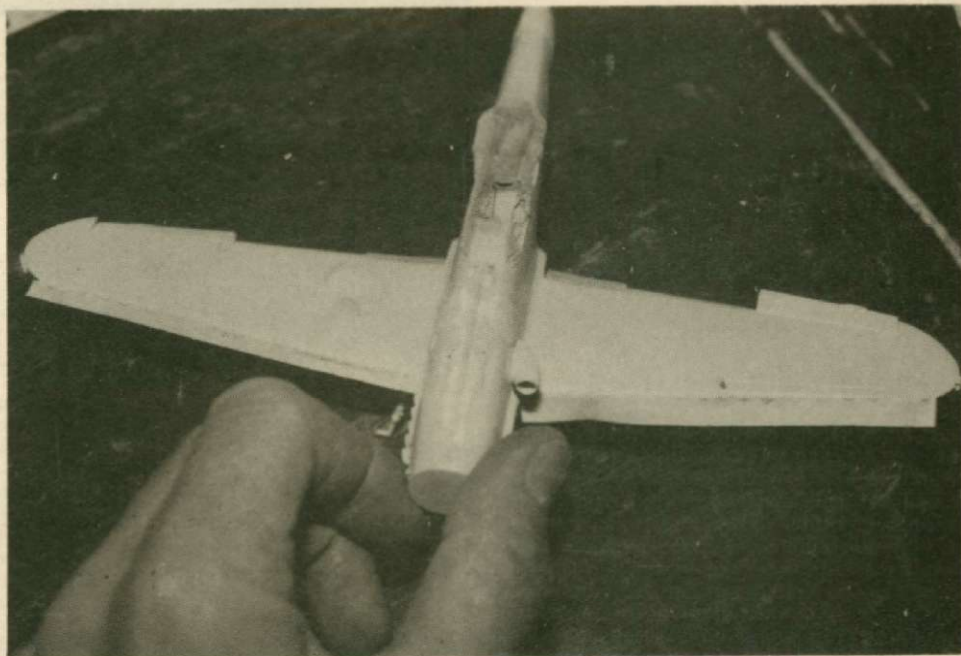
The split inner or radiator flaps were a little more complicated, having to be totally scratch-built from thin card to ensure scale effect. Additionally, the sides of both top and bottom sections of these needed to be boxed in with 'scalloped' fairings. Finally, I boxed in the back of the radiators themselves with two small rectangles of card to avoid a see-through look.

With the control surfaces re-installed the major aspects of construction were nearing completion. The prominent compressor intake of the G Series was cemented into position on the port side of the cowl and attention then focussed on the transparencies.

COCKPIT CANOPIES

As previously described, the Falcon canopy moulding is a little gem and this was very carefully cut away from its backing sheet. Fortunately, the demarcation line between canopy frame and backing is clearly defined, a gentle but persistent scoring with a scalpel being sufficient to quickly separate one from the other. Using the Falcon instruction sheet schematic drawing of the canopy as a general guide the two opening sections were cut out of the main structure and put aside for re-installation at a later stage. A quick dry fit established that the canopy to fuselage match was excellent and I then carefully cemented the

Top: A complicated masking had to be applied to the wing leading edge to obtain the scalloped effect. This was done with cutting out masking tape before spraying.
Right: The author's completed model.



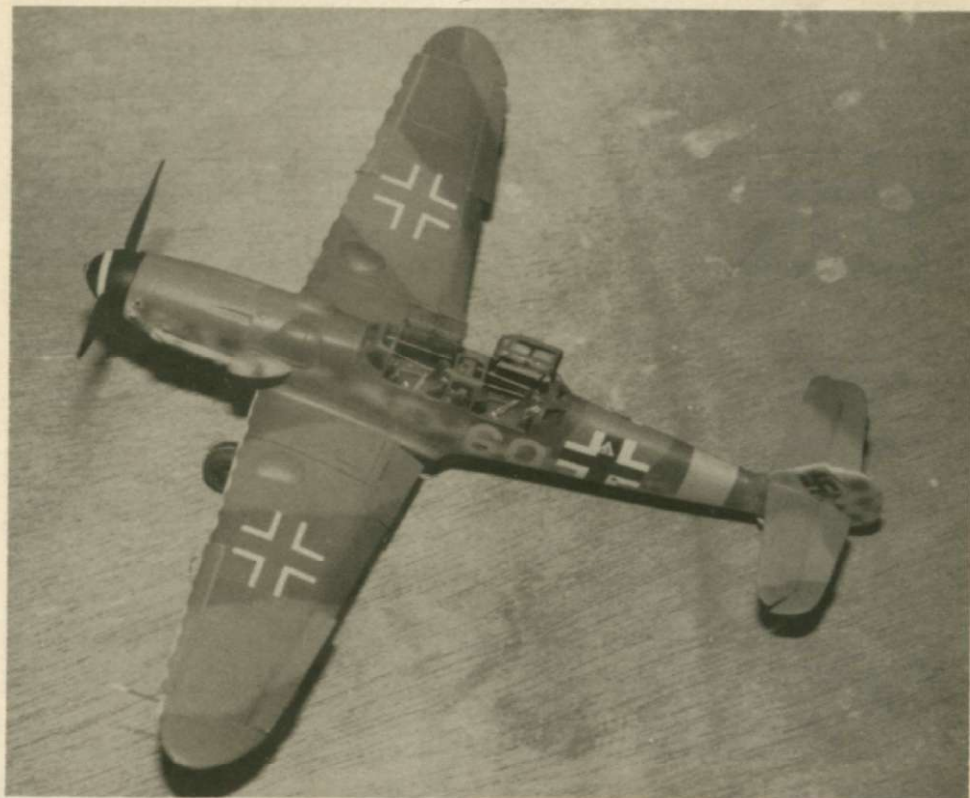
Three views of the author's completed model of the Messerschmitt Bf.109G-12 conversion. This won the Kit (modified) section of the 1987 IPMS Nationals last month.

surface and carefully cut in a scalloped pattern down its length, the two matching pieces being used to mask the wing leading edges in order to produce the distinctive pattern seen so often on Luftwaffe fighters.

Now, carefully using hand-held card masks, RLM 75 medium grey was applied to the top surface of wings and horizontal tail together with the top and upper fuselage sides as far down as the lower canopy frame line. Still carefully using card masks held just above the surface of the model the RLM 74 dark grey was shadow shaded across the previously applied medium grey areas.

One of the benefits of the DeVilbiss Sprite Major airbrush is the ability it offers to change needle and nozzle combinations from normal coverage to fine line and it was to the latter that I now turned to apply a fine mixed mottle of RLM 74/75 to the fuselage sides, fin and rudder.

The entire airframe was now given a coat of Humbrol gloss varnish and the decals applied. In the main these were straight off the original Revell sheet (and very good quality they proved to be) with the large yellow 60 codes from Microscale and the swastikas from the *Scale Aircraft Modelling* sheet of two or three years ago.



With the decals dry the airframe was given an overall coat of matt varnish and painting then moved on to its final stages.

Exhaust stains were misted back along the fuselage sides from the struts which themselves were painted a dull reddish brown and other minor paint jobs dealt with such as the interior of the wheel bays, finished in RLM 02. The propeller spinner was airbrushed white and then masked with a thin spiral of masking tape before being airbrushed again, this time in black. With the masking removed a reasonable impression of the tapering white spiral typical of 109s and 190s resulted. The blades were finished in black green.

The masking tape was removed from the canopy area, the glazing given a coating of gloss varnish and the hinged access hatches cemented in the fully open position. Finally, the last bits and pieces were added to complete the model and these included the undercarriage wheels, pitot tube, belly tank, aileron mass balances and various aerals under the lower wing, fuselage and rear of the canopy.

LONG JOB

Like most modelling projects this one seemed to have more than expanded to fill the time available. What had originally started as something I had intended to build fairly quickly for a club Luftwaffe competition turned into a project that took more than twice as long as originally planned. However, its completion has given a lot of enjoyment, the combination of Falcon's outstandingly good conversion set and Revell's 'G-10 (itself one of the best 109 kits available) proving just too good a combination to hurry along.

The result is a pleasing conversion that I am sure will appeal to many Luftwaffe enthusiasts or indeed any modeller looking for a relatively straightforward conversion project.

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TECHNICAL QUESTIONS

READERS' QUERIES ANSWERED BY ERNIE LEE OF IPMS

Could you give me the colour scheme and markings of the Polikarpov Po-2 as operated by North Korean forces during the Korean War.

J. Harvey
Arbroath

One scheme I have shows an aircraft in dark green overall with wing undersides, struts and undercarriage in black. North Korean markings are shown on the fuselage and rudder. Also displayed on the rudder as well as above and forward of the national markings was the number '14' in white. As my information is taken from a side view drawing I do not know if it carried upper wing national markings but I see no reason why these should not have been present. It was also reported that some of these aircraft were overall black with no markings of any sort.

I find it extremely annoying to see constant references to BS381C, BS4800, RLM and Methuen (all, I assume, books of colour chip examples) and yet not be able to find an address from which these may be ordered. Can you supply addresses from which they may be obtained? A current price list would also be quite useful.

G. Barling
Lahr, West Germany

I can appreciate your problem but it would be impractical for writers to include such details in each article. I regret I cannot give you prices as I have had my copies for some considerable time but here are some addresses that may be of help. For the BS381C and BS4800 items, contact the British Standards Institution, British Standards House, 2 Park St, London W1. The Methuen Handbook of Colour is published by Eyre Methuen Ltd of 11 New Fetter Lane, London EC4 but I cannot say if it is still in print since my copy dates back to 1978. However, you could try one of the larger book shops such as Foyles Ltd of Charing Cross Rd, London since they may well have some copies in stock.

As to the RLM, this chart is to be found in some books dealing with World War 2 German colours. The most accurate appear to be the 'Luftwaffe Paint Guide' by J.R. Smith, G.G. Pentland and R.P. Lutz; 'The Official Monogram Painting Guide to German Aircraft 1935-1945' by Kenneth A. Merrick and H.

Hitchcock and 'One-O-Nine Gallery' by H. Hitchcock.

I wish to convert my DC-3 to the Soviet Li-2 version, could you provide details of a camouflage scheme for that aircraft.

L. Charman
Castleford

I am aware of three schemes, as follows;

- 1 Upper surfaces in a disruptive scheme of light and dark green. Under surfaces white as are all trim tabs, rudder hinges and spinners. Turret frame in black. National insignia in red under wings and in red with a yellow outline and a thin black outline on the rudder, below this is a 20-in white numeral. No fuselage insignia was carried.
- 2 Upper surfaces in a disruptive scheme of dark green and dark earth with under surfaces in white. Turret frame black and spinners red. Red under-wing insignia plus red with white outline on fuselage and rudder. Code '745' in white on the rear fuselage.
- 3 This aircraft is fitted with skis and was white overall with the outer quarter-span of each wing in red, top and bottom. Turret frame and aerial mast in black. Red insignia was carried under wings on fuselage and rudder with a red '9' on the fin.

I have two Matchbox 1:32 scale Dauntless kits, are there any different or unusual colour schemes I could finish my model in, or different airforce markings I could apply to these models?

I also have two Hasegawa 1:32nd scale TA-4J Skyhawks, I would like to finish one of these as a Singapore Air Force version with the two single-seat style canopies, one above/behind the other. Are there any conversion kits and decals available for this version.

Lastly are there any decals available in 1:48th scale for the Matchbox FJ-4B Fury.

A. Zeates
Newport, Isle of Wight.

You can paint your Dauntless in the pre-war scheme of silver and chrome yellow, there is an example of this scheme in 'Aircraft in Profile' Volume 9, the same scheme is depicted in 'Navy Air Colours Volume 1' by Squadron/Signal. The aircraft in question was painted overall aluminium with orange yellow upper wing surfaces. The front half of the cowl and fuselage stripe was red. The fuselage code was 2-MB-1, the numbers being black and the letters white, those two being on the fuselage stripe. This aircraft belonged to VMB-2 Marine Squadron, and had the US Marines logo under the tailplane.

As to foreign markings one could depict an example of the French Navy or the Free French Air Force, the New Zealand Air Force or a Mexican one. All but the Mexican aircraft are illustrated in the aforementioned 'Aircraft in Profile'.

Regarding the Skyhawk, I know of no conversion kit for that aircraft, and personally I think there is not much chance in that scale as I should imagine that the manufacturer would go

for the more common scales, like 1:72nd and 1:48th as there are more kits available, so I am afraid it will have to be a scratch building job at the moment.

Something on that vein will be produced in a forthcoming issue of the IPMS Magazine, but that I am afraid will be restricted to IPMS members.

As to the decals, and this applies also to the Dauntless, 1:32nd scale ones are not easy to come by but you could adapt some bomber aircraft markings of the correct size. For the Singapore aircraft you may have to hand paint on clear decal sheet, but because of the size of this model it should not be too difficult.

Lastly I don't know of any decal sets for the FJ-4B, but it is possible to ring the changes using spare decals from your oddments box. One scheme for VF-146 can be found in 'Scale Aircraft Modelling' Volume 2 Number 12 and another in 'United States Navy and Marine Corps Fighters 1918-1962'.

For all these schemes I advise you to have a look at the relevant profiles, that is the only way you will be able to paint and decal them accurately.

Could you tell me which squadrons used the Spitfire Mk IV and their serial numbers.

B. Lecuyer
Ecivegvee/Liege

You have set me a task far beyond the scope of this column. To find all you wish to know would take many hours of research in aviation museums and there could still be gaps.

There were 100 Spitfires of that mark produced and I could give you every serial number, but that would be pointless without squadron tie ups. Hopefully, this information will help.

No. 66 Squadron: AB527, BR577, BS146, BS437, BS472. No. 124 Squadron: AB498, BR579/ON-H, AB533, BR598, BR314. No. 234 Squadron: BR297, BR577, BS146, BS437, BS141, BS472. No. 313 Squadron: BR252, BR297, BR579, BS141, BS472, BS146, BS437. No. 504 Squadron: BR189, BR297, BR473, BS146, BS437. No. 602 Squadron - nothing known. No. 616 Squadron: BR585, BR922/YQ-D, BS111/YQ-P, BS149/YQ-B, BS114/YQ-A, BS448, BS453, BS465.

LANCASTER COLOURS

A question answered in Vol. 9, No. 10 regarding the internal colours of the Lancaster, has brought a letter from a Mr Crudington who can throw more light on the subject, having examined the cockpit section of the aircraft housed in the Imperial War Museum.

The colour of the area under the rear of the cockpit canopy is dark green, upper surface camouflage.

The interior structure is interior green and all instrument panels are matt black. Metal parts of the pilot's seat are interior green and the padding is black. The armoured head rest is interior green and, on this aircraft at least, it carries a large yellow circle on the rear.

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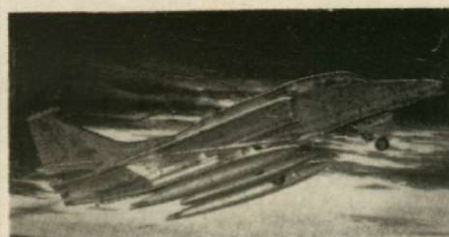
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THIS IS WHAT WE NEED

Terence Marriott enters the controversial field of putting forward his ideas of what would make good subjects for plastic construction kits of aircraft.

SCALE Aircraft Modelling, to paraphrase the IPMS slogan, is a magazine by modellers for modellers and, as such, can claim a healthy readership worldwide. Compared to *Airfix Magazine* and *Scale Models* it is still a young journal, yet it proceeds from strength to strength — if the current sales figures are anything to go by. Sales of back issues at the trade stand at the many air shows we attended last season are better than ever.

However, unlike the two aforementioned publications, *Scale Aircraft Modelling* is a SPECIALIST journal dealing solely with aircraft modelling as well as, occasionally, associated paraphernalia, which may make its present circulation figures a shade unbelievable to the uninitiated.

There is something else, too, which has often been touched upon editorially as *Scale Aircraft Modelling* is in no way intended to be an INFLUENTIAL publication. It does not set out to directly tell the kit manufacturers what they should produce and it is editorial policy to avoid this intrusion on their business plans. Yet that does not alter the fact that, possibly unknown to either the Editor or his contributors, kit manufacturers' employees and/or directors read these pages and, maybe, think 'Hmm, perhaps we should consider producing such and such an aircraft in kit form'.

Hasegawa's F-102A, a nice kit of a really nice looking machine. They also produce a neat kit of the F-106A, as does Monogram to 1:48th scale, yet that company has so far not blessed us with a quarter scale Dagger. Will they, I wonder?

Revell's 1:48th scale MiG-21. A nice kit, as is their 1:32nd scale offering, but both are fairly basic as regards finesse. Surely the time has come for the 21 to be given either the Monogram or Hasegawa treatment. (Model by Allan McConachie.)

yet while that is obviously true it must also be said that this limited coverage should serve to open one's eyes — and hopefully those of any kit manufacturer looking in! Perhaps manufacturers may be a little more adventurous in their choice of subject and maybe think while doing so 'Hey! That's a truly marvellous aircraft, probably a real classic, so how come it hasn't either been kitted before or is currently available only as a very dated product?' So then, let's see if what I have to say is indeed

As a modeller, I know what I'd like to see on the market and I have no doubt that you do too. The best way I can think of to open such a controversial discussion would be for me to reveal that I can only hope to cover a few aircraft types within the confines of this article,





'What we need' and if you agree with the choices I've made together with the reasons behind them . . .

This has been a long introduction but I wanted to make clear my intentions before launching into a number of subjects that I feel are of importance. The Bristol Beaufighter is one of these. This was a massive, twin-engined, lethal night fighter, tactical strike and anti-shipping aircraft whose awesome firepower was the equivalent of a light cruiser's broadside. Produced in a variety of different versions and used by the RAF right up into the mid-late 1950s it has, sadly, been a kit subject on just four occasions, these being by Airfix, Matchbox, Frog (Novo) and Revell, the first three being to 1:72nd scale while the latter is to 1:32nd scale. These kits, in most cases, are acceptable in terms of outline and reasonable fit of parts (despite their age) but they lack one all important factor — detail! A lot has to be added by the individual modeller in order that they may stand on their own beside the likes of Hasegawa's, Italeri's or Esci's latest offerings which must surely mean that the time is ripe for a new kit by somebody of this magnificent aircraft. Just imagine a 'Beau' to 1:72nd scale by Hasegawa with all the technological finesse at their disposal. And what about 1:48th scale? Surely this aircraft is perfect for the like of Monogram to have a go given the popularity in the USA of European types as this company is the master of quarter scale, evidenced by such offerings as their B-24, B-25, B-26, B-29 and AV-8B. That level of workmanship incorporated into a 'Big Beau' would produce, in my opinion, a truly superlative kit.

RETOOLING NEEDED

Airfix, Matchbox, Revell and Frog (Novo) have, in the past, had a shot at a particularly lovely American twin, yet all these kits, again, lack detail while incorporating, in some cases, the most deplorable of outline errors. The best product is that by Revell (re-released on three occasions) and the aircraft in question is the Douglas Boston/A-20 Havoc. From every angle this is a beautiful machine, and I have yet to meet the modeller who disagrees with me — and I am a jet fanatic. So let's have a kit of this aircraft in either 1:72nd or 1:48th scale — or

Hasegawa's MiG-29. Neat, well moulded, but not too adventurous as far as Soviet aircraft kits go. I wonder how many of us there are who would rather have had the time and plastic expended upon a Tu-16 Badger instead? (Model by Allan McConachie.)

both! After all, Minicraft in the United States have just released a very neat Ventura, and this aircraft was nowhere near as widely known or used as the A-20. Speaking as an individual I find it far from difficult to close my eyes and see before me a 1:48th scale A-20G by Monogram, the quality of which is such that it would be a crime to break the parts from the sprue to build it.

LUFTWAFFE MODELS

We have many kits of World War 2 Luftwaffe machines, often quite excellent and including such types as the Bf.110, Fw.190, He.111, Do.217/17, Ju.87 and Ju.52 along with equally neat kits of the not so well known such as the Fw.189 (Airfix), He.115 (Matchbox/Frog-Revell), Bv.138 (Supermodel), Ar.96 (Airfix/Heller) and Me.410 (Matchbox). Yet, for all this, we have just five kits — three to 1:72nd scale (Airfix, Revell, Frog), one to 1:48th scale (AMT) and one to 1:100th scale (Faller) — of the Luftwaffe's greatest machine and perhaps the finest example of multi-role aircraft there has ever been, or perhaps ever will be, each of which falls a long way short of the near perfection we have come to expect as a matter of course by, say, Hasegawa; the machine in question is, of course, the Junkers Ju.88.

Why has it been so neglected, this aircraft that flew and fought on every front in almost

Airfix's F-80C Shooting Star, finished as a P-80B, is a neat kit, as, too, is Monogram's example to 1:48th scale. Despite the availability of such kits, there are still some very wide gaps in any modeller's collection of 1950s American jets.

countless guises and versions and which was, in captured form, universally liked by the many test pilots that flew it? The answer defies description, and I welcome any readers' contributions who might care to even try and enlighten me. Here, again, the time is more than ripe for a modern kit manufacturer with all the resources at its disposal to do the justice in plastic this amazing aircraft so richly deserves. How about it, Monogram or Hasegawa, a 1:48th scale Ju.88A-4 incorporating all the finesse modellers everywhere just know you're capable of producing?

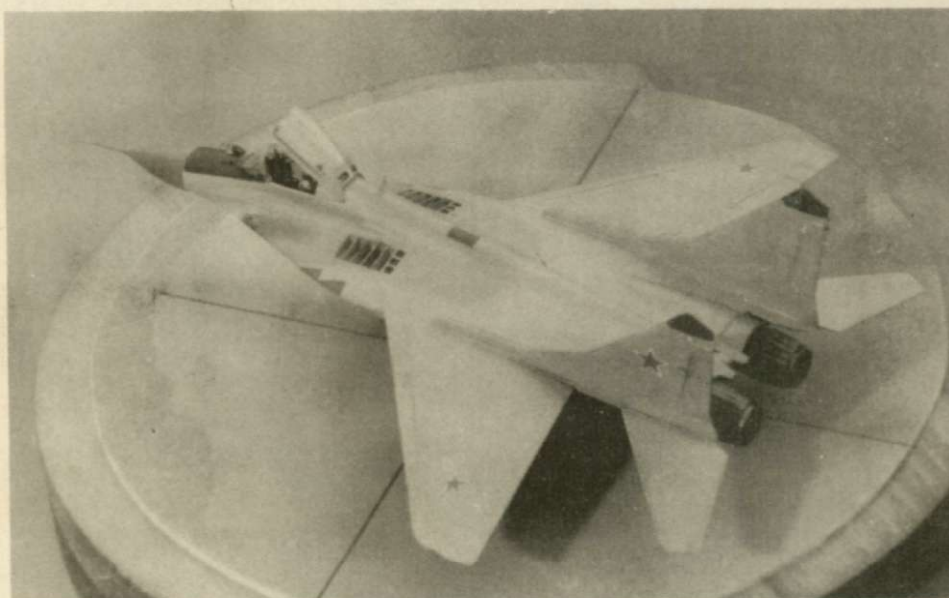
There's something else, too, and that is that this machine is probably the single best representative of the Luftwaffe one could add to a collection of World War 2 types if one was intending to build just one machine of each combatant nation of that conflict. Think about it, for I'm sure you'll agree . . .

WELLINGTON REVIVAL

There are many kits of British World War 2 aircraft. Some are good, some acceptable and a few, like the Battle and Defiant, sadly inaccurate. I have chosen the famous Vickers Armstrong Wellington to be my particular suggestion in this period of aviation history as there are just three kits that have surfaced over the years — Frog's to 1:96th scale, Airfix's to 1:72nd scale, and, finally, Matchbox's to 1:72nd scale. Of these, the Matchbox example comes nearest to being acceptable and they have, admittedly, tried hard, though I'm sure everyone will agree with me when I say that their single greatest error was the choice of version — a Mk.X. True, the kit includes parts for a Coastal Command GR Mk.XIV, a good bonus in anyone's book, but would it not have been better to have produced the model as a Hercules powered Mk.Ic?

The Airfix kit, for its day, was good, but it did after all make its debut way back in 1958 which means that to turn it into an acceptable replica is going to tax most modeller's skills. Its fit of parts is poor and this factor alone is going to put off some younger modellers from having a crack at this grand old bomber, which, to me, is a great pity. The Wellington served long and hard with the RAF, was loved by its crews and treated by them with an affection that was almost human, and yet we have no really worthwhile kit of the machine.

By comparison I look at Monogram's C-47 Dakota. Not much to a transport aircraft, is there? But pause awhile and examine closely everything that Monogram have incorporated such as quality and attention-to-detail into so



The Rareplanes Supermarine Swift. A nice vacuform with Pegasus Models also producing a very basic injection kit. Hasegawa could do magic to any 1950s British jet — after all, aren't they doing so with the US Navy? (Model by Allan McConachie)

spartan an airframe. It has everything, and even if built straight from the box makes up into a worthy replica. Imagine, therefore, what that same company could do with a Hercules-engined Wellington Mk.Ic. A thought? A passing fancy? Something that will never happen? I, for one, certainly hope not. The Wellington richly deserves better attention, and I'll even go so far as to say it has a right to better treatment.

Modellers' World War 2 wants could probably fill this magazine several times over, which is why a chart has been included that lists what I believe are the most important types required in kit form, from every period of aviation history, my detailed analyses being merely examples. Bearing this in mind, let me comment on another subject, the very much neglected World War 1 kit which it appears has become the favourite amongst many vacuform manufacturers.

WORLD WAR 1 SUGGESTIONS

Seldom have I built a World War 1 model given my well-known preference for 'blow torches', yet as a modeller I can readily understand and appreciate the frustration aviation enthusiasts of the 1914-18 period experience every year that new kits appear at the toy fair. True, the many vacuform companies do their best to cater for the esoteric, and I take my hat off to them for it, but there is still room for an injection manufacturer to take the plunge and release a selection of, say, 1:48th scale kits of the most important types of that conflict. Monogram have produced the SE.5, Camel, Fokker D.VII, and Impact one or two more, but the former are merely re-issues of very old products from the Aurora stable which means there is indeed room for completely new versions produced with all the technology currently available to the best from Japan.

Look at Hasegawa's Phantom series in 1:48th scale. Magnificent kits in every respect, and the same attention to detail is lavished upon their smaller, similarly scaled items, their F4U-4 Corsair being but one example. Imagine, therefore, the Sopwith Camel, Fokker D.VII, Nieuport 17c, Sopwith Pup and Albatros DV produced by Hasegawa; why, even the box art would be a marvel to behold! One can very easily imagine the finesse, the

detail on such components as engines, machine guns, cockpit interiors and crew figures — and Hasegawa's expertise is such that I have no doubt they would reproduce to near perfection the correct delicacy of a World War 1 aircraft's wings and tail surfaces. But let's not stop there, why not also add to the range one or two real gems.

Firstly, a machine that gave sterling service not only during World War 1 but right into the 1930s on the rugged North West Frontier. The Bristol F.2B Fighter was a large machine, well able to manoeuvre with the fastest of single-seat scouts — and defeat them! — and a good looker to boot. This machine was the subject of a very early Airfix kit, first released back in 1956, now only just able to hold its own — though in the hands of an experienced modeller capable of improvement. There is room, therefore, for a new 1:72nd scale kit, but what a superb creation it would be in 1:48th scale. True, its rigging is complex and would present problems, but I have little doubt that this would be a small price to pay for so eye catching an end result — if such a kit were produced!

This is also true of the second British two-seater I have in mind and another early Airfix 1:72nd scale offering from 1957 — the RE.8,

or 'Harry Tate' as it was affectionately known. Out of the two, my personal preference would be for the latter as a modelling subject, but what World War 1 kits would you like to see in 1:48th scale?

FIGHTERS OF THE FIFTIES

Come forward now 40 years to the 1950s, undoubtedly the most exciting decade of aviation history in my opinion, when the world's aircraft companies were beginning to feel their way with some incredibly complex — though still infantile — technological advancements. There is a lot missing, kit-wise, in both 1:72nd and 1:48th scales, so all I can do is look at a few examples, some of which you'll agree with, no doubt, whilst I appreciate that you will also have your own personal preferences.

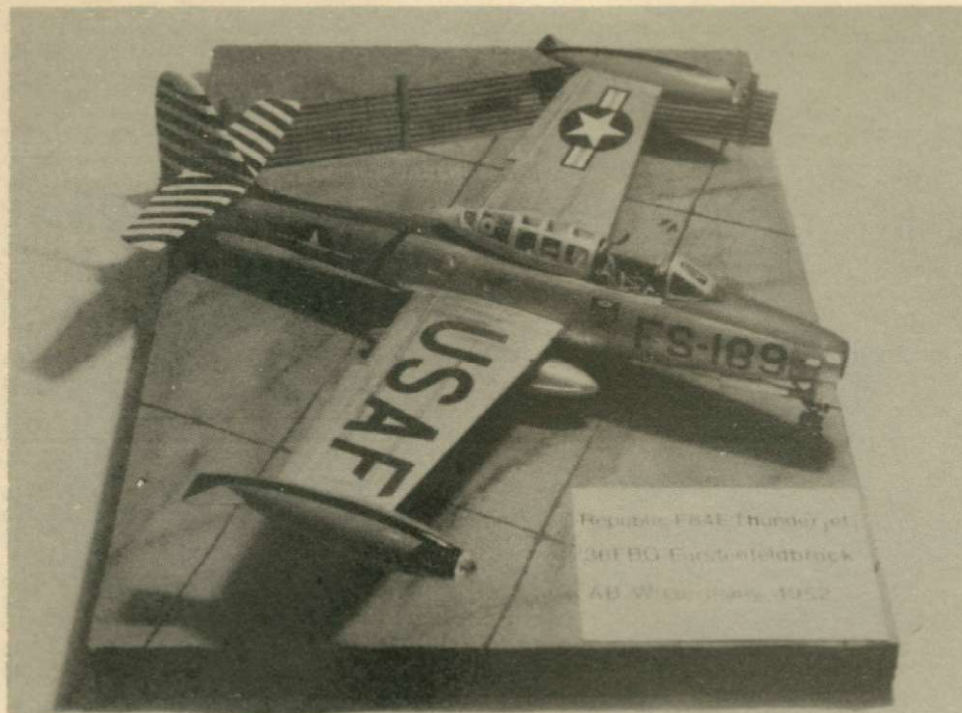
The Lightning! A classic interceptor in every sense of the word and injection moulded just five times by Airfix (F.Mk.1a), Hasegawa (F.Mk.6), Frog/Novo (F.Mk.6), Matchbox (F.Mk.6/T.Mk.55) and Tamiya/Revell (F.Mk.6), the latter being to 1:100th scale while the others are 1:72nd. The most common mark, however, the F.Mk.3, is conspicuous by its absence. This can be fairly easily converted, as outlined in *Scale Aircraft Modelling* Volume 4, Number 2, but what a pleasure it would be to see either an Esci or Hasegawa F.Mk.3, particularly in 1:48th scale.

Now, just to bring tears to many modellers' eyes, I'll rattle off a few more British jets that would be nice in 1:48th scale: Supermarine Scimitar and Swift, Hawker Hunter, de Havilland Sea Vixen and Venom, Gloster Meteor F.Mk.8, EE/BAC Canberra (any mark, however, the F.Mk.3, is conspicuous by could even be a gem in 1:32nd scale! So let's cross the Atlantic now to the USA and think what's missing here — and this time, for our American readers, I'll stick to 1:48th scale...

Two superlative kits by Monogram, the F-106A and F-84F, cause one to wonder why an F-102A Delta Dagger and F-84G Thunderjet have not yet appeared. True, they have often been rumoured, but how much better it would be to actually see them packaged and ready for sale with Don Greer's artwork adorning the box tops just begging for us to get out there and buy them! But don't just stop at

Airfix's F2H Banshee builds into a nice model, but while the 1:72nd scale US Navy jets are seemingly thick on the ground, there's still a lot missing in 1:48th scale. The Cutlass is one, and the Demon and Tiger a couple more. Can anyone think of, or suggest more?





Heller's F-84G Thunderjet to 1:72nd scale. One is tempted to wonder why Monogram have not as yet added a kit of this rugged machine to their range of superb 1:48th scale American jets.

you sit down and ask 'now, what would I like to see?' So, please do me a favour and write to me at *Scale Aircraft Modelling*, listing your preferences and favourites. I'll reply to you all, in time, and, with your help, will endeavour to write a sequel to this article in the hope that, somewhere, sometime, kit manufacturers may begin to appreciate that this is indeed what we need . . . !

ARE THESE WHAT WE NEED?

Country of origin	Aircraft	Preferred scale
Great Britain	Supermarine Swift	1:48th
	FR.5	
	Hawker Hunter F.6	1:48th
	EE/BAC Lightning F.Mk.3	1:48th
United States	Vickers Wellington Ic	1:72nd/1:48th
	Bristol Beaufighter	1:48th
	Vickers Viscount	1:72nd
	Bristol F.2B	1:72nd
	de Havilland Comet 4	1:72nd
	A-20 Havoc/Boston	1:48th
	LTV F-8 Crusader	1:48th
	F-94C Starfire	1:72nd/1:48th
	A-1H Skyraider	1:72nd
	RA-5C Vigilante	1:48th
Germany	F-84G Thunderjet	1:48th
	F-102 Delta Dagger	1:48th
	Cessna T-37	1:48th
	Douglas DC-9	1:72nd
	Roland CII	1:48th
	Albatros DV	1:48th
	Ju.88A-4	1:72nd/1:48th
Italy	Bf.109E	1:48th
	He.111H-6	1:48th
	Do.17E	1:48th
	Macchi 202	1:48th
USSR	Fiat CR-42	1:72nd/1:48th
	Macchi 200	1:48th
	MiG-17	1:48th
	MiG-19	1:48th
Sweden	MiG-21 (late series)	1:48th
	Tu-16 Badger	1:72nd
	Tu-20 Bear	1:72nd
	Tu-22 Blinder	1:72nd
	Tu-28 Fiddler	1:72nd
	Petyakov Pe-2	1:48th
	Lavochkin La-5	1:48th
	Yakovlev Yak-3	1:48th
	Saab-35 Draken	1:48th
	Saab-105C	1:72nd
France	Saab-21 (jet)	1:72nd
	Dassault Ouragan	1:48th
	Dassault Super Mystere	1:48th
	Breguet Alize	1:72nd/1:48th
	Breguet Atlantic	1:72nd
	Nieuport 17c	1:72nd
	Nieuport 28	1:72nd
	Fouga Magister	1:48th

those two, Monogram, when you've proved how good you are with a big jet like the B-58A Hustler. What about a B-45/RB-45 Tornado, or even a North American AJ-2 Savage, both of which are incredibly interesting types from anyone's point of view.

Fujimi, in 1:72nd scale, have produced the Chance Vought F7U Cutlass and what a marvellous job they have done. US Navy aircraft are always fascinating machines, and Vought's huge, bat-winged beauty is no exception — and as regards kit mouldings Monogram's F-14A and F/A-18A show the toolmaker's art to perfection. Everything, right down to the catapult hold-back braces, is there, so picture if you will just what a 1:48th scale F7U Cutlass could be like to similar standard. And with this machine kitted, slap the icing on the cake in the shape of the last great gun-fighter, a machine again by Chance Vought (later Ling-Temco Vought), the Crusader. I know we already have an Esci kit of an F-8E, but it's rather basic and incorporates some pretty awful outline errors. Any version would do, Monogram, my preference being the very early F8U-1 (later F-8A), but a D or an E would doubtlessly have a wider appeal. Anyway, let's leave the United States now and take a look behind the Iron Curtain . . .

ARE SOVIET MODELS OF INTEREST?

Three manufacturers have issued some neat kits of Soviet aircraft, for example the MiG-23, MiG-25, MiG-27, MiG-29 and Mi-24 by Hasegawa, the MiG-15, MiG-17, MiG-19 and MiG-21 by KP and, most recently, the MiG-29 by Fujimi — which scores over Hasegawa's in my opinion by virtue of including a fairly comprehensive weapons fit. There is, though, something missing here, and I am thinking about size because, vacuforms apart, we have no really large Soviet aircraft in kit form. Airfix issued a fairly good (and it's still available) Il-28 back in 1968, but we do not yet have a Tu-16 Badger, Tu-20 Bear, Tu-22 Blinder or Tu-28 Fiddler. The Bear is very widely known, often being intercepted over the North Sea by RAF fighter squadrons, and I'm sure it would be a popular kit choice — after all, have Heller not started producing a series of Boeing 707/C-135 kits? And Monogram seem to have had a prolonged love affair with large acres of plastic, for example their 1:48th scale B-29 Superfortress.

Hasegawa's F9F-2 Panther converted to an F9F-5. That company also produce its swept-wing replacement, the Cougar, but would it not be nice if they enlarged them both up to 1:48th scale?

So why not a Tu-16 Badger to set the ball rolling? It's smaller than a Vulcan or Victor, and an interesting looking machine with enough on its airframe by way of fine detailing for the likes of Esci or Hasegawa to really go to town. And, when either have done with that, how about the Tu-28 Fiddler, the world's heaviest and largest interceptor which, along with the similarly shaped, but much bigger, Tu-22 Blinder supersonic bomber, still looking like something out of 2001. Superb kits certainly but if only someone, somewhere, would produce them. I know I'd be happy to tackle a Badger or Blinder — how about you?

In conclusion, have I missed anything out? Yes and no, because there is no way within the limited confines of this article that I can list everything we would like to see, and the latter in that my aim is to make the modeller think about what he would like as a kit. I know I have merely scratched the surface as regards personal preferences, and will even go so far as to reveal that I appreciate that everyone on *Scale Aircraft Modelling's* roll of contributors and staff have lists as long as their arms, yet my real aim is quite simple, and that is to provoke discussion. I have also missed out vacuform kits deliberately as again I have limited space and prefer injection mouldings.

Yes, you all have your favourites, and perhaps the chart I have included will make





MORANE-SAULNIER 230 PAINT SCHEME

Ian Huntley describes pre-war French naval colour schemes with particular reference to the rebuilt Morane-Saulnier 230, serialled 229, now in the Kermit Weeks museum collection in Florida.

I WAS pleasantly surprised to find after having produced many recent articles on modern French aero-colours, that there is quite a large following in that subject, and in fact running back in time to the late 1930s. In particular the large-scale, radio control modellers took the lead, with Heller's Morane-Saulnier 230 kit modellers taking second place.

The Morane is evidently quite a popular aeroplane with modellers in a wide variety of scales, and its ability to masquerade in a number of liveries from a late World War 1 experimental German fighter, as in the film *The Blue Max*, to the more realistic schemes of World War 2, no doubt adds to its popularity.

Its real attraction however is its rugged parasol-winged configuration, with a mixed construction of duralumin and wood, with fabric covering. The forward fuselage panels and strutting were nearly always highly polished and were thus an element that always adds that extra bit of interest when it comes to modelling.

By taking the Morane as a typical example of a French military aircraft for the period 1936 to 1939 it should be possible to cover the various readers questions about French markings generally and also those aimed specifically at French Navy use of the Morane 230 during the immediate pre-hostilities period in 1939. I have based my remarks on work done to restore an aircraft of this type for Kermit Weeks' museum in Florida and the research involved.

SERIES DEVELOPMENT

Parasol-winged monoplanes became a hall-

mark of Morane-Saulnier when several new designs emerged during the early 1930s. This unusual aerodynamic configuration had first appeared during the early years of World War 1, and ran on through the rest of the war and into the 1920s.

They did great service when the monoplane was looked upon as a flying death trap, as so many designs broke up in mid-air, and caused at least the British Air Ministry to prevent further monoplane development.

The fault did not so much lay in the wing structures produced by many designers as in the strength of the fabric used to cover them. Subject to something like twice the aerodynamic load imposed upon biplane wings, fabric, which steadily lost strength due to day by day weathering, soon reached the point of no return and would split.

The subsequent 'bag' filled with air which overloaded the wing structure to destruction. Thus monoplanes received an undeserved bad name. Yet those like the Morane with more closely-spaced wing ribs, and with a servicing programme which involved frequent changes of fabric, flew safely.

Factually the post-1918 Morane types could be made aerobatic with a little special attention and could take on a number of military duties without problem. Around 1930 a new single-seat fighter type was evolved, powered by a 500 hp Gnome-Rhône radial engine and this was an immediate success.

Developed from the earlier MS.121 and MS.223 designs, this rather portly fighter was the MS.225 and it flew for the first time during 1932.

The Morane-Saulnier 230 pre-war fighter-reconnaissance aircraft now held as a unique exhibit in the Weeks Air Museum in Florida, painted as No.229 of the 2eme Escadrille, Maritime Region 3 with a black fin to indicate a flight leader's aircraft. (Mike Jerram via author)

The Armée de l'Air ordered 55 of the type by July 1932, and some two months later Aviation Maritime (Aéronavale) took on 12 for fighter/reconnaissance duties.

A year or so later various developments of the aircraft were started, which included a fully aerobatic civil type, and a carrier-based fighter (fixed wing) with a further design having folding wings for below-deck stowage.

From those designs some three or four further prototypes were evolved, and these soon established that the Morane had an exceptional rate of climb, such that the MS.275 prototype gained a world altitude record on 17 June 1935 of 32,123 ft flown by a woman pilot. As it was, the basic MS.225 could climb to 29,528 ft in some 24 minutes or so.

The natural development from the series was a much improved and more streamlined general purpose design in the MS.230, which could be of single or dual-seat configuration.

ON LOAN TO THE AERONAVALE

The Armée de l'Air ordered large numbers of the MS.230 in spite of there being other higher performance designs appearing during 1936-37. The same period was also to see changes come about in the defence of France. Large areas of both land and sea were divided up into sectors, each having a fleet of land-based aircraft to cover a number of reconnaissance and defensive roles.

As it was the maritime units suffered a shortage of aircraft, for both shore and carrier based patrol units.

With newer aircraft coming along in some numbers the Armée de l'Air started the transfer of MS.230s over to the Navy on a loan basis, and thus it was that this particular Morane-Saulnier model could be seen in two distinct paint schemes in the hectic pre-war months.

THE NAVAL MS.230

MS.230s entered French Navy and Marine service mostly as fast reconnaissance patrol types, with many assigned to carrier duties, and

one of the problems for non-French speaking modellers has been the task of sorting out the various transitions of camouflage and markings whilst the MS.230 was in service.

One of the main differences between the Navy and Marine types appears to have been that the latter superimposed a black anchor over the wing roundels, though it cannot be confirmed at present that this was an exact rule. Both services marked a similar anchor design on the rudder surfaces.

The other visible difference was in the method of showing the unit marking, usually in large white characters on the fuselage sides.

As received from the Air Force, the Moranes appeared with all fabric areas in a dark green finish. Beneath the starboard wing the military serial was painted in white characters in the form 'N-5', continuing under the port wing '51'.

The aircraft designation, serial and weight data was marked on both sides of the rudder, and over the vertical blue (next to the fin post), white and red national markings.

No roundels appeared on the fuselage, but roundels were carried on both upper and lower wing surfaces, near to the tips.

Generally, all metal external surfaces were unpainted and highly polished, which also included smart light alloy wheel covers.

COLOURS AND MARKINGS FOR 229

The naval colours in use at that time were a dark blue-grey for upper surfaces, and a light blue-grey for the undersides. These colours again applied to the fabric areas.

National markings were the same as for the Air Force, but a superimposed anchor could be applied to both roundels and rudder striping, and here an original comment gleaned from Morane-Saulnier by a pre-war member of the

staff of *The Aeroplane* magazine, was that 'only aircraft that were seaplanes or flying-boats, or were more generally carrier-based actually had anchors painted over the roundels'. Whether that was an early rule cannot be substantiated. Certainly, marine Moranes have been seen in many photographs with these markings, whilst shore-based machines did not show them. Later on, both services restricted the anchor to the rudder only.

For all machines an 'aircraft number' was marked on the fuselage sides and on both sides of the rudder, and this brings me to a convenient point where another question put by many readers can be answered, namely, 'what are the markings on the rudder?'

For the Morane, they are as follows:

Painted on rudder	French reference	English translation
Mo S 230 Et2	Morane-Saulnier Type 230 Etat 2	Manufacturer Model number, Mk.II
No 229	—	Military serial number
(anchor)	—	—
PT 1150K	Poids total	All up weight (in kilos)
PE 796K	Poids epuiser	Empty weight (kilos)
PU 176K	Poids utile	Useful load (kilos)
Essence 220l	—	Petrol (in litres)
Huile 22l	—	Oil (in litres)
PC 178K	Poids combustible	Weight of fuel and oil (in kilos)

The actual presentation of the data varied quite a lot in style, such variations being due to whoever was concerned with the actual painting work, though generally the same order was kept.

The basic finish therefore comprised: the two greys for the fabric, the national markings and with type and weight data (plus anchor) on the rudder, and on the fuselage sides, the serial, together with the legend 'Lever ici' in black, marked next to the tail lifting socket.

UNIT MARKINGS

The French coast was divided into a number of Maritime Regions, so for example, the Gulf of Lyons was Region 3, the numeral providing the start of a unit identification system.

The next part comprised a letter indicating the aircraft role, and in the same example the letter 'S' indicated that of reconnaissance.

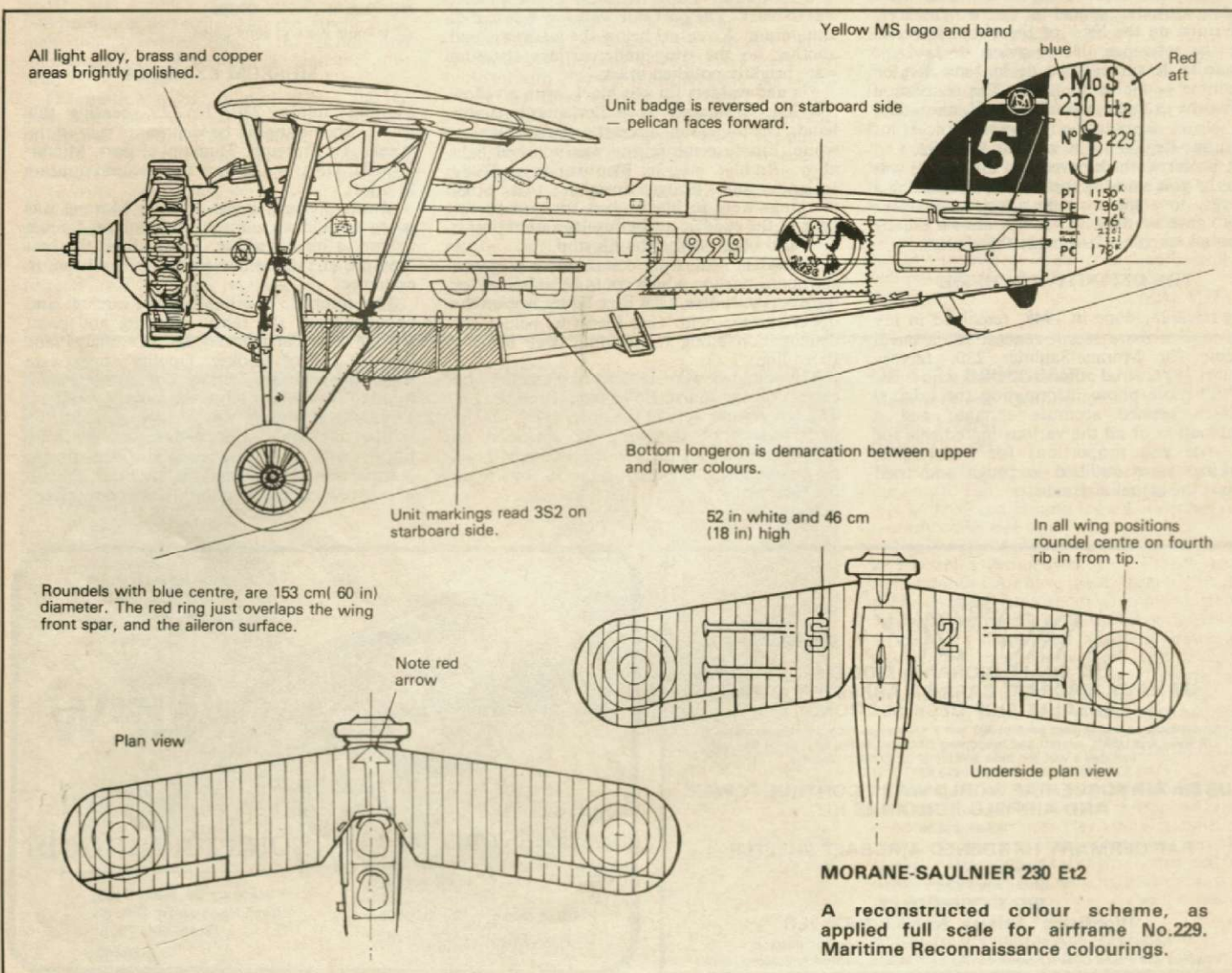
The final part of this three-digit sequence was the squadron number related to the role of the particular Region. Here the second reconnaissance squadron would be represented by the numeral '2'.

Generally aircraft within each squadron were identified by an individual aircraft numeral. This figure was of a different size in most cases and was separated from the former three digits. With fuselage space at a premium on the MS.230 this numeral frequently appeared on the fin.

A flight leader's aircraft was further identified by painting the fin in distinguishing black, white or other colour.

Most MS.230 units followed the general French practice of adding a colourful unit badge to the rear fuselage sides. Some may be described as impressionist, where perhaps it took some while for an onlooker to realise they were looking at a painting of a pelican, which seems to have been almost as popular as the storks of the previous world war. Other designs appeared to be much more easily recognised.

Thus, the pelican appeared in many different



styles, usually superimposed on a light coloured disc.

PHOTO SEARCH

In order to come to a definitive conclusion about MS.230 schemes for this period it was necessary to go through several dozen very poor quality photographs, together with an exchange of views with some of the French restorers of the type.

Notwithstanding the amount of reference material available, there were no examples where the very fine detail could be easily identified, and it was necessary to relate to sketchy details given in works' drawings for the period, as far as the basic paint scheme went.

With unit badge designs it was extremely difficult to realise the actual shape and colour demarcations of an original design, and here it was a matter of taking detail from all sorts of references in French books, in order to establish a composite picture, and slim it down to a simple painted form.

The proportion and style of unit digits and other markings were much easier to arrive at. In most cases the digit related to in a photograph could be identified on the actual Morane fuselage, and the proportion plotted out.

Cut out paper shapes could then be positioned on the fuselage, and viewed at a suitable distance to see if the match was correct.

The overall aim was to achieve an authentic scheme, which necessarily did not involve using or copying the work carried out by other researchers and restorers.

The final decision was taken when a blurred copy of a copy of an original photograph was found which showed the rear half of an MS.230, with what looked like a badge showing what could only be a pelican in a landing attitude, painted on the rear fuselage.

Written on the back of the photo in pencil was the reference, '5eme avion de la 2eme escadrille de surveillance de la 3eme Region Maritime — Golfe du Lion'. The translation giving the example already quoted, aircraft 5, of No.2 Squadron (reconnaissance) of Maritime Region 3, i.e. aircraft 5 of 3S2.

A problem which developed afterwards was that the unit marking system was undergoing a change, to a more simple form, and as the photo gave no date, it was not known exactly when all machines had made the change.

THE DEFINITIVE SCHEME

This research, done in 1948, remained in my files until a more recent request for a naval scheme for Morane-Saulnier 230, factory number 3837, serial number 229 was requested.

With more photo information the original research seemed accurate enough, and a combination of all the various ingredients for the style and proportions for the various markings were outlined in rough and tried against the actual airframe.

With data from the plates attached to the airframe, and shown in the log book, Imperial measurements were converted to metric so that the details for the rudder could be arrived at.

Original samples of French paint and fabric were gone through in order to arrive at the correct hues, and reference was made to French correspondence so that colour descriptions could be checked.

Once the colours had been established it was a matter of matching them in artist's water colour so that a large full colour side elevation could be produced as a visual check on the scheme as a whole. That completed, colour chips were sent off for matching cellulose to aircraft standard to be made up.

During the interim a proper scale drawing was made showing the overall scheme, and from that templates were drawn for each individual item in the scheme.

The following detailed notes show the details involved:

Fuselage: forward cowl and other panels were highly polished light alloy. The MS logo comprised cut out brass riveted to the cowl, again highly polished. On the top cowl panel a flush oil cooler was of polished copper. Below the fuselage and between the undercarriage legs the exposed fuel and oil tanks were of a copper/bronze alloy sheeting having a polished but dark rust coloured finish. The cockpit openings were the usual leather bound padded form. Basic fabric colouring was Gris Bleu Fonce and Gris Bleu Ciel. Serial No.229 was in white and partly covered by the large white unit digits 3S2. Halfway between the rear cockpit and tailplane was the unit badge, a black and white pelican with red beak and legs, superimposed on a bright azure disc. Inset from the disc edge was a vermilion narrow ring. 2°Esc appeared in yellow. The footstep and tail lift handle were also vermilion. 'Lever ici', near to the handle, was in black. The port side walkway was in dull aluminium. A venturi below the walkway, and another on the wing/undercarriage strutting were brightly polished brass.

Fin and rudder: fin was black, with a yellow MS logo separated by a horizontal narrow band. The individual aircraft numeral 5 was in white. Fin/fuselage fairing was polished light alloy. Rudder was in Bleu Insignes, Blanc Insignes and Rouge Insignes. All other markings were in black. Just forward of the base of the rudder, at the fuselage stern post is a ventral black rubber bump stop.

Mainplane: the wing comprised a port and starboard portion which could be unbolted for transport purposes. Gris Bleu Fonce was on the upper surface, with Gris Bleu Ciel below, the demarcation along the leading edge being a sharp line.

The roundels were 153 cm in diameter with centres on the fourth rib in from from the tip. The actual radii were of the order 1:2:3. On the undersurface of the wing S2 appeared on starboard and port surfaces respectively, in 46 cm characters as opposed to the 56 cm size on the fuselage.

Engine: dark charcoal grey cylinder heads, with brass induction pipes, and bronze exhaust pipes leading into a bronze collector ring immediately behind the polished aluminium spinner which faired into a grey finish propeller, with brass leading edge strips.

Undercarriage: all legs were faired with polished light alloy sheeting. Tyres could vary from dark grey treads and dull yellow side walls, to all dark grey rubber. Wheels, spokes and axle ends were gloss black lacquer, generally without wheel covers.

Miscellaneous: Tail skid part varnished hard wood and metal skid. Aileron horns and external control rodging gloss black lacquer. Where the two portions of the wing were joined, the gap was usually covered with a red (shrink doped) fabric strip. While some were then painted with the dark grey, others left the red strip and marked a red arrowhead at the leading edge position.

COLOUR TABLE

Cellulose was mixed to match the following colours. These have been related to the nearest FS 595a and Methuen references, and are not necessarily a precise match.

Colour	FS 595a Ref	Methuen Ref
Gris Bleu Fonce (dark blue-grey)	26118	21E3
Gris Bleu Ciel (light blue-grey)	25189	24D3
Bleu Insignes (insignia blue)	Between 25190 (21-22)/C5 and 25231	
Blanc Insignes (insignia white)	27780	—
Rouge Insignes (insignia red)	21105	11C8
Jaune Insignes (insignia yellow)	23665	4A8
Noir (black)	27038	—

All colours were in semi-gloss.

MUSEUM EXAMPLE

Morane-Saulnier 230, No.229, bearing this actual scheme should be well on its way to the Weeks Air Museum, Tamiami airport, Miami, Florida, USA by the time this column appears in print.

Owner Kermit Weeks felt the Morane was going to add an unusual amount of foreign colour to his collection, being about the best example of this immediate pre-war scheme in existence.

The complete overhaul of the aircraft and application of the fabric covering and paint scheme was carried out by Personal Plane Services Ltd of Booker. Quality dopes were supplied by Messrs Trimite Ltd, of Uxbridge, Middx. Now they have the colour masters, Trimite will supply any customer requiring similar materials, in cellulose or synthetic finish, with any degree of surface finish. Normal minimum quantity is five litres, though at extra cost one litre amounts can be supplied.



MODELS

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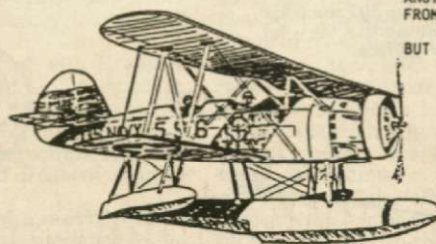
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SCALE MODELLERS' MARKET PLACE

**THIS MONTH'S NEW MODELS
REVIEWED BY EXPERIENCED
MODELLERS**

DE-HAVILLAND SEA HORNET F.20

Manufacturer: Skybirds '86

Scale: 1:72nd

Price: £10.50 (+60p p&p)

Type: Limited run injection moulded kit

Many modellers have I know waited with varying degrees of impatience since this kit was announced, and I was very lucky to get one of the first production examples for review. (I have always had a soft spot for the Hornet family in its various guises, and the single-seat variants are for me one of the most visually attractive aircraft ever built.

The first kit from Skybirds '86 was the Martin-Baker MB.5, which with its use of white metal and extremely clean mouldings set a new standard for the limited-run kit, in the UK; and this standard has been effectively maintained in this, the first of three Hornet kits from this manufacturer.

As before, there are a substantial number of metal parts, including a blackened instrument panel whose dials you may fill with either Krystal-Kleer or gloss paint to give a 'glass' effect, and a splendidly crafted pair of undercarriage legs. The work that has gone into these alone is impressive, and they were the subject of much admiration at a model exhibition to which I took the part-complete model shortly after its arrival. As well as a control column, you have a pair of rudder pedals, and a pilot's seat to attach to a metal bulkhead; and also in metal are the tailwheel, the main undercarriage doors, the props and spinners, a pair of bomb racks and the pitot head.

The plastic is a slightly mottled grey and the parts are obviously designed to facilitate production of different variants; the NF.21 arrived at the same time, but took longer to finish, and the RAF F.1/F.3 should be available by the time this review appears. In the F.20 the fuselage halves had suitable holes for camera ports, and the snub nose was cut back at an angle which will equate to the joint of the radar nose in the two-seater. The fin and rudder comes ready to recess into the upper rear fuselage, but other than that the parts break down is conventional.



Fit of parts is generally excellent, but however good the mouldings on this class of kit, the modeller should expect to have to do some preparatory work, and a little filling. In this case, I needed to reduce the depth of the back of the upper wing — the trailing edge is moulded with the lower half to give a finer edge — to get a good match between the wing halves, and the line of the fin also needed a little reducing.

Care should be taken at the nacelle to wing junction, but the only place where I needed to build up with filler was the nose to fuselage joint, where the short nose seemed to lack a little width. This may have been because I gave myself problems in not making the instrument panel satisfactorily; the instructions recommend a thinning down of the cockpit well from the inside, and I don't think I thinned it enough, this giving a slightly over-width cockpit.

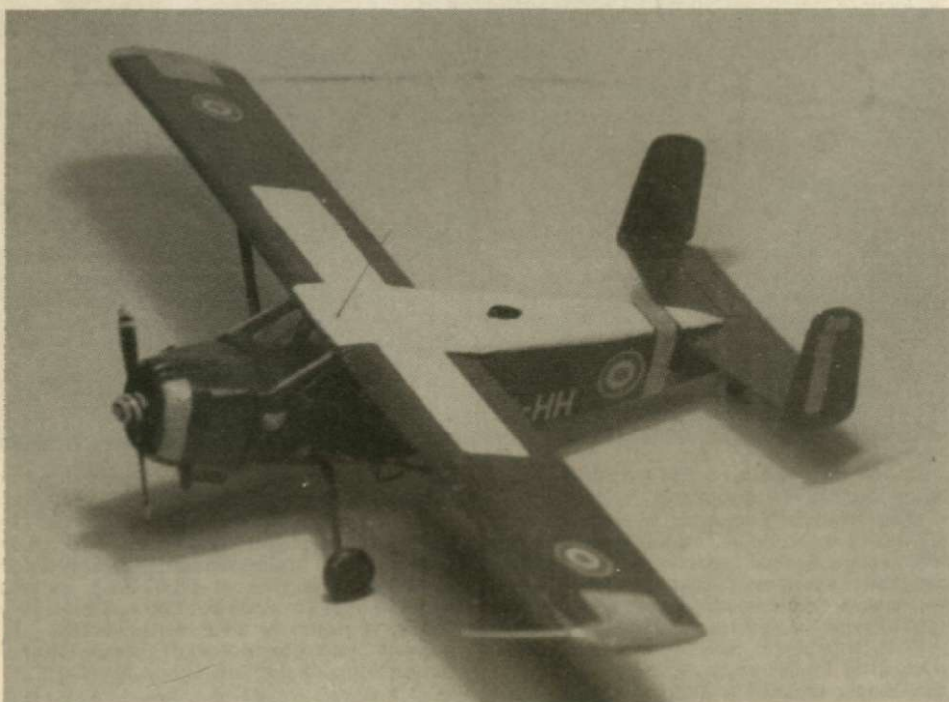
Apart from this, assembly of both metal and plastic parts was straightforward, using superglue, permabond or ordinary polystyrene cement depending on the circumstances.

Humbrol, 'Polished Aluminium' Metalcote,

left unrubbed, gave its usual satisfactory finish, and all that remained was to fix the canopy — thinly moulded, and all but severed from its surround — and apply the decals. The kit will come complete with decals for 154/FD of 801 Squadron while it was shore-based at Ford; but as these hadn't arrived in time for the review kit, I went into the Modeldecals box, and produced 457/C, which was one of a pair of Sea Hornets attached to 806 Sqn for a tour of North America. They were in company with two Sea Vampires and two Sea Furies, and much of the Hornet's routine was performed on one engine!

This really is a first class example of a limited-run kit. I believe that the comments I made on the nose width and the depth of the wing have been corrected on the final production run; that's always a problem of reviewing a pre-production example. It looks so good when you empty it onto the workbench that you should not forget that it *does* need some work doing to it, but any investment in effort and money will be well rewarded by the finished product.

Mike McEvoy



MH 1521 BROUSSARD

Manufacturer: Graphy-Air

Scale: 1:72nd

Price: £18.00

The French have been particularly prominent in the limited-run, resin kit market, and although this kit has been around for a while it has only recently come our way.

The Broussard is a sort of twin-finned Beaver, and as well as being used by the French Army, the Armée de l'Air have issued them to Escadres as liaison and utility aircraft. Graphy-Air started by producing decals, and features of this kit, are an excellent decal sheet and well drawn and informative instruction sheets with assembly details, a scale three-view drawing and comprehensive decal placement.

As well as resin, white metal and etched brass are used for this kit. The cabin is open along the top of the fuselage to enable the furnishing to be put in; resin seat bases and backs are supported by brass frames, with two different styles for crew and passengers. Acetate is supplied for the windows, but it is possible to use Krystal-Kleer, though in openings of this size it was very slow to clear. The white metal engine is enclosed by a resin cowling, with brass gills; also in brass are the grilles for the intakes above and below the engine.

This sort of ingenuity is repeated throughout the kit, and the etched brass is used for control

horns, undercarriage legs, door handles, steps and ailerons, as well as the multiplicity of flap and aileron hinges. An acetate moulding is provided for the windscreen.

At various stages of its creation I used superglue, Permabond and five-minute epoxy, and all have their place, and there's even a place for stretched spare for ailerons and pitot head.

Colour schemes are basically dark green with a white top, and varying amounts of dayglo; one

of the impressive things about the instruction sheet is the obvious great care which has gone into researching the differences between very similar aircraft. As well as a *Armée de l'Air* aircraft, there is a Gabonese example with a very decorative badge and an unusually base-metal example belonging to a military agency. I picked the 2^{ème} -Escadre hack, based at Dijon with the Mirages and carrying a composite badge on the flank.

This really is a very nice, well thought-out and produced kit, which will obviously have limited appeal both because of its subject and its price. If both suit you, then I can thoroughly recommend it, and I'm delighted to have had the opportunity to add it to my collection. While it may not be widely acceptable, I know that Maintrack Models keep a selection of Graphy products — try them before you start spending francs.

Mike McEvoy



BRITISH AEROSPACE JETSTREAM T.1/T.2

Manufacturer: M and E Models,
Sittingbourne, Kent.

Scale: 1:72nd

Price: £3.95

Type: Injection moulded conversion kit

This kit is designed to be used with the rather ancient Airfix Handley Page Jetstream that has recently been reissued. It provides the essential differences between the civil and RAF and RN

machines namely having Astazou engines, and underfuselage radar fairing and, for the T.2, a radar nose.

I am afraid that the instructions are rather sparse and do not point out that it is necessary to make a new rudder of greater size and to cut back the ventral fairing to follow the same line as the trailing edge of the revised rudder. It is also necessary to shorten the rear fuselage and to make the end conical and to delete the small horizontal fairing. None of these tasks are very difficult. The drawings in the kit are correct and provide adequate guides to help in the

construction.

Other modifications described in the kit include deleting the window in the door and cutting a new window in the port side just forward of the door to match the window in the starboard side.

Removal of the Airfix engines requires a very sharp knife and a great deal of care. So much of the wing in this area is removed that it is necessary, in fact essential, to use some plastic card to strengthen the wing internally before adding the new engines and to provide a location for the undercarriage legs. The new engines are moulded in two halves which fit together well and if you have prepared the wings carefully very little filler is required. The instructions suggest cutting the propeller blades from the Airfix propellers and sticking them individually to the new spinner. I found that by carefully cutting out the back of the new spinner the complete Airfix propeller could be made to fit resulting in a very much stronger and better conversion.

Excellent plan and side view drawings are given for an RAF Jetstream T.1 but there are no drawings for the Navy T.2. A good reference for both machines is to be found in *Aviation News* Volume 8 No. 22 of April 1980.

High quality decals are included for either T.1 XX498 or T.2 ZA111. In addition to giving the roundels, serial numbers and fin flash these also include the red or blue fuselage flash as appropriate. This certainly makes completing the model much easier and enables a good finish to be obtained by even the most unsteady hand. My only criticism of the decals is that the red is a little on the pinkish side compared to the Humbrol gloss red but they are quite acceptable.

A worthwhile conversion kit transforming the Airfix kit from a rather dead model into a much needed modern RAF trainer.

Brian L. Thorne

YAK-3

Manufacturer: JMGT, 71 Grande Rue,
95760 Valmondois, France

Scale: 1:48th

Price: No UK Price known (130 Francs)

Type: Vacuform with metal parts

This manufacturer has produced other 1:48th scale models mainly of French fighter aircraft before and these have been reviewed in these columns. The latest one we have available is a YAK-3 which although a Russian machine was used by the French Normandie-Niemen squadron during World War 2.

Like its predecessors it has a rugged treatment and can be relied upon to make up a solid kit without too many problems as the basic shapes are easy to cut out of the sheet and just about the right size for rubbing down. The kit also provides all the parts necessary including various bulkheads and the interior of the wheel wells which is important if a detailed model is to be completed.

Two seemingly identical canopies and two propeller spinners are provided and we were not sure why this was so. Presumably the kit instructions which are mostly in French supply the answer but we could not translate well enough to know why.

Detail on the parts is good without being excessive. The YAK-3 had a partially wooden construction which did not need rivet detail and therefore most surfaces are smooth and unblemished. The canopy was beautifully clear and therefore cockpit interior detail is essential. For this the kit only really supplies the basics such as the seat but a decal provided for the instrument panel and template shown for cutting



this out. Flying controls will have to be made from spares and scrap plastic.

The decal sheet seems to be comprehensive providing markings for two aircraft. The two colours used, red and white are printed separately which means that the white surround to the Soviet national insignia will have to be put on first and the red star on afterwards.

The instruction sheet is comprehensive though in French with a one page of English translation attached. It gives great detail for the

cockpit interior which will be very helpful in scratch-building this part.

Basically this is a fairly simple rugged kit like its full scale counterpart and therefore recommended to those who want to have a first try at vacuforms. The only problem is to get hold of an example as we do not know of an English agent. It would be advisable to write to the address given in order to obtain further information about prices and availability.

A. W. Hall



DOUGLAS A-26B/C INVADER

Manufacturer: Airfix

Scale: 1:72nd

Price: £4.75

Type: Injection moulded

Some manufacturers when they reissue a kit after it has been out of production for a number of years try to give it a new lease of life by providing a new set of markings. Unfortunately with this reissue nothing has changed at all except the prices (the original one in my hoard cost 93p!) and the box art which is presumably to meet the requirements of overseas countries who require a picture of the actual model on the lid. What a pity to see the original excellent Airfix box art go.

This is not to say that the B-26 is not a worthwhile reissue as the completed model is first class apart from the rivet detail being rather overdone.

To recap on the features of the kit; it can be made up as either an A-26B with an eight-gun nose, gunpacks but no fixed guns in the wings, or else it can be completed as an A-26C with bombardier nose, bomb racks, integral wing guns and a deleted upper turret, as chosen for the review model.

Decals for the A-26B are for 322330 'Miss Mildred' and is finished in overall silver apart from some medium green around the engines. The A-26C is 434517 'Monie' and is finished in overall matt black with red wing tips and leading edges of the engine cowlings.

Brian L. Thorne



REPUBLIC AT-12 GUARDSMAN (SEVERSKY 2PA: 204A)

Manufacturer: Rareplanes

Scale: 1:72nd

Price: £4.40

Type: Vacuform with injection moulded parts

The Seversky 2PA series was developed as an escort fighter for bombers. Twenty of the short span 2PA-B3 were bought by Japan in 1938, Russia bought two together with manufacturing rights. Sweden ordered 52 of the larger 2PA-204A featured in this kit but only two were delivered, the remainder being taken over by the US Army Air Corps as advanced trainers and were given the title AT-12 Guardsman. One of the Swedish machines remained in service until 1953 and one of the American examples has been preserved and still exists at the Planes of Fame Museum at Chino.

Surface detail on the wings, fuselage and tail is clear but not overdone showing well the panel and frame lines. The fuselage is split vertically

and includes the fin and rudder. Cockpit detail is good. Liners are given for the cockpit walls showing the internal frame detail and stringers. The floor provides seat rail detail and there are seats, an instrument panel, a bulkhead between front and rear cockpits and an injection moulded machine gun and gun ring which all fit together without difficulty into the fuselage.

The two-row radial engine is vacuformed together with a separate reduction gear cover and needs to be fitted to one half of the fuselage before joining the two halves. If you wish to model the Japanese A8V-1 an alternative cowl for that version is provided.

The whole of the upper and lower wings are formed as two separate pieces thus building in the correct dihedral. The centre section of the upper wing is shaped to fit a mating shape in the lower fuselage and in this way due to the large contact area available forms a very strong wing to fuselage joint. Very little filler was required to make a perfect fit. The tailplane halves are simply butt-jointed to the fuselage but I made this a little stronger by using a thin piece of wire

as a spar. Cut outs are made in the lower wing to accommodate the undercarriage which is vacuformed and each leg combines the wheel, leg and fairing and is split vertically.

There is very little difference between the Guardsman and the Swedish 2PA-204A. If the latter is to be modelled it is necessary to extend the cowl air intake, lengthening the exhausts and adding a spinner plus blanking out a section of the canopy aft of the pilot's seat. None of these tasks are difficult.

The propeller is injection moulded and there is a clear canopy moulded in acetate. Both the Swedish and American machines were finished in silver overall. Decals are included for the lettering of both but the national markings will have to come from the spares box.

Brian L. Thorne

SABLATNIG SF.5

Manufacturer: Airframe

Scale: 1:72nd

Price: \$Can 5.50

Type: Vacuformed

Although not a widely known type a total of 91 Sablatnig SF.5's were built in 1916 and remained in service until the end of World War 1.

This is a very basic vacuformed kit moulded in rather thin plastic. The wing span is quite large (9 3/4 inches) for this thin material hence it is recommended that the upper and lower halves of each wing surface have a sheet of plastic sandwiched between them to make it stiffer. Detail on the wings is good.

The only cockpit detail is seats. An engine is moulded into the front of the fuselage but there is little exhaust detail. A spinner completes the fuselage but there is no propeller only a spinner to which blades have to be added.

The floats are drawn quite deeply but they do not suffer from any undue thinness because of this.

There are no decals and there is no aerofoil rod from which to make the interplane struts. This is definitely not a kit for the beginner although this is not stated on the outside of the package.

The kit would provide a good basis for a nice model but much of the work has to be scratch built from your own materials.

Brian L. Thorne

VICKERS V802 VISCOUNT

Manufacturer: Welsh Models

Scale: 1:144th

Price: £6.40

Type: Vacuformed with metal parts

I reviewed the Welsh Model Viscount back in April when it was issued as a machine from the Royal Aircraft Establishment. At that time I said that it was to be issued at a later date as a civil airliner and this has now been done in the colours of BEA. The particular theme covered by the decals is the third basic one used by BEA, the previous ones being the maroon stripes or peony red as was the official description of the colour, followed by the black stripe with the red BEA square.

The decals are for either G-AOHR or G-AOHJ, both of which were used by the 'Channel Islands' division.

Unfortunately there are two errors in the decals, one of which can be overcome, but the other unfortunately not.

The wing registration should be in white not black as on the fuselage. Several sources of decals will provide suitable white letters.

The other error is in the stylised BEA for the fuselage. This is too large for the standard aircraft but was occasionally seen as it should only be the height of the 'C' in Channel.

When preparing the fuselage halves *don't* cut out the forward window on the port side as this does not exist and is not pointed out in the



instructions. It should be as the plan view on the drawing. The colour for the fuselage stripe is a bit difficult to obtain and I eventually found that Humbrol Deck Green with a touch of black was

just about right.

It is an excellent model and offers a wide range of possible markings.

Brian L. Thorne



FOKKER D-21

Manufacturer: Lilac Rainbow House, Osaka, Japan

Scale: 1:72nd

Price: Not known

Type: Resin moulded

On opening the box which is very crude and basic, one is surprised by the lack of parts. There

are quite good quality six view drawings and details of the cockpit but there are no instructions, no decals and no details of colour schemes.

The wings, fuselage, tailplane, fin and rudder are all moulded as one piece in a cream coloured resin. Surface detail of the model is good but the kit suffered from air holes in a number of places some of them being about 1/16th inch in diameter. Fortunately they were all in places that

could easily be filled. The review model also suffered from the wrath of the postal service and had the fin broken in two places.

The tailplane was not square with the fuselage and even hot water treatment failed to get it to the correct angle.

To enable the cockpit detail to be completed the sides and the upper forward fuselage came as a separate part. The 'front end' consists of engine, cowling and propeller. I don't think the engine is very convincing and looks like a few pieces of threaded rod arranged around a central boss. Thought has gone into the propeller which has been made less fragile by moulding brass wire into the blades.

Each undercarriage leg is moulded as a complete unit consisting of wheel, spat and leg. There is also a tailwheel.

The kit is certainly unique as far as I know in that there is no cockpit canopy provided only a male mould from which to make your own. If you have not done this before it is first necessary to make a female mould to match by cutting a hole in a piece of thin wood. It needs to be slightly larger to allow for the thickness of the acetate sheet to be used for the canopy. When satisfied with your female mould simply heat a piece of acetate sheet near a flame until it gets soft and pliable. Lay it over the hole in the wood and thrust the male mould through it. You will be surprised how easy it is and even if you spoil it when trimming to size simply make yourself another one.

The Fokker D.21 was used by the Dutch, Finnish and Danish Air Forces so there are a number of good colour schemes possible for the kit. Your spare decal box will probably dictate which one you choose.

Brian L. Thorne

VOUGHT SBU-1 SCOUT BOMBER

Manufacturer: Esoteric Models

Scale: 1:72nd

Price: £7.00

Type: Vacuformed with metal parts and extruded plastic struts

The SBU was the last biplane manufactured by Vought for the US Navy and 140 were built. One hundred were designated SBU-1 and the final 40 with uprated engine the SBU-2.

Although it is labelled as not suitable for children it is in fact quite an easy kit to construct especially if you have built an injection moulded biplane. The considerable number of metal parts

in particular the interplane struts go a long way to making the construction simple.

The fuselage is split vertically into two halves which when prepared fit well together. Panelling detail is clear and not overdone. Cockpit details consists of floor, seats, bulkheads and instrument panel in plastic and white metal machine gun. Obviously time has not allowed Esoteric to consider my suggestion that as in previous kits the instrument panel should be included in the decal sheet as I feel the kit deserves a better one than that supplied, as vacuforming does not permit the standard of detail required.

The white metal engine is first class and must be fitted before joining the fuselage halves.

Both upper and lower wings are split into top and bottom surfaces but have both port and starboard moulded as one piece so that construction is straightforward and producing strong joints. The interplane struts are white metal which removes the usual difficulty with a biplane in making the 'N' Struts from rod. The centre section struts are made from rod but this is no problem when the wings are fixed together by the outer struts.

There is a choice of undercarriage both of which are metal. Most of the colour schemes suggested and for which superb Colourslide decals are supplied, use the unspatted wheels and an open rear cockpit, but if you choose aircraft 9815 you will need the spatted wheels.

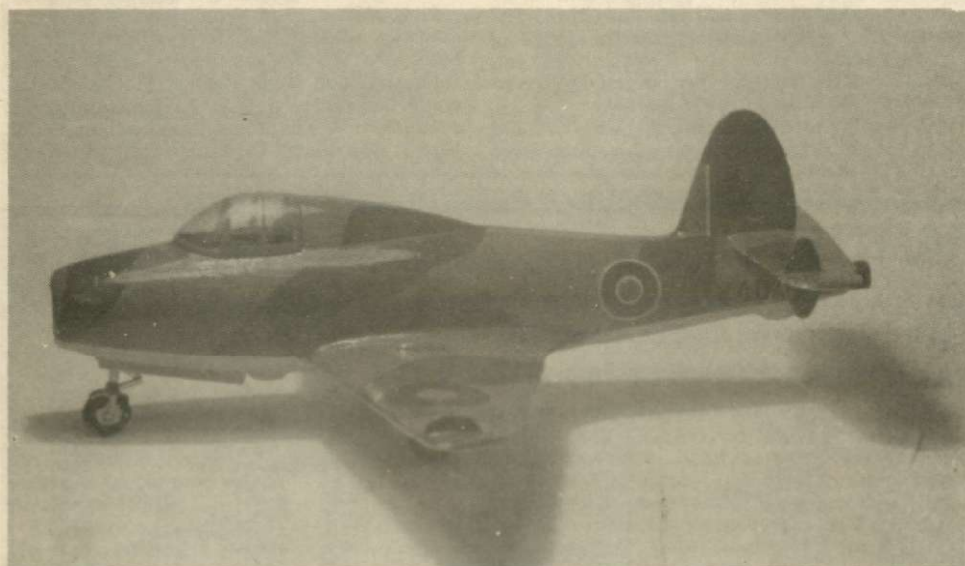


Whichever you select they are cleanly made and require the minimum of flash removal.

The decal sheet gives markings for no less than seven machines, all but one of them in the basic pre-war US Navy colours of light grey fuselage, silver wings except for the upper wing upper surface which is yellow. Each aircraft then

differs with tailunit and engine cowl colour. 9815 differed in having the fuselage painted blue. Excellent drawings give full detail of each scheme. Whichever example you choose to model you will end up with a delightful, colourful replica.

Brian L. Thorne



Gloster E.28/39

Manufacturer: Try Angle

Scale: 1:48th

Price: £18.00

In the last year or two there has been a rising tide of resin in modelling, starting with small accessories and conversions, and increasingly with complete kits of varying complexity. This particular example is simple and straightforward, although modellers who send to Japan for a kit may wonder about investing all that money.

Moulded in a light yellowish-brown, the breakdown of parts is very similar to an ordinary kit, with a very basic cockpit and instrument panel, and a pair of vertically split fuselage halves, with a single seat and a nose plug with a vertical splitter into which the nose wheel fits. The undercarriage is white metal, each part being cast in one piece. The wing is likewise one piece; and the main undercarriage doors need separating before attachment. The two finlets which were fitted later in the aircraft's life are supplied, and you'll need to fill the slots in the tailplane if you want to finish it as the early version.

Finding the camouflage pattern was less than simple, and I'm still not certain about the top of the flying surfaces; Putnam's *Gloster Aircraft*,

Chaz Bowyer's *Meteor* and my ever-present copy of James Goulding's *Interceptor* supplied photos to show either side of the fuselage and the leading edge, but the rest was interpolation.

The dark green, dark earth and trainer yellow came from the Xtracolour drawer, and I settled for a gloss finish, though I expect the original wasn't quite that shiny; and the decals of course came courtesy of Modeldec.

What's 12 inch 1:72nd scale is 8 inch 1:48th and the stroke in W4041/G was made by beheading a 7. At some stage the aircraft was a prototype P, and the *Meteor* book showed A1 type roundels, but I settled for the later style, and couldn't find the circled P.

There has to my knowledge only ever been the Frog/Novo 1:72nd scale kit of the E.28/39, of uncertain accuracy and there seems to be a marked reluctance, in the UK at least, to reproduce the historic rather than the popular. Being only a small airframe, the larger scale suits it, and the completed model is well worth a place on anyone's shelf.

To get it, though, you'll have to send your £18 to Japan; the letter from TryAngle made no mention of a UK distributor. The address is No. 4-4, 1-Chrome, Shogun-Dori, Nada-Ku, Kobe, Japan. If you haven't used resin before, this is a good one to start with, of a significant aircraft.

Mike McEvoy

AIRFIX ANNOUNCE 1988 KIT RELEASES

Several new kits are amongst those announced by Humbrol for their Airfix releases during the coming year. Notable amongst these is a 1:48th scale Harrier GR.3, a completely revised model of the former NA.39 into a Buccaneer S.2B, an adaptation of the Hawk into the US Navy's T-45 Goshawk and a revise of the Freedom Fighter into the RF-5E. Amongst the re-releases are the DH Chipmunk, Westland Gazelle, Mirage IIIC, IL-2M3 Stormovik, Lightning F.3, Westland Lynx HAS.2, Dornier Do217E/J, Mil Mi-24 Hind, F-105G Thunderchief and A-10 Thunderbolt II. But best of all for many present day modellers, will be a 1:72nd scale Tornado F.3 to complement their new 1:48th scale version of this aircraft which was launched at the IPMS Nationals a few weeks ago.

Re-releases in other scales and classifications include some vintage aircraft namely the Bristol F2B Fighter, Spad S.VII, and Sopwith Pup. Airliners due to be on the stockists shelves again are the DC-10 and Concorde.

World War 2 Aircraft of the Aces series in 1:72nd scale due for re-release are the Spitfire IX, Hurricane I, P-51B Mustang, P-47 Thunderbolt, Focke Wulf Fw 190A and Messerschmitt Bf 109E.

Put it on a plinth

THERE can be no doubt that any aircraft model looks better if mounted on a base of some sort after completion. Competition judges look for this sort of extra special presentation and the gentle ministrations by one's nearest and dearest with the duster can often be over come if the model can be picked up and dust removed from the sideboard without touching your masterpiece.

But the problem has always been to find something that can be used for a satisfactory base without making it oneself or getting a carpenter to do the job at considerable cost.

Matrix Aviation, whose modelling board we reviewed two issues ago, has recently told of their involvement in this aspect of the trade for they are about to produce a whole series of different size and coloured base boards which will be ideal for many different sorts of model.

Starting with a very small six centimetre square board these can range into oblong shapes or squared up sizes capable of accommodating the most difficult shape and size. A TSR-2, which is the longest and thinnest we can think of apart from the F-104, can be accommodated on a shape 15 by 36 cms in 1:72nd scale.

Some of the plinths have been designed to take the Verlinden card bases. We have not reviewed these as yet but have seen them and subjects like the flight deck, PSP, helicopter pad and airfield concrete fit very well onto the Matrix bases.

At present two different coloured bases are available, a black and a mid-grey. Special orders and different colours can be produced as required but are subject to quotation. In general, prices range from £1.95 to £9.00 depending on size and can be obtained from Matrix Aviation, 5 Great Furlong, Bishopsteignton, Devon TQ14 9TU.

Examples of the new Matrix Aviation model bases. Various sizes are available and in two colours, grey or black. They can be easily adapted to take the Verlinden card bases as can be seen here.



DECAL REVIEW

FIRST STRATOJET DECALS FROM MICROSCALE

Microscale Decals 72-561, 72-562, 48-330, 32-71. Distributed by Hannant's, Trafalgar House, 29-31 Trafalgar St, Lowestoft, Suffolk NR32 3AT. Price: £2.95 each.

This month Microscale have issued some rather unusual decals which include their first sheet for the B-47E Stratojet for use on the excellent Hasegawa kit which has been around for many years and which has just become available again.

72-561 includes markings for four B-47's, and aircraft which sadly missed out from the spectacular marking era. The four included only carried a blue SAC fuselage band, US Air Force lettering, Wing badges and serial on the fin. The aircraft are 31827 from the 96th BW, 2462 from the 98th BW with two black fin bands, 32146 from the 310th BW with a yellow fin band and perhaps most interesting 2609 which was suitably marked as the 1,000th Wichita-built B-47 in an overall natural metal finish, National insignia is included for two aircraft.

The other three decals, this month, one in each scale, include the markings for the same three P-47D Thunderbolts with bubble canopies. All are from 1945 and were in natural metal finish, 228473 was flown by Lt Tallmadge Ambrose with the 410th FS, 373rd FG, Coded R3-F it had a black fin top and carried the name 'Dorothy K' and nine kill markings under the cockpit, 432773 was with the 509th FS, 405th FG, coded 4P-S, with a red cowling and black, red and yellow fin bands and the name 'Big Ass Bird II' in large yellow letters below the cockpit. The third P-47, 421055, was based in Belgium with the 513th FS, 406th FG, coded G9-E. It had a red fin band and nose with a scantily clad lady on the cowl and the name 'Look No Hands'. All markings, including national insignia, stencil data, and propeller markings are included for all three aircraft in 1:72 scale, in 1:48 the stencil data is missing as is

the red cowling decal for 432773 and there is national insignia for only two aircraft. In the large 1:32 scale only the individual aircraft markings are supplied with no fin stripes but these can be easily painted and national insignia for just one. The three Thunderbolts would make very attractive models and further references can be obtained from the Squadron/Signal P-47 In Action book.



International Plastic Modellers Society

Membership secretary: Jesse Wright, 9 Pretoria Road, Gillingham, Kent.

I HAVE to admit that I am a very slow modeller. With a mixture of envy and admiration I marvel at people who can, in two weeks, turn out a model that would take me six months.

As to why, well, I have all the usual excuses like a house, car and family to maintain. Now I have another excuse, odd jobs for IPMS! The worst of it is that relatively inactive modelling is a vicious circle; the fewer models you manage to do the less expertise you develop so you are bound to work more slowly.

The other problem is choosing what to build in the first place. That decision is much more

critical if you have a low output.

For years now I have specialised, deliberately modelling aircraft from almost exclusively specific groups. In fact, I stick to the aircraft of one country plus one or two other types that particularly interest me. This policy still gives me an enormous choice of subjects, yet it helps my dilemma over what to build and it enables me to have a worthwhile, albeit small, collection of 'theme' models.

A visit to almost any model exhibition these days shows that displaying models to a theme is pretty popular. A display of larger-size, well-made models, however miscellaneous, will always cause a stir. But few of us have the time or the space for many such models. So a collection of smaller models that together tell a story has a good chance of the same success.

The idea of specialisation is obviously by no means new. In Ian Allan's *Aircraft Annual 1962* Alan Hall himself comments on a collection of 35 Spitfires then known to him. Mind you, the same article illustrates part of a vast collection of all sorts of aircraft built by Peter Farrar; no doubt older modellers will remember him.

In most hobbies, settling down into a specialism of some sort is accepted practice. Take stamp collecting, for example, it is just not practicable to attempt a serious collection of the whole world. Where modelling is concerned, I occasionally have the impression that specialism is regarded with a little suspicion. After all, it can create bores! It can also close your mind to building some superb kits just because they do not fit your personal theme. Probably a comparison with stamp collecting is not on anyway; modelling is not just collecting.

Nevertheless, most people have some sort of specialist interest. Whatever it is, IPMS can help! Several years ago the first IPMS Special Interest Group (SIG) was set up. At the last count there were over 20 SIGs covering, for example, F-4 Phantoms, the RAF in World War 2, helicopters, the Italian forces in World

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War 2, cockpits and space. Some of the SIGs are particularly active, even publishing their own newsletters. Of course they may be no SIG that actually covers your own special interest. If so, there is always Ernie Lee's IPMS Technical Advisory Service (TAS) to fall back on, assuming you are not inclined to start off your own SIG!

Each sig is guided by an IPMS member, but I must mention that correspondence will not normally be entered into if you are not a member of IPMS.

SIGs were originally the brainchild of Frank Marshall who looked after TAS in the post that Ernie Lee now holds. Frank is currently branch secretary at IPMS Farnborough, a well established branch of some 15 to 20 members. The branch meets at the Railway Enthusiasts Club, off Hawley Lane in Farnborough on the second Monday of every month starting at about 7.30 pm.

If you have at least a passing interest in railways, a visit to Farnborough branch is doubly rewarding with the BR main line passing by outside, whilst inside, the clubroom features a range of railway memorabilia, and a bar! Further details can be obtained from Frank if you write to 217 Pinewood Park,

Farnborough, Hants GU14 9LQ.

In September, Frank revived the branch outing tradition and organised a trip to RAF Woodbridge, Suffolk, home of the 81st Tactical Fighter Wing, USAF (A-10A) and the 67th Aerospace Rescue and Recovery Squadron, USAF (HH-53 and HC-130). As seems to be usual when you manage to catch a USAF base at home, Farnborough's hosts laid on a detailed tour of an example of each of the three types of aircraft operated. A rather more accidental piece of fortune took the shape of an ex-New York Air National Guard F-4C that just happened to be on the base for repairs. Needless to say, much film footage was expended!

Last month I gave details of Mid-Sussex branch. Branch secretary Keith Soutter has just informed me that he has moved to 130 Wiston Road, Whitehawk, Brighton, Sussex BN2 5PR, so if you tried to contact Keith through his previous address, you should have better success with this one.

IPMS Kent branch has a new secretary, Norman Brice. Norman's address is 13 Cecil Way, Bormley, Kent BR2 7JU and Kent branch meets on the second Friday of each month from 8 pm at St Lukes Church Hall, Eardley Road, Sevenoaks, Kent.

IPMS Glasgow also has a new branch secretary, namely Bruce Smith of 12 Woodfield Avenue, Bishopbriggs, Glasgow G64 1TT.

I recently had a very welcome letter from a member of South East Essex branch of IPMS. I had in fact temporarily lost touch with the branch, but can now tell you that it meets every third Wednesday of the month in the Civic Centre, Victoria Avenue, Southend. The branch is active with a regular competition, sale or swap features, slide shows and talks and publishes its own bi-monthly magazine called *Phoenix*. If you would like to join the branch a letter to Peter Cross, 95 Fleetwood Avenue, Westcliffe-on-Sea, Essex will produce further details.

Would IPMS members please note that the

Society's treasurer, Martin Towers, has recently moved and can now be found at The Nurses Home, Seacroft Hospital, York Road, Leeds 14. Martin has given notice that he will be resigning his post once the November annual show and championships are over. The current secretary Peter Rivers will be taking over the duties of treasurer until the next AGM, similarly overseas liaison officer Tony Baldwin will be taking on the additional duties of secretary. By the time you read this it is likely these moves will have already taken place.

I wish all readers a very happy Christmas and a prosperous New Year; I'm hoping for a Matchbox Chinook or two in my stocking!

TAILPIECE

ONE of my favourite magazines, the British Aviation Review — well, the editor thinks it's a magazine, though it appears to the less enlightened as many apparently disconnected strings of letters and numbers — has for many years run an AGRO section. I have a feeling indeed that I coined this acronym back in the late 'sixties on the usual basis of acronym first, translation later, but in theory at least it stands for Amendments, Good Rumours and Odd bits. Having this space available enables me occasionally to pass on corrections that have been sent to me, not always by the irate, to some of my previous contributions.

Mike Watson, for example, the genial proprietor of M-W Models who will be known either in person or as a source of mail order

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goodies, has written on the subject of the Pioneer kit of the Gotha 229 which I reviewed recently to point out that it is not a limited production issue as we currently use the phrase, but a normal kit with the sort of production run associated with the major manufacturers. I'm happy to correct any false impression I may have given, and repeat my recommendation; not only is the resultant model interesting and eye-catching, but it is enjoyably simple to assemble. While it may appear to have limited scope for conversion or markings, there was a plan for a radar equipped two seater which might engage your interest, and my second example on the line is destined to be painted in Braunviolett, if only to find out what the colour actually is, and to have roundels applied over the crosses and an AIR MIN number painted, badly, on its flank. Incidentally, if anyone is looking for a different angle on Luftwaffe aircraft, I can recommend the Putnam book on the 'Captive Luftwaffe', even though I'm sure it's now out of print.

Another correction from the trade came from Andrew Deeley, son of Smilin' Ed, reproaching me with putting the wrong price on my review of the C Scale Meteor T.T 20 conversion. I'd worked on the theory that all these were the same price, but Andrew tells me that in fact you get your Meteor/Firefly/Sea Vampire set for only £4.55.

A letter from a Hampshire reader has backed up my memory of the underside colour of the Navy's TT.20's; he also remembers it as a rather sickly fluorescent lime yellow, and kindly send several examples of serial/code tie-ups.

Other correspondence in the last month or two has included a letter from a person in the Royal Danish Air Force who appears to object to my describing his professional colleagues as 'gentlemen' and feels that I got the colours on my Frogfoot totally wrong. Bearing in mind the RF-35s of the R.Dan, AF, he probably has better evidence than I do. Speaking of Frogfoots — Frogfeet? — my distinguished colleague from a far eastern branch of IPMS assured me when we met at Mildenhall recently that this is still scheduled for production in Czechoslovakia as

an injection-moulded kit; perhaps we can hope for a colour guide with references to overcome any more Danish objections.

Another letter, a few months ago now, came from a very incensed young man who when he bought an Airfix Jetstream kit thought he had been sold short, because the nacelles and the entry door were wrong. Those of us who remember it when it was first issued would have had no feelings of surprise, remembering as we all do that it was meant to represent the C-10A that the USAF had ordered before Handley-Page, which to almost everyone's regret, came to a sudden stop. In fact, I don't think this variant, with its Garrett engines leaving the intake the other way round from today's Jetstream 31, and the large cargo door in the rear fuselage, ever actually flew. When Humbrol took over Airfix, their entirely understandable priority seems to have been to get kits back on to the market at minimum expense to recoup some of their investment, and therefore not to spend any money on refurbishing. Certainly there must be many enthusiasts very happy to be able to get the kit again even in its original form, even if it meant scratchbuilding the Astazous, or taking advantage of M and E's excellent conversion kit. Without going into my advanced age, the real surprise to me is that any modeller would not realize that Jetstream would be other than the C-10A. Time passes all too quickly.

Some minor items to wind up; the E-3, in Nato and USAF service is painted in Boeing Grey, rather than the ADC equivalent I suggested in the review, and that correction came from the Colonel who was the USAF's man at Boeing.

Two others that were due to my appalling writing; the book with all the nose art was of course *Classy CHASSIS*, and I still look forward to volume 2. Lastly the gentleman in Devon who produces those white metal kits, and is about to produce a series of World War 2 RAF bomb trolleys is lead SLED. The way it came out in a recent review caused him to remark on the fact that it's the first time he's been compared to a nuclear bunker!

Mike McEvoy

Mr Vacuform to retire

GORDON STEVENS, who can rightfully claim to have been in right at the beginning of the vacuform model market is to retire after 20 years producing a variety of superb aircraft kits under the trade name Rareplanes. In fact the name vacuform can be traced back to his origination.

Numbered amongst his successes were the first model of a DC-4 and a Lockheed Constellation in 1:72nd scale plus scores of smaller aircraft some, of great rarity and others filling a gap in the market that none of the major manufacturers felt like moulding. Gordon's pioneering work can rightfully be described as the beginnings of the present day cottage industry in this country. His last kit which is just about to be released is a magnificent PBM Mariner, yet another gap in the market which he has filled at the right time.

The name Rareplanes and the moulds have been sold to another company and the kits themselves will still be available but Gordon Stevens will be in the heart of the Herefordshire countryside on the Welsh side of the Malvern Hills where he tells us he'll be taking it easy for a bit. Later he expects to be making a few moulds for other vacuform manufacturers as if the truth be known, here's one man who can never keep away from aircraft and model making for very long.

We are sure that there are many thousands of model makers, worldwide, who will join with the staff of *Scale Aircraft Modelling* in wishing Gordon and his wife Janet a more peaceful existence from now on and an uneventful but gracious living in their new home.

AWH

READERS QUERIES

It is regretted that we cannot answer individual camouflage and markings queries from readers. These are passed to the Technical Questions correspondent for possible selection and answer in his column

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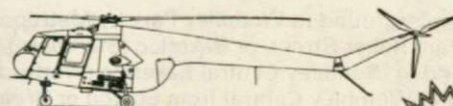
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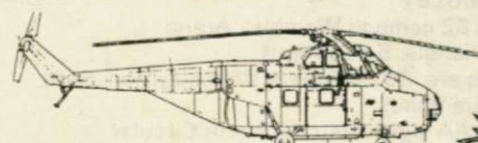
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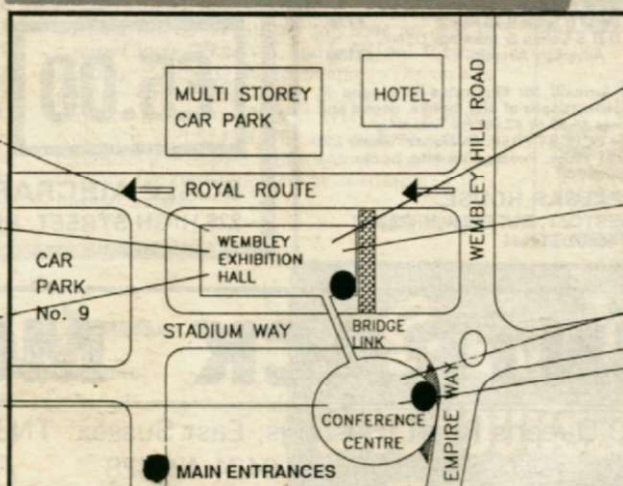
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