

# Harrier GR.3



### FALKLANDS 40TH ANNIVERSARY

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The Harrier is typically used as a ground attack aircraft, though its maneuverability also allows it to effectively engage other aircraft at short ranges. The Harrier ispowered by a single Pegasus turbofan engine mounted in the fuselage. The engine is fitted with two air intakes and four vectoring nozzles for directing the thrustgenerated: two for the bypass flow and two for the jet exhaust. Several smaller reaction nozzles are also fitted, in the nose, tail and wingtips, for the purpose of balancing during vertical flight. It has two landing gear units on the fuselage and two outrigger landing gear units, one on each wing tip. The Harrier is equipped with four wing and three fuselage pylons for carrying a variety of weapons and external fuel tanks.

The Hawker Siddeley Hairier is a British military aircraft. It was the first of the Harrier Jump Jet series of aircraft and was developed in the 1960s as the first operational ground attack and reconnaissance aircraft with vertical/short takeoff and landing (VISTOL) capabilities and the only truly successful V/STOL design of that era. The Harrier was developed directly from the Hawker Siddeley Kestrel prototype aircraft, following the cancellation of a more advanced supersonic aircraft, the Hawker Siddeley P.1154. The British Royal Air Force (RAF) ordered the Harrier GR.1 and GR.3 variants in the late 1960s. It was exported to the United States as the AV-BA, for use by the US Marine Corps (USMC), in the 1970s.

The Harrier GR.1 made its first flight on 28 December 1967. It fficially entered service with the RAF on 18 April 1969 when the Harrier Conversion Unit at RAF Wittering received its first aircraft. The aircraft were built in two factories one in Kingston upon Thames, southwest L ondon, and the other at Dunsfold Aerodrome, Surrey and underwent initial testing at Dunsfold. The skijump technique for launching Harriers from Royal Navy aircraft carriers was extensively trialled at RNAS Yeovilton from 1977.

The Hawker Siddeley Harrier was a British military aircraft which became the first jet aircraft in the world with vertical/short takeoff and landing (V/STOL) capabilities to enter front-line operational s

The Harrier was primarily used as a ground-attack and reconnaissance aircraft, though its menuverability alors at the Harrier was powered by the Harrier was powered by a single Pegasus turbofan engine mounted in the centre of the fuselage behind two large air intakes and it used four rotating vectoring in slows speed of fight and maintaining stability to be maintained in the hover. It had two landing gear units under the first power of the fuselage and the first power of fight and maintaining stability to be maintained in the hover. It had two landing gear units under the function of the fuselage and maintaining stability to be maintained in the hover. It had two landing gear units under the fuselage and the hover. It had two landing gear units under the fuselage and the hover. It had two landing gear units under the fuselage and the hover. It had two landing gear units under the fuselage and the hover. It had two landing gear units under the fuselage and the hover. It had two landing gear units under the fuselage and the hover. It had two landing gear units under the fuselage and the fuselage and the fuselage and the hover. It had two landing gear units under the fuselage and two outrigger landing gear units, one under each wing tip. The Harrier was equipped with four wing and three fuselage pylons and can carry a variety of stores including gun pods, rocket pods, bombs and external fuel tanks.

external fuel tanks.

The Harrier officially entered service with the RAF in April 1969 when the Harrier Conversion Unit at RAF Wittering received its first aircraft. Harrier GR.1s were upgraded to the GR.1A from 1971 and then to the GR.3 from late 1972. To dispel popular myths, the different types of Harrier were differentiated by the mark of Pegasus turbofan fittled and not by the shape of the nose, fin and tail: GR.1 – Mk.101 (19,000lbs thrust); GR.1A - Mk.102 (20,500lbs thrust) and GR.3 – Mk.103 (21,500lbs thrust). Early GR.3s had the original nose and fin shapes, with the addition of extra vent holes in the tail sting, but without the two electrical system vents on top of the forward engine covers; these were replaced by a smaller vent offset to starboard. The later Harrier GR.3s 'thimble' nose housed Ferrantis' Laser Ranger and Marked-Target Seeker (LRMTS), with passive Radar Warning Receivers (RWR) on the heightened fin and at the end of the tail sting. Both were introduced as capability upgrades in 1976.

The Harrier was capable of operating away from airfields at rough ground sites or using roads. The V/STOL operational concept was developed in response to the view that airfields would be regularly attacked and unavailable in the event of war, and off-airfield deployments and exercises were regularly practised. The Harrier GR.3 further proved its adaptability by operating alongside Sea Harriers from the Royal Navy's aircraft carriers HMS Hermes during the Falklands War in 1982. Following the cessation of hostilities, several Harriers provided limited air defence cover to the Falkland Islands for the next 3 years. Following their evaluation of the Harrier in 1968-69, the

United States Marine Corps ordered the Harrier (designated AV-8A in USMC service) and deliveries began in January 1971. But that, as they say, is another kit...! (Kinetic 48072)

# CAUTION /!\

- \*Read carefully and fully understand the instructions before commencing assembly.
- \*Keep out of reach of children. Children must not be allowed to put any parts in their mouths, or pull plastic bag over their heads.
- \*When using adhesives and paints, please make sure not to use them in closed room or near the fire.
- \*When assembling this kit, tools including knives are used. Extra care should be taken to avoid injury.

#### WARNING: CONTAIN SMALL PARTS NOT FOR CHILDREN UNDER 14 YEARS OF AGE.





















TOOLS RECOMMENDED

Cement =

Side Cutter <



Modeling Knife



**Tweezers** 

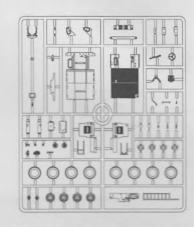


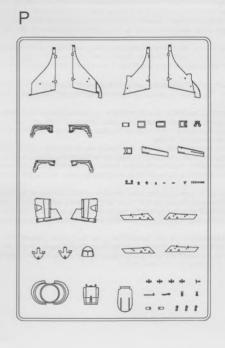


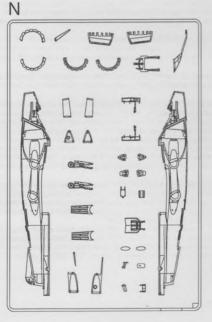
#### AFTERMARKET SERVICES CARD

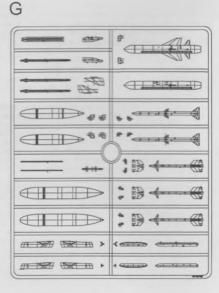
When requesting replacement parts, please take or send this form to your local dealer so that the parts required can be correctly identified. Please note that specifications and availability are subject to change without notice. Or visit http://www.kineticmodel.com for latest information. For more information, please contact services@kineticmodel.com

Part Code	K48139	Qty	Item
00-104-001	SW-48004 SOLDIER A	1	
00-147-001	1/48 VICKER TOW TRACTOR FOR HMS	1	
00-156-002	1/48 HARRIER FA2 WINGS (B)	1	В
00-156-003	1/48 HARRIER FA2 INTAKE (C)	1	C
00-156-004	1/48 HARRIER FA2 PARTS (D)	1	D
00-156-005	1/48 HARRIER FA2 LANDING GEAR (E)	1	E
00-156-007	1/48 HARRIER MISSILE SPRUE/TANK (G)	2	G
00-156-009	1/48 HARRIER FRS1/T2/T4/GR1/GR3 WING (I)	1	1 .
00-156-014	1/48 HARRIER GR1/GR3/AV-8A FUESLAGE	1	N
00-156-015	1/48 HARRIER GR1/GR3/AV-8A PARTS	1	F
00-156-016	1/48 HARRIER GR1/GR3/AV-8A CANOPY	1	P
01-147-48017	1/48 VICKER TOW TRACTOR		Decal
01-156-48060	harrier GR1/GR3	1	Decal
03-156-48139	1/48 HARRIER GR1/GR3 40th ann.	1	MANUAL
06-156-48060	1/48 HARRIER GR1/3/AV-8A	1	PE
09-156-48139	1/48 HARRIER GR1/GR3 40th ann. BOOKLET	1	Leaflet





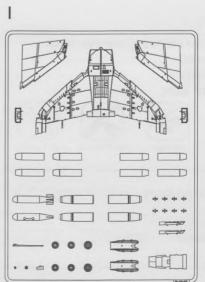


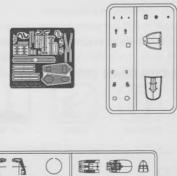


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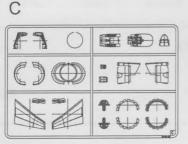
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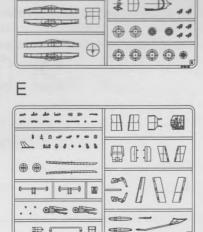
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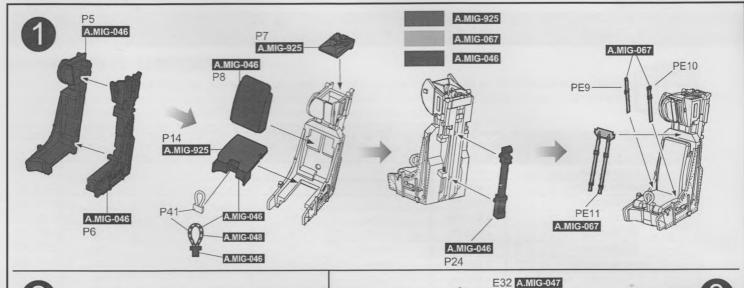


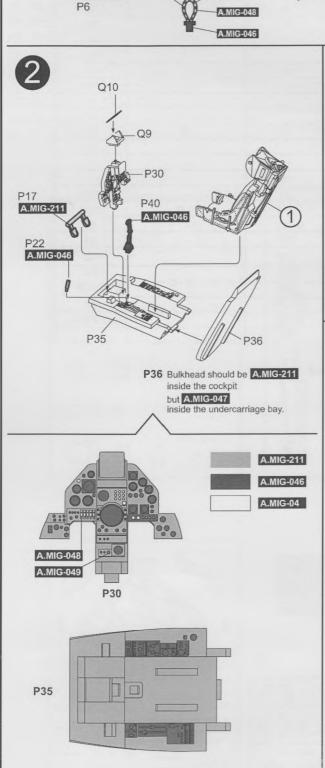


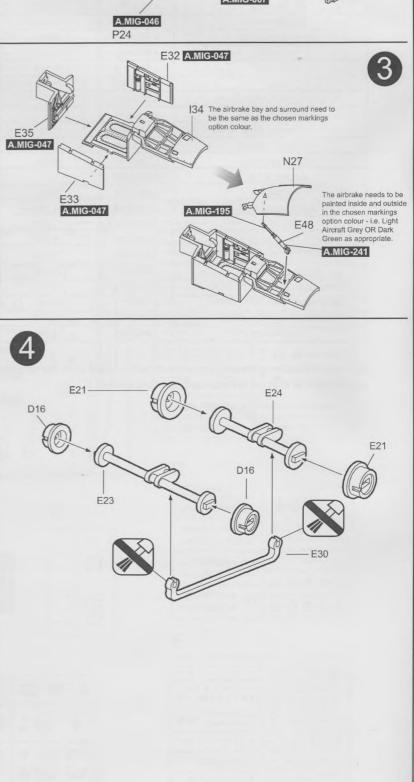


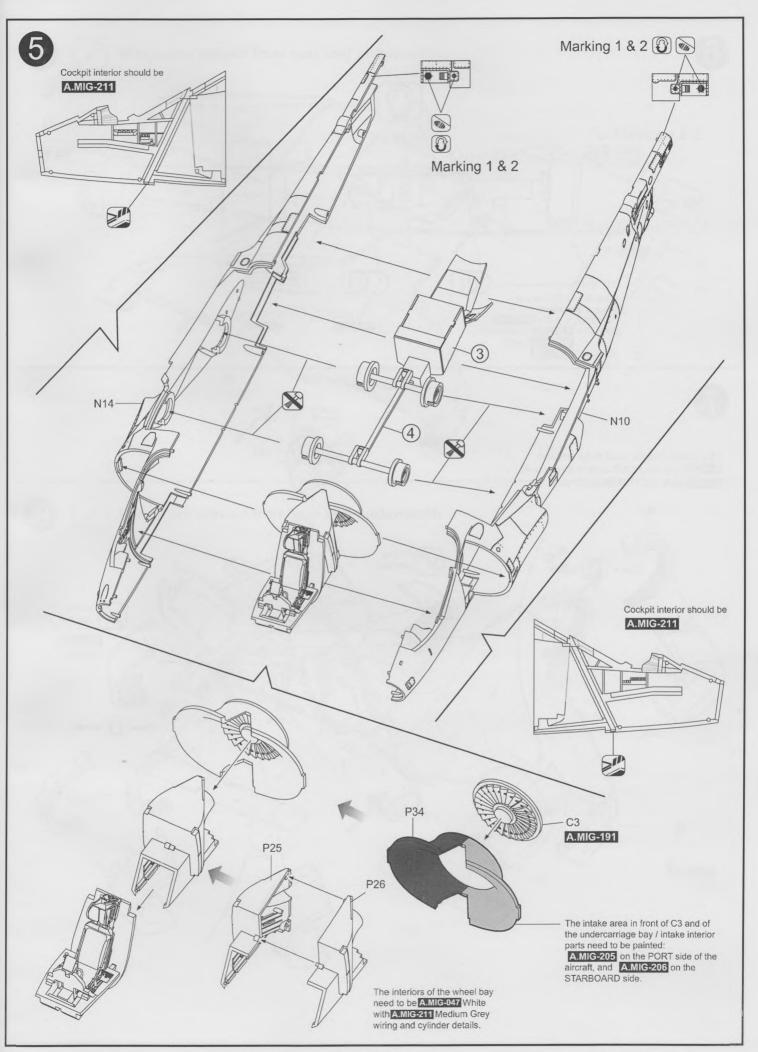
COLOR	AMMO MIG	VALLEJO MODEL COLOR	GSI CREOS MR. COLOR	TAMIYA ENAMEL/ACRYLIC	HUMBROL ENAMEL
SATIN BLACK	A.MIG-032	70.861	2	X-1	85
RUBBER & TIRES	A.MIG-033	70.306	137	XF-85	67
GUNMETAL	A.MIG-045	71.072	-	X-10	53
FLAT BLACK	A.MIG-046	70.950	33	XF-1	33
MATT BLACK	A.MIG-046	71.057	33	XF-1	33
SATIN WHITE	A.MIG-047	70.842	1	X-2	130
GOLDEN YELLOW	A.MIG-048	70.915	4	XF-3	24
YELLOW	A.MIG-048	71.002	4	XF-3	69
FLAT RED	A.MIG-049	70.909	3	XF-7	153
RED	A.MIG-049	71.003	3	XF-7	60/153
LIGHT GREEN KHAKI	A.MIG-058		-	-	80
LIGHT SAND GREY	A.MIG-067		-	-	93
CRYSTAL RED	A.MIG-093	70.934	47	X-27	220
CRYSTAL GREEN	A.MIG-096	70.936		X-25	239
CLEAR ORANGE	A.MIG-097	70.935	49	-	-
AZURE BLUE	A.MIG-098	-	50	-	
STEEL	A.MIG-191	70864	28		27003
MATT ALUMINUM	A.MIG-194	71.062	218	XF-16	27001
SILVER	A.MIG-195	71.063	8	X-11	11
BS638 DARK SEA GRAY	A.MIG-205	71.051	317		164
BS641 DARK GREEN	A.MIG-206	71.294	309	-	163
BS631 LIGHT GREY	A.MIG-209	71.276	11	-	196
BS632 DARK ADMIRALTY GREY	A.MIG-211	71.275	306		27/126
BS627 LIGHT AIRCRAFT GRAY	A.MIG-241	70.986	31/325	-	166
OLIVE DRAB DARK BASE	A.MIG-925	71.043	38	-	253
OLIVE GREEN	A.MIG-926	71.286	304	-	-

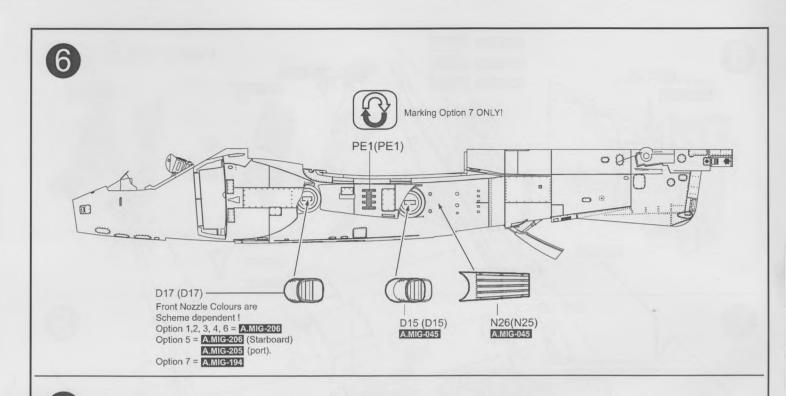
For Color Profile, please go to www.kineticmodel.com for download (type the kit# and go for manual/painting guide)

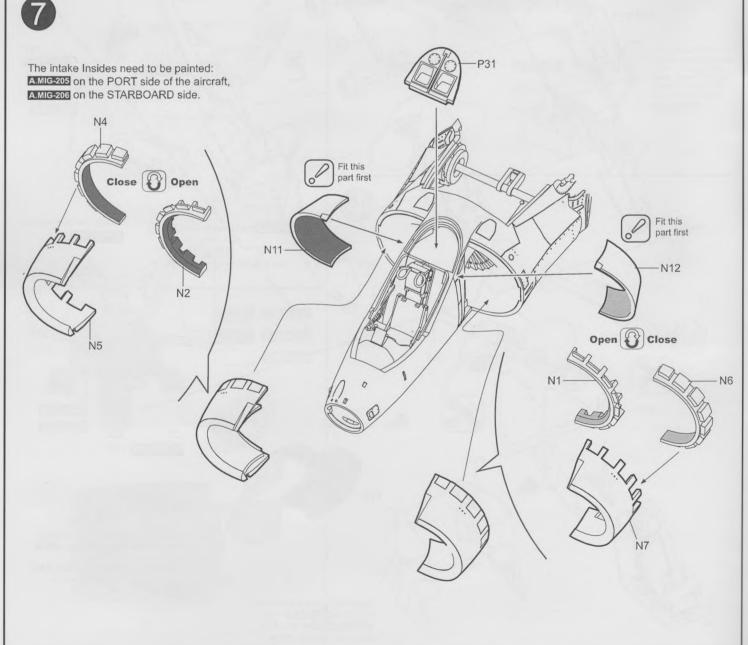


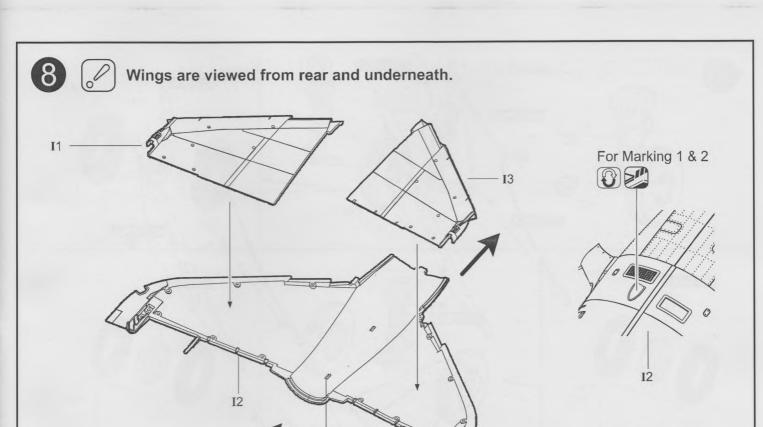


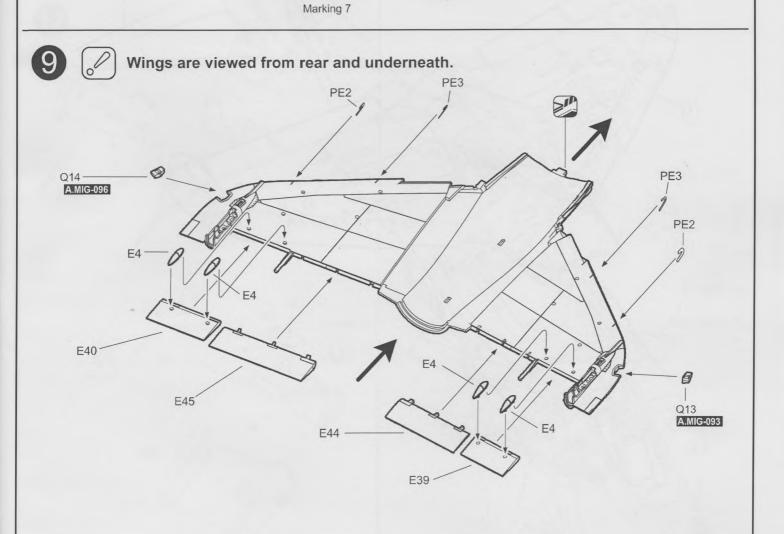


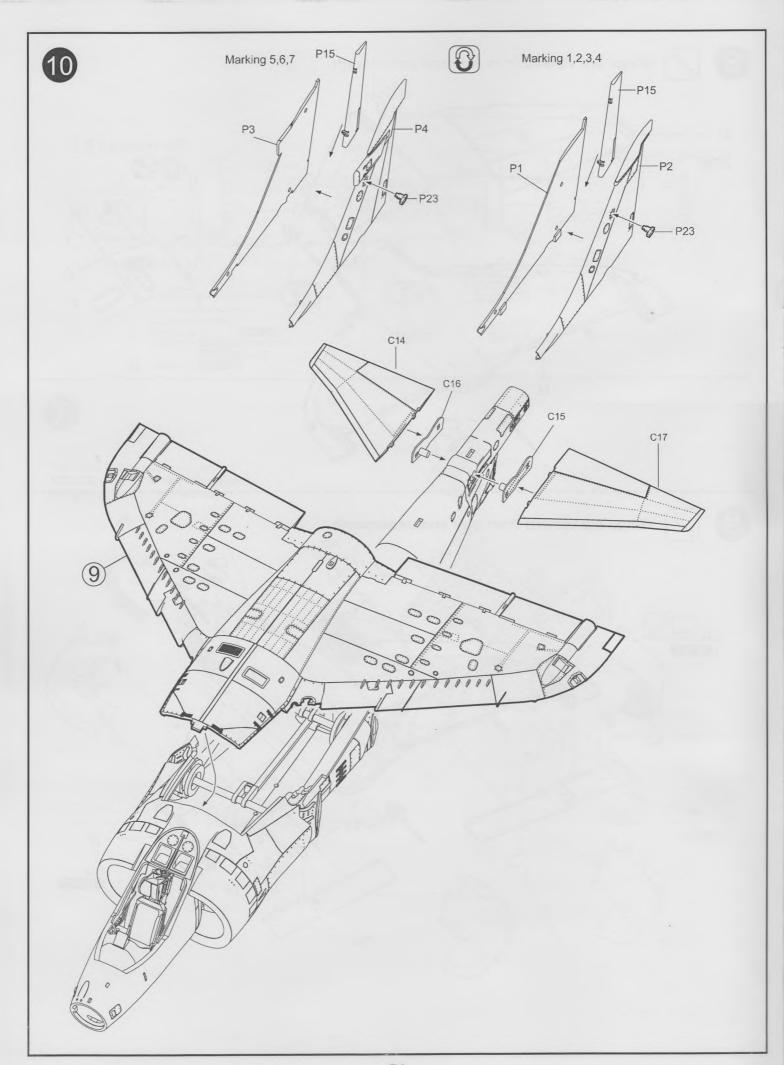


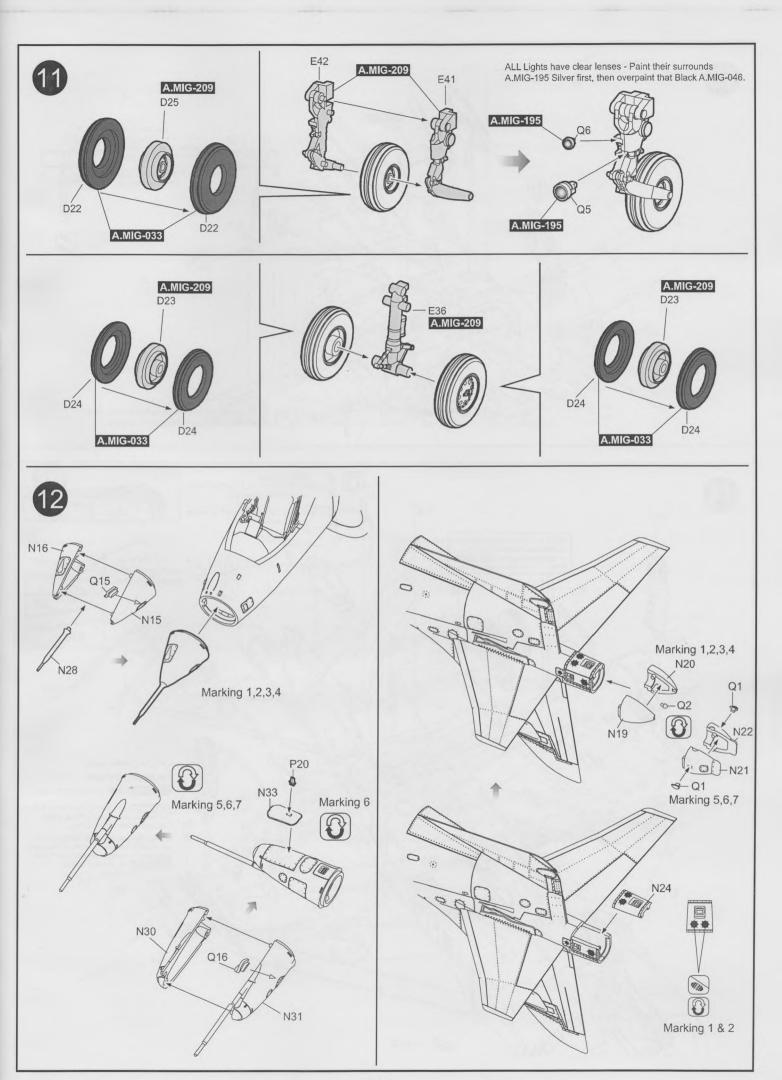


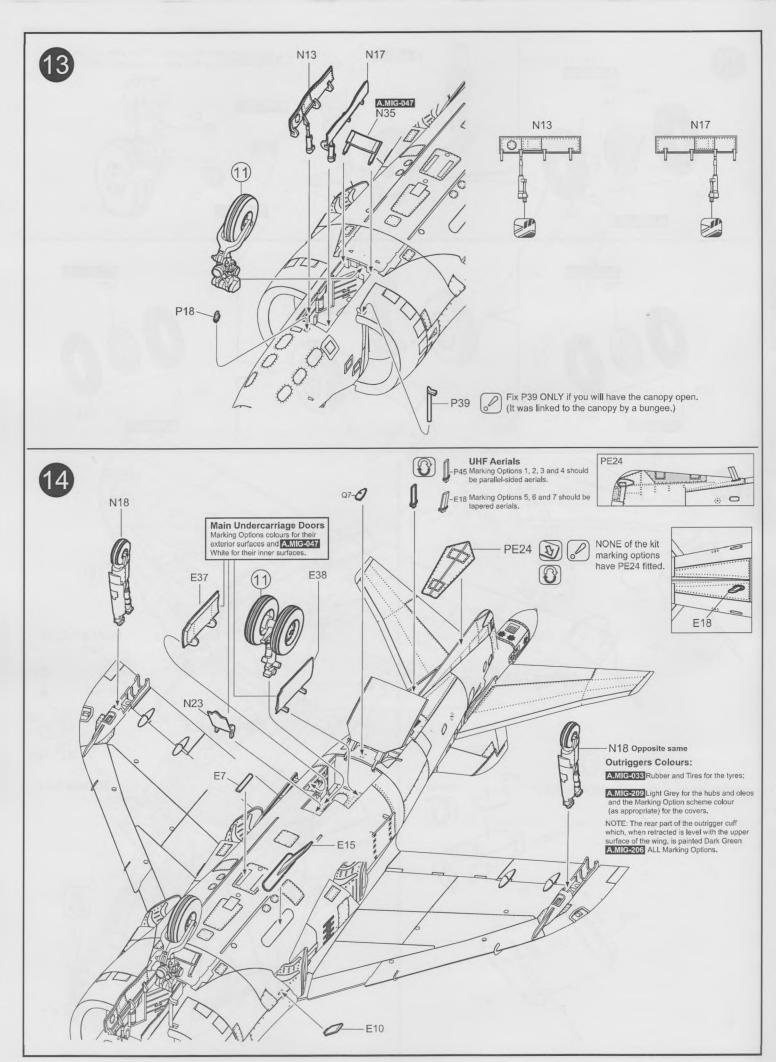


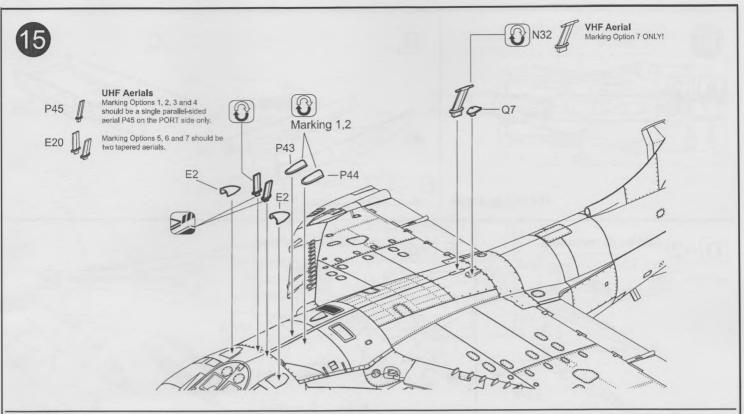


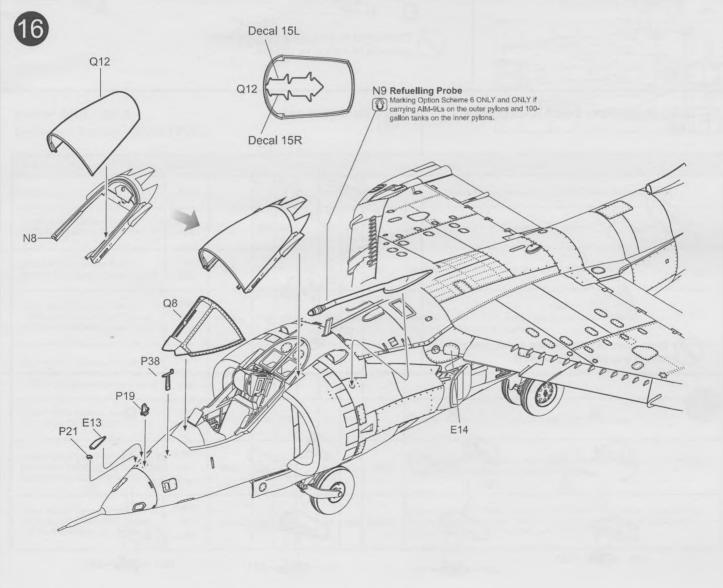


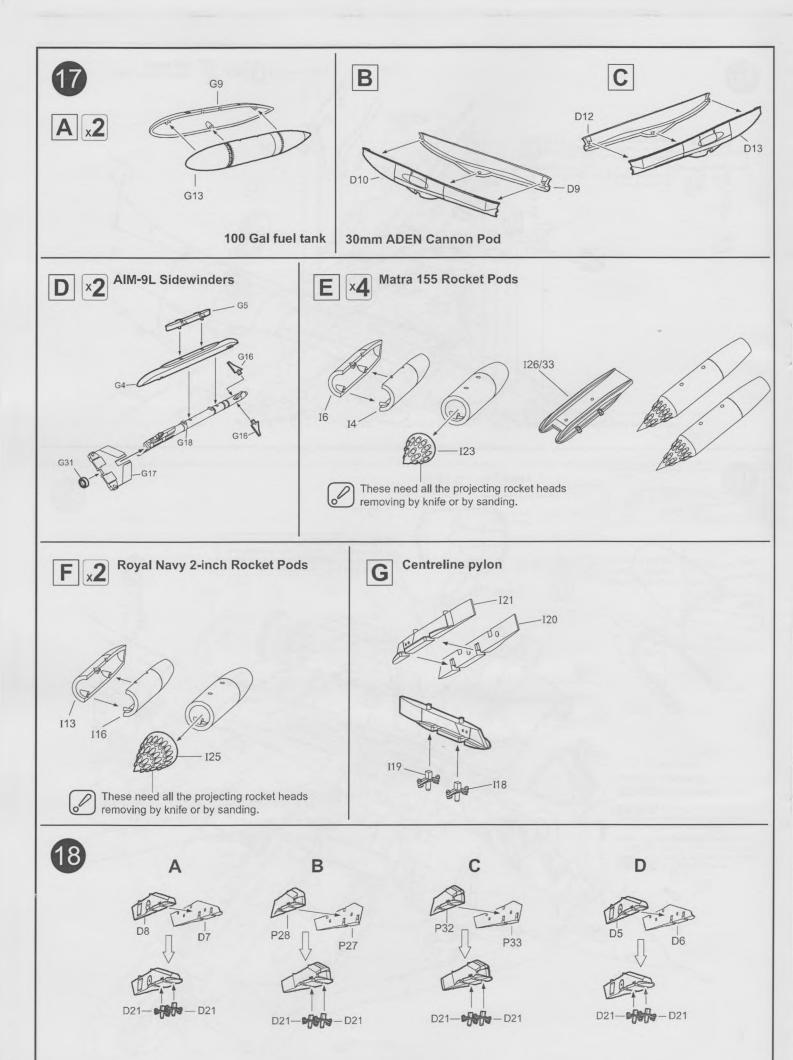


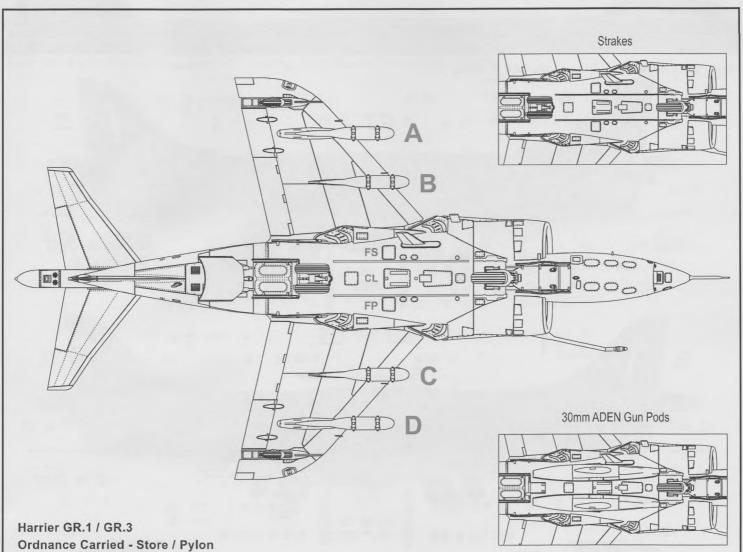












Stores Configurations	Section	Α	В	FS	CL	FP	С	D	Notes for marking options	
Strake x 2	E22			Υ		Υ			Marking Option 1. All pylons empty. Centreline pylon fitted to fuselage.	
30mm ADEN Cannon Pod x2 MATRA 155 68mm Rocket Pod x2	17B/C 17E		MA	AD		AD	MA		Marking Option 1 & 2. Centreline pylon optional.	
30mm ADEN Cannon Pod x2 MATRA 155 68mm Rocket Pod x4	17B/C 17E	MA	MA	AD		AD	MA	MA	Marking Option 1 & 2. Centreline pylon fitted to fuselage.	
30mm ADEN Cannon Pod x2. 100-Gallon Combat Fuel Tank x2 MATRA 155 68mm Rocket Pod x4	17B/C 17A 17E	ма ма	100	AD		AD	100	MA MA	Marking Option 1 & 2 Uses Twin Stores Carriers I26/I33 Centreline pylon fitted to fuselage.	
30mm ADEN Cannon Pod x2. 100-Gallon Combat Fuel Tank x2 MATRA 155 68mm Rocket Pod x2	17B/C 17A 17E	MA	100	AD		AD	100	MA	Marking Option 1,2,3,4,5 & 7. Centreline pylon fitted to fuselage.	
30mm ADEN Cannon Pod x2. 100-Gallon Combat Fuel Tank x2	17B/C 17A		100	AD		AD	100		Marking Option 1,2 & 7. Centreline pylon fitted to fuselage.	
30mm ADEN Cannon Pod x2. 100-Gallon Combat Fuel Tank x2 Royal Navy 2-inch Rocket Pod x2	17B/C 17A 17F	RN-2	100	AD		AD	100	RN-2	Marking Option 6 - Falklands War flying from HMS Hermes in the close support role. Centreline pylon fitted to fuselage.	
30mm ADEN Cannon Pod x2 100-Gallon Combat Fuel Tank x2 AIM-9L Sidewinder x2	17B/C 17A 17D	AIM-9L	100	AD		AD	100	AIM-9L	Marking Option 6 - Post Falklands War Harrier Detachment based at RAF Stanley July to December 1982; air defence role. Inflight refuelling probe often fitted in this role.Centreline pylon fitted to fuselage.	



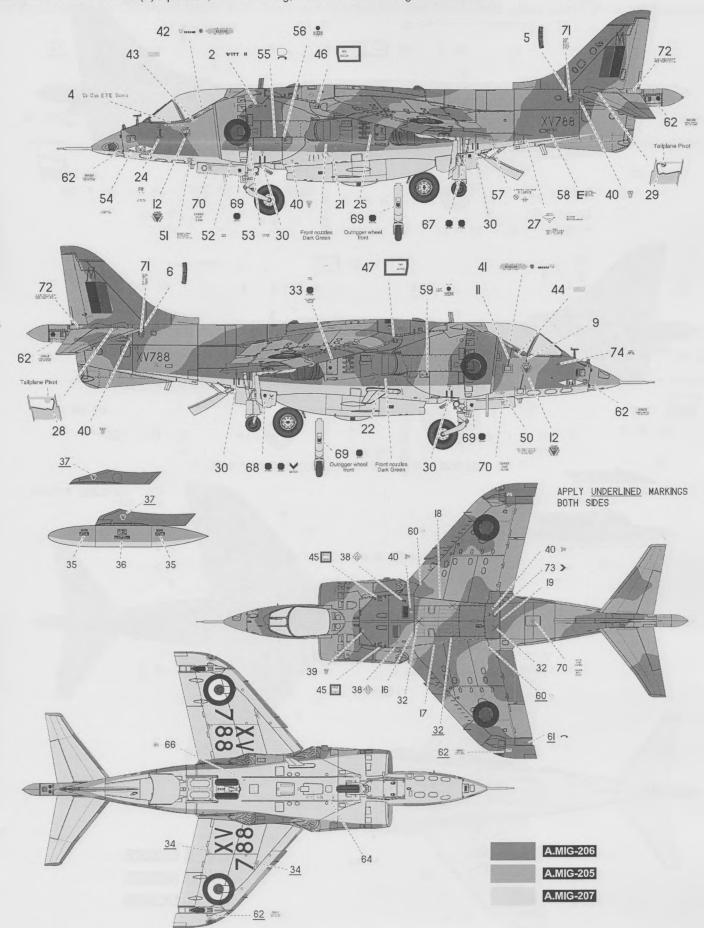


Harrier GR.1 XV788/M -1(F)Squadron, RAF Wittering, 1970. 42 56 5 72 43 55 🚍 46 3 Far Ly 14 1 844 24 62 57 Silmes 58 F 40 7 29 54 70 12 40 8 21 25 1933° 1933° 13.68 69 💂 27 30 51 100 52 = 53 = 30 Front nozzles Dark Green 47 41 72 33 59 84 . 44 9 **●** ■ 74 -V788 62 Tailplane Pivo 62 40 🗑 28 50 12 69 37 30 68 . . . neel Front nozzles Dark Green 30 70 HADEN APPLY <u>UNDERLINED</u> MARKINGS 37 BOTH SIDES 60 40 @ 45 38 🏶 40 35 36 35 73 > 19 32 70 39 🗑 45 **38 16** 32 60 61 ~ 66 62 III. 34 <0 A.MIG-206 64 34 A.MIG-205 A.MIG-207 - 62

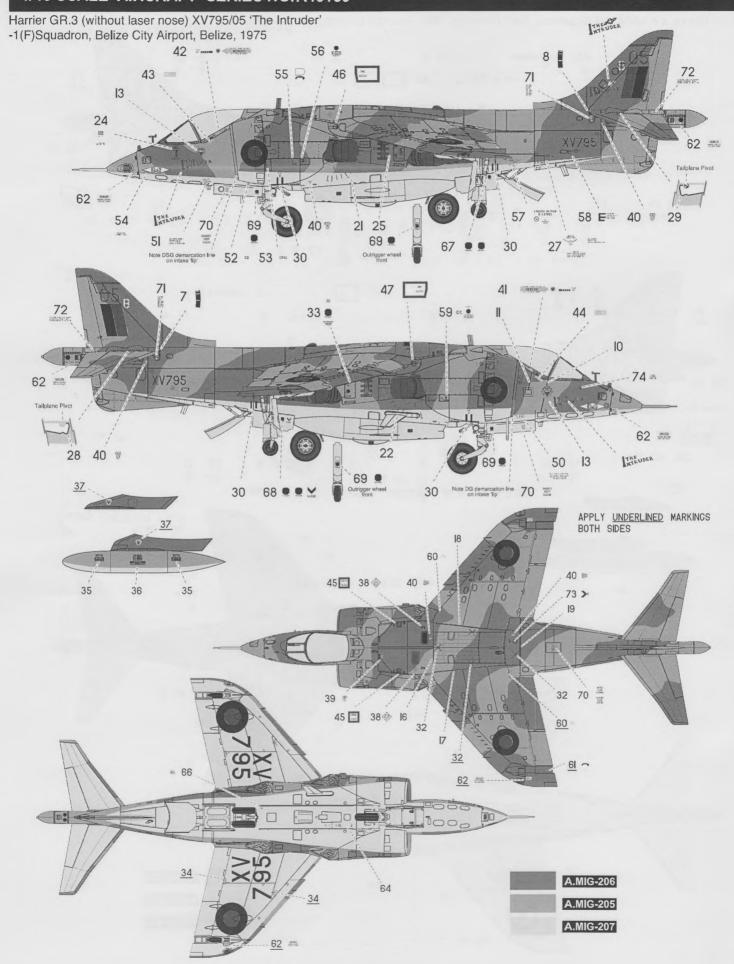




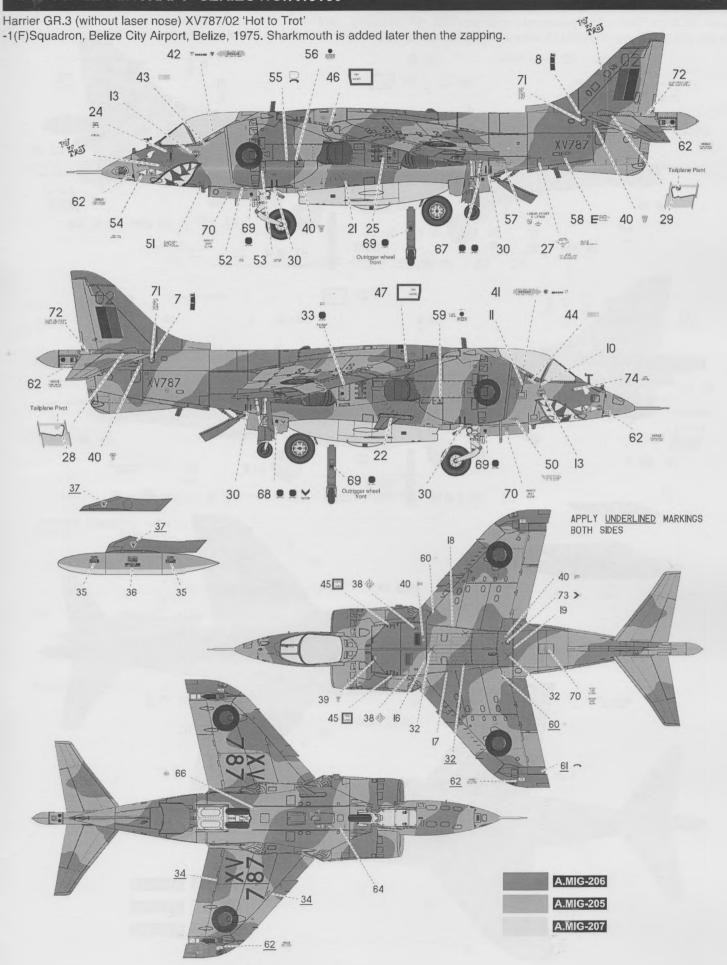
Harrier GR.1A XV788/M -1(F)Squadron, RAF Wittering, 1970. Roundel changed into 2-colors.



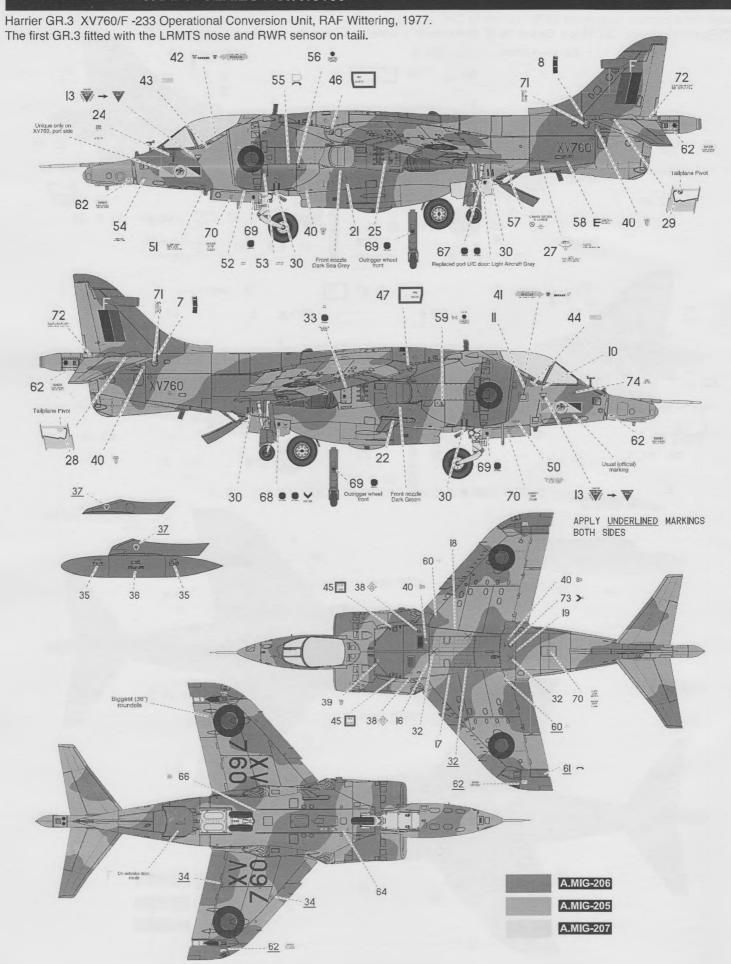




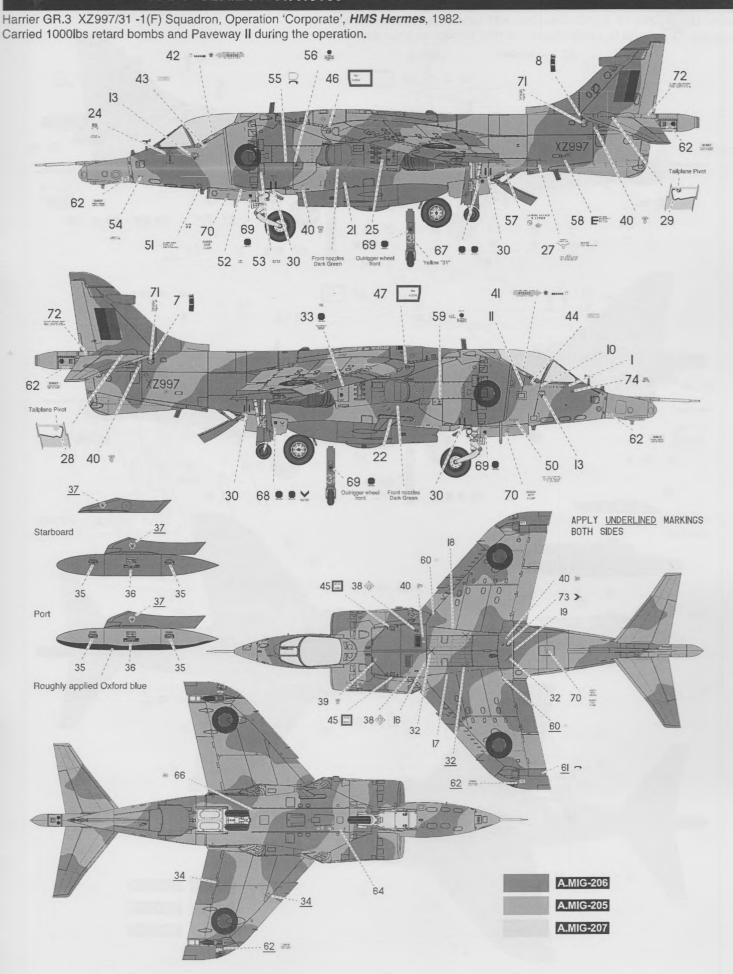






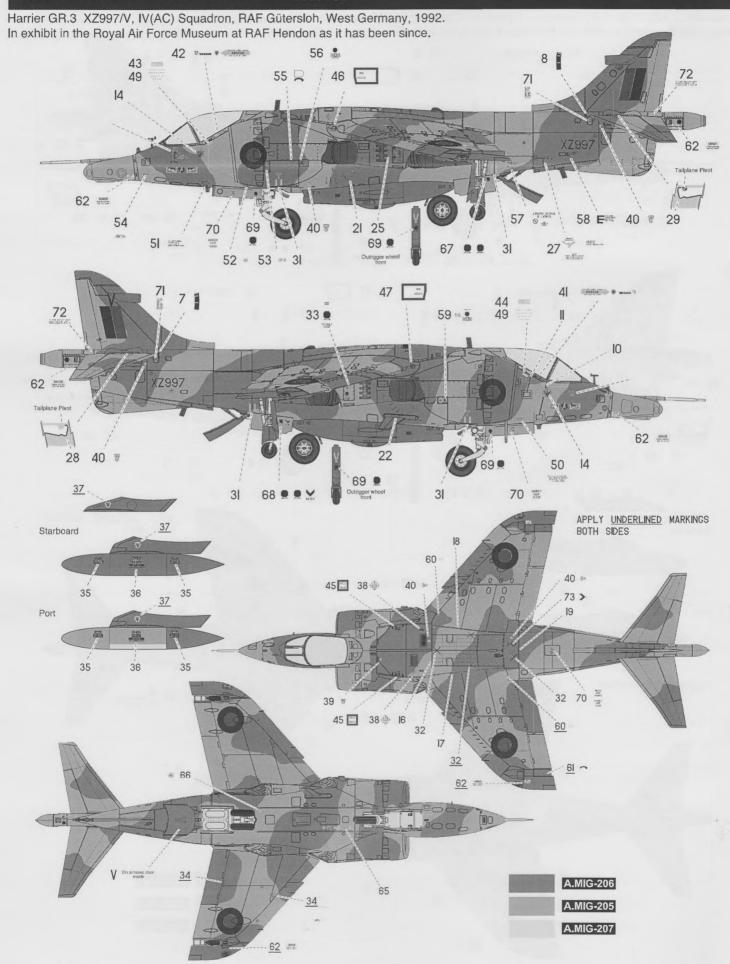


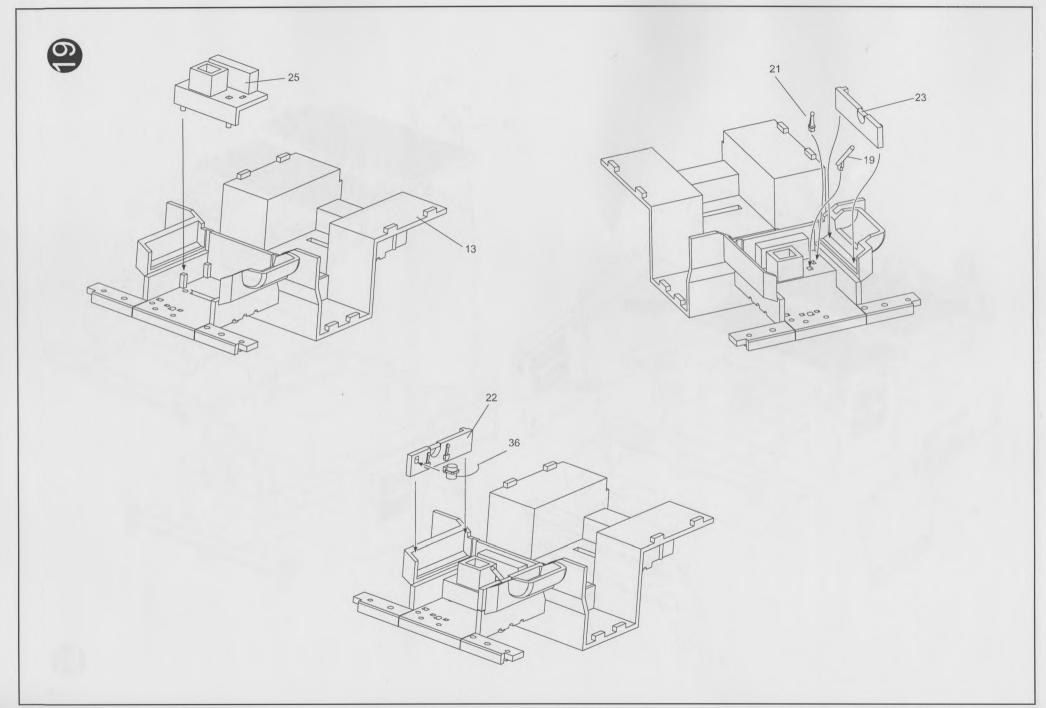


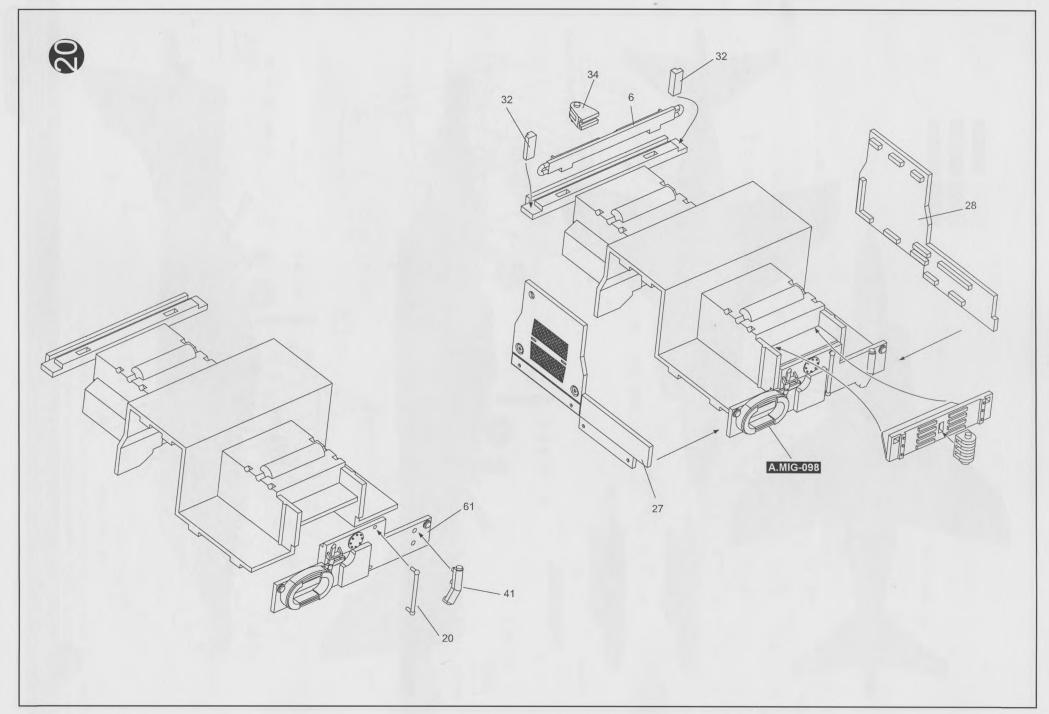






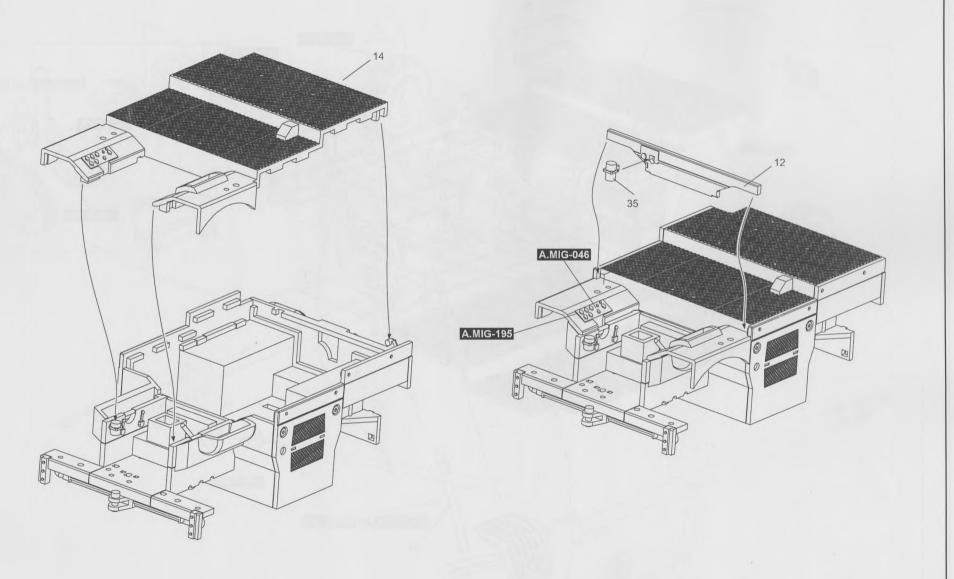


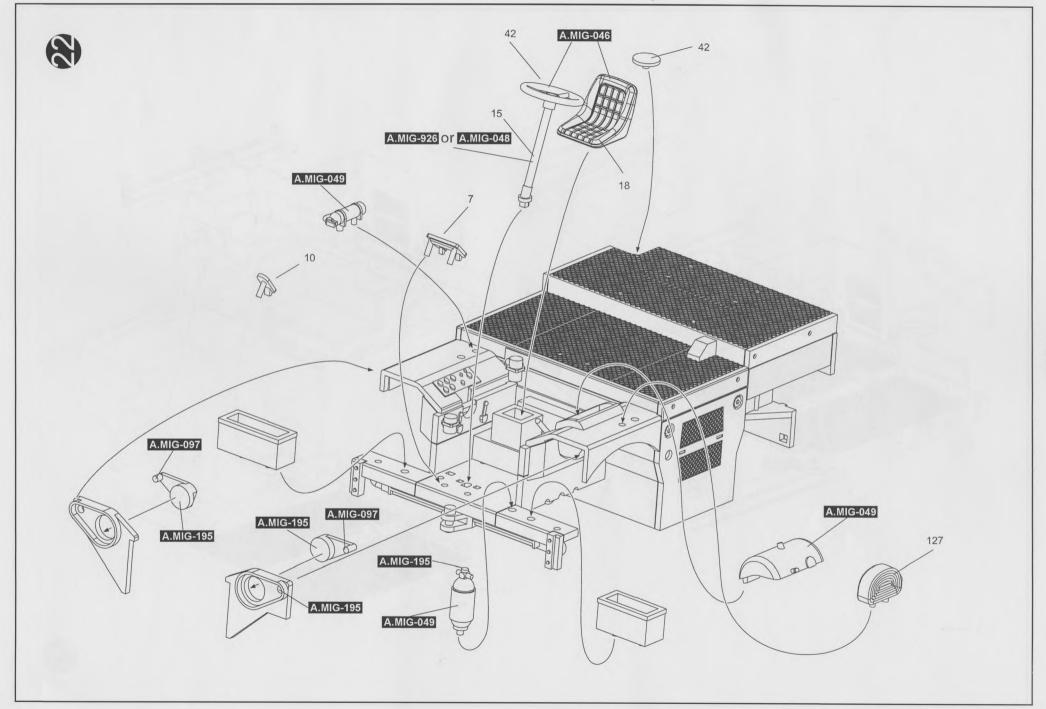


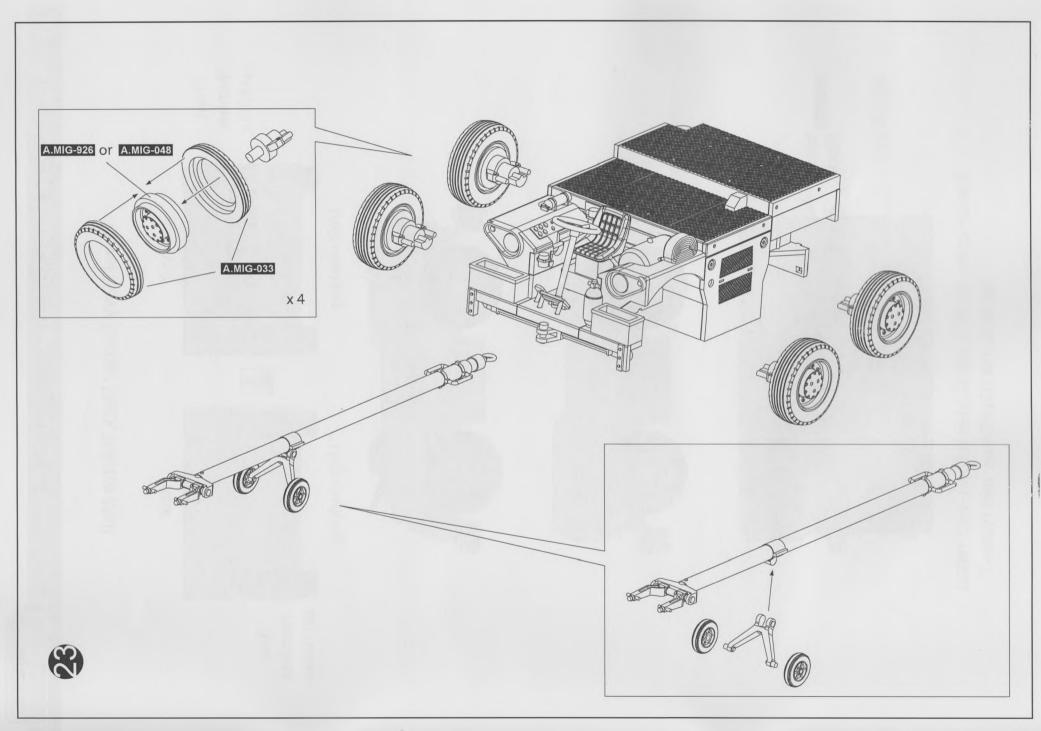






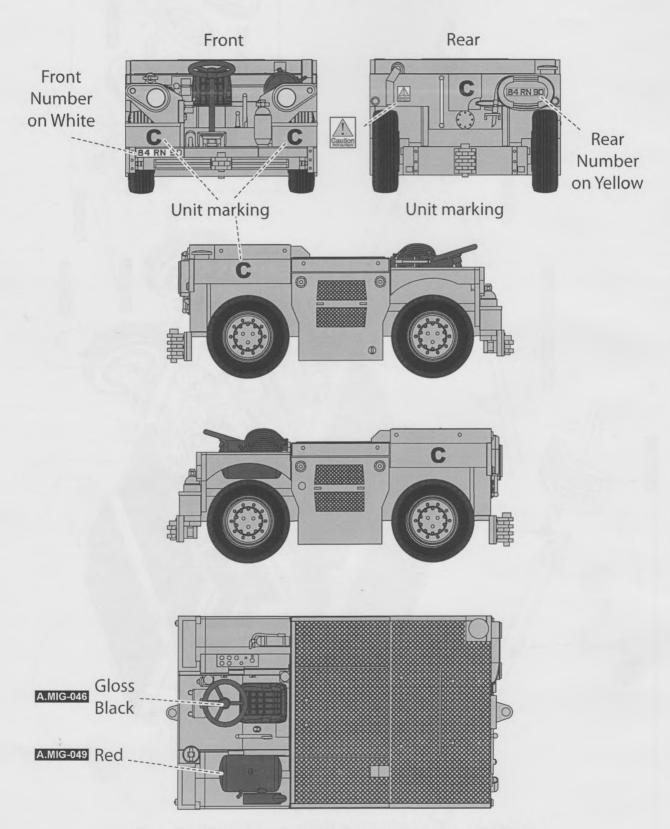








# Royal Navy Carrier Deck Tractor Mkll



Chassis color: BS 381C 356 Golden Yellow (~mid 1980s)
BS 381C 238 Olive Green (mid 1980s~)







KIT NUMBER: 48139

# HARRIER GR.3 THE FALKLANDS WAR



hen Argentina invaded the Falkland Islands in 1982, RAF Harrier GR.3's played an important role in the conflict. The decision to deploy RAF Harriers to the Falklands was taken to bolster the small number of Sea Harriers, since attrition replacement was thought to be a high priority early in the campaign and there were more GR.3s available than the very small number of 'irreplaceable' FRS.1s. Following trials, the air-defence scenario was certainly feasible with the GR.3, and the fitting of outboard wing pylons to carry Sidewinder launch rails was guickly undertaken. The AIM-9G version of the AAM, Tracor AN/ALE-40 chaff/flare dispensers were also made available, some twenty being at hand by mid-May. The aircraft were also fitted with a transponder to enhance their appearance on the carriers' radar, which resulted in a pronounced bulge beneath the aircraft's LRMTS. Operations were also greatly assisted by Ferranti's invention and swift delivery of their FINRAE (Ferranti Inertial

Rapid Alignment Equipment) system, which allowed for the fast setting up of the aircraft's INS platform on a rolling and pitching deck. In all fourteen late production GR.3s were prepared for deployment. The aircraft all retained their RAF Matt Dark Green (BS381C:241) and Dark Sea Grey (BS381C:638) wrap-around camouflage schemes, with the squadron insignia overpainted, although the yellow outrigger numbers remained. Roundels and fin flashes were retained on some aircraft and overpainted on others. Squadron badges and markings were also overpainted. Serial numbers in black were retained in their usual positions on the rear fuselage and all stencil and warning markings remained.

No.1(F) Squadron received the call to deploy aircraft to the Falklands on 8 April, six aircraft were drawn from No.1(F) Squadron with six from Nos.3 and IV(AC) Squadrons and 233 OCU, and crash courses in ski-jump techniques were undertaken, with clearance trials flown with Navy 2in rocket pods and 1,000lb Paveway Laser Guided Bombs. Subsequently nine Harrier GR.3s









left RAF St Mawgan on 3, 4 and 5 May (although one turned back with mechanical trouble) with Victor tanker support to Ascension Island, where two remained on the Island to provide air defence. The other six boarded Atlantic Conveyor on 6 May, joining Sea Harriers already embarked for the trip. Four other GR.3s made the flight to Ascension, with two making the final hop direct to HMS Hermes arriving on 1 June. A second pair made the trip out to Hermes on the 8th. The six GR.3s aboard the Atlantic Conveyor transferred over to Hermes on 18 May.

As the Sea Harrier losses were much lower than had been expected, the GR.3s did not have to use their Sidewinder launch rails. The first Harrier GR.3 attack took place in the afternoon of 20 May, when a three-ship formation led by Wing Cdr Squire dropped BL.755 CBUs on an Argentine fuel dump just outside Fox Bay. Next day a group of GR.3s attacked and destroyed several aircraft on the ground near Mount Kent. On that day there was also the first GR.3 casualty, when Flt Lt Jeff Glover, flying XZ972 in a reconnaissance run, was hit by a Blowpipe SAM near Port Howard. Glover ejected and was taken prisoner. Further GR.3 losses occurred when on the 27th Sqn Ldr Bob Iveson, flying XZ988, was hit by Skyguard-directed AAA fire while attacking Goose Green. He ejected, managed to evade capture, and was picked up by a Royal Marines helicopter. Flt Lt Peter Harris and Flt Lt Tony Harper eventually silenced the Goose Green guns with BL755 CBUs. He was followed in by Flt Lt Jerry Pook who launched sixty two-inch RPs. On the 30th Flt Lt Pook, now flying





XZ963, took hits from small arms while attacking a gun position at Mount Harriet. He tried to nurse his stricken aircraft back to the carrier but was forced to eject, being picked up by a Sea King helicopter. Two replacement Harriers arrived during the first days of June, followed by two more on the 8th, the latter, XW919 and XZ992 had 'Blue Eric' ECM jammers and Tracor AN/ALE-40 chaff and flare dispensers fitted. The 'Blue Eric' jammer was modified Skyshadow ECM equipment fitted into one of the two Aden cannon pods. XW919 and its pilot Flt Murdo McLeod sustained small arms hits on 12 June, causing a fire on recovery.

The final GR.3 to be 'lost' was XZ989 flown by Peter Squire, which sufferer power loss on returning to a matted landing site. The final attacks of the war were made using Paveway LGBs, which had been unsuccessfully tried during the preceding days, owing to a lack of suitable designation from the ground. This time, however, the targets were well illuminated by ground-based FACs. Wing Cmdr Squire scored a direct hit on a company on Mount Tumbledown with one of his Paveway's on 13 June, and later Jerry Pook was able to place an LGB directly into a gun emplacement. The final attack on the I4th was to be flown by Sqn Ldr Peter Harris against the Argentine HQ on Sapper Hill but this was called off within moments of the planned delivery, when white flags suddenly appeared from the Argentine position. After the end of war, a detachment of Harrier GR.3s was ground based on the Islands operating in the air defence role and armed with AIM-9G Sidewinder missiles.







HARRIER GR.3 XV762 - 29.03.82 - G of 233 OCU Wittering, transferred to 1(F) Sqn. Allocated fin code - Red 37 with outrigger codes - Yellow 37. ALE-40 chaff dispensers fitted.

HARRIER GR.3 XV778 - 29.03.82 - 16 of 1(F) Sqn. Fin code - Red 16 with outrigger codes - Yellow 16. 10.06.82 - damaged by small arms fire whilst being flown in a CBU attack on Port Stanley.

HARRIER GR.3 XV787 - Allocated fin code - Red 02.

Outrigger codes - Yellow 02. ALE-40 not fitted. Flown to Ascension on 04.05.82. The aircraft suffered technical problems en-route eventually returning to Wittering.

HARRIER GR.3 XV789 - 29.03.82 - F of IV(AC)

Sqn at Gutersloh. 16.04.82, transferred to 1(F) Sqn.

Allocated fin code - Red 32 with outrigger codes - Yellow 32. ALE-40 not fitted. 31.05.82, damaged

HARRIER GR.3 XW767 - 29.03.82 - 06 of 1(F)
Squadron. Fin code - Red 06 with outrigger codes
- Yellow 06. ALE-40 chaff dispensers fitted.

during a rocket attack in the Port Stanley area.

**HARRIER GR.3 XW919** - Allocated fin code - Red 03 with outrigger codes - Yellow 03. ALE-40 chaff dispensers and Blue Eric ECM fitted. 12.06.82, damaged by small arms fire in an attack on Sapper Hill.

**HARRIER GR.3 XW924** - 29.03.82 - H of 233 OCU Wittering, transferred to 1(F) Sqn. Allocated fin code - Red 35 with outrigger codes - Yellow 35. ALE-40 chaff dispensers fitted.





HARRIER GR.3 XZ129 - 29.03.82 - 29 of 1(F) Sqn. Fin code - Red 29 with outrigger codes - Yellow 29 HARRIER GR.3 XZ132 - 29.03.82 - A of 233 OCU Wittering, transferred to 1(F) San. Allocated fin code - Red 36 with outrigger codes - Yellow 36. ALE-40 chaff dispensers fitted. HARRIER GR.3 XZ133 - 29.03.82 - P of 233 OCU Wittering, transferred to 1(F) Sqn during April. Allocated fin code - Red 10 with outrigger codes - Yellow 10. ALE-40 chaff dispensers and Blue Eric ECM fitted. Flew No.1(F) Squadrons final sortie of the war. HARRIER GR.3 XZ963 - 29.03.82 - 14 of 1(F) Sqn. Fin code - Red 14 with outrigger codes - Yellow 14. ALE-40 not fitted. 21.05.82 Destroyed a Chinook and damaged a Puma. 30.05.82, hit by small arms fire, Sqn Ldr Jerry Pook ejected HARRIER GR.3 XZ972 - 29.03.82 - L of 233 OCU Wittering, transferred to 1(F) Sqn. Allocated fin code - Red 33 with outrigger codes - Yellow 33. ALE-40 not fitted. 21.05.82 - Flt Lt Jeff Glover hit by a Blowpipe missile. HARRIER GR.3 XZ988 - 29.03.82 - N of 233 OCU Wittering, transferred to 1(F) Sqn during April. Allocated fin code - Red 34. 27.05.82 - Hit by AAA on it third attack run, Sqn Ldr Iveson ejected safely and avoided capture HARRIER GR.3 XZ989 - Allocated fin code - Red 07 with outrigger codes - Yellow O7. ALE-40 not fitted. HARRIER GR.3 XZ992 - Allocated fin code - Red 05 with outrigger codes - Yellow 07. ALE-40 chaff dispensers fitted. HARRIER GR.3 XZ997 - 29.03.82 - E of IV(AC) Sgn at Gutersloh. 16.04.82 - transferred to 1(F) Sqn. Allocated fin code - Red 31 with outrigger codes - Yellow 31. ALE-40 not



fitted. 13.06.82 - carried out the first successful LGB sortie. 14.06.82 Armed with LGBs flew abortive attack on Sapper Hill



