PR Spitfires Part 1

Early Merlins

Introduction

Discussion Format — Identifying the Mark, paint schemes, best kit or conversion in scale.

Except were noted “aluminum” denotes paint, not bare metal. Always remember two things about the below information:
1. Build to a reference photo if possible.
2. There are limited scheme / marking / color options for the Photo Reconnaissance Spitfire but they are interesting.

Part 1 covers PR Spitfires based on the Mk I and Mk V airframes. Part 2 will cover PR Spitfires based on the Mk VII, VIII and IX airframes.

Sources

1. Spitfire the History, Morgan & Shacklady, Key Publishing Ltd, 1993
2. The Spitfire Story, Alfred Price, Janes Publishing Co Ltd, 1986
3. Supermarine Spitfire Part 1: Merlin Powered, Modellers Datafile 3, SAM Publications, 2000
4. Supermarine Spitfire, Alfred Price, AJ Press, 1998

Background

Pre-war

- Airborne Photo Reconnaissance (PR) was generally done by high speed / long range aircraft with enough lifting capacity for the heavy cameras. Optimally 2-3 were carried, sometimes more. Sydney Cotton led developments.
- Operations were clandestine.
- Modified Blenheim bombers were primarily used as no single seat aircraft had the range. These were painted a pale grey-green color called "camotint". Cotton observed the aircraft appeared to disappear as they reached 10,000 feet.
- FO Maurice Victor "Shorty" Longbottom recommends a unarmed, single seat, single engined aircraft such as Spitfire Mk I -- while of interest, war broke out shortly after and no Spitfires could be spared.

Initial Efforts

- K5054 crashed on 4 September 1939 and some evidence suggests remains were used to determine camera installations.
- Sydney Cotton (now Wing Commander) promoted Longbottom's proposal and on 16 October 1939 received 2 Spitfire Mk I -- N3069 and N3071
- Aircraft were designated as PR Mk I to align with Fighter designation. "Type" was added once camera configurations changed.

Operations

Spitfire PR Mk I Type A (later re-designated PR Mk III)

- Two aircraft -- N3069 and N3071
- Stripped of unwanted equipment (guns, radio, etc).
- Seams and joints puttied and smoothed to minimize drag and maximize speed. Top speed increased to 390 mph.
- Sliding hood replaced with a hood with teardrop blister on each side.
- Single vertical F.24 5 inch lens camera fitted into position of inner gun.
- Operations at medium altitude and fairly close range.
- To model:
  - Remove all guns and fill panel lines / seams
  - Replace canopy with "PR" canopy with teardrop blisters
  - Retain standard fighter windscreen with armor
  - Remove antenna on spine, retain IFF "cheese cutter" antenna from fuselage sides to tailplanes.
  - Drill two holes, one in each wing just aft of the main spar in the same bay previously occupied by the inner gun. Fill with clear sheet or acrylic glue to replicate the clear cover.
  - Painted overall Camotint aka Sky
  - National markings were standard 35" fuselage and 48" wing upper surfaces, but inboard (red center aligned with center of inboard-most panel on aileron).
  - Serial number was Medium Sea Grey and 4" high, just forward of the tailplanes.
- 1/72 kits:
  - IBG 72582, can be built as Type A, B or E.
- 1/48 kits:
  - Pavla conversion
- 1/32 kits:
  - Kotare K32501
  - Scratch conversion

Spitfire PR Mk I Type B (later re-designated PR Mk III)

- Two aircraft, serials P9931 and X4386 plus the 2 Type A aircraft modified to same standard.
- Similar to Type A
- Cameras replaced by F.24 8in lens for greater fidelity / resolution.
- 29 Gallon fuel tank added below the seat.
- Windscreen replaced by rounded windscreen with no armor.
- Operations at higher altitudes up to 30,000 feet.
- To model:
  - Same modifications as Type A, except
    - Paint can be either overall white with PRU Blue upper-surfaces or overall PRU Blue, the latter is more likely as a light color (e.g. Sky) made the aircraft stand out at higher altitudes. One source indicates the white / blue camo was "as delivered".
    - Markings similar to Type A but roundels also have a 2" yellow outer ring.
- 1/72 kits:
  - IBG 72582, can be built as Type A, B or E.
- 1/48 kits:
  - Pavla conversion
- 1/32 kits:
  - Kotare K32502
  - Scratch conversion

Spitfire PR Mk I Type C (later re-designated PR Mk III)

- In addition to original two Type A reconfigured to Type C standard, an additional 63 aircraft from production.
- Considered Long Range
- Additional F.52 36" lens camera behind the pilot between frames 13 and 14 and pointed down. Same frames as the radio access panel.
- Two F.24 8" lens cameras in blister under starboard wing
- Slightly larger sized blister under port wing with 30 gallons of fuel
- 30 gallon fuel tank under seat
- To model:
  - Similar to Type B
  - Add two tear drop blisters under each wing from spar to flap leading edge, inboard from Type B installation by one rib.
  - On the starboard blister, drill and fill with clear two holes, the outboard hole just forward of the inboard hole at deepest point of the blisters.
  - The port blister should extend forward about half way to the leading edge.
  - Drill and fill with clear hole under fuselage centerline aligned with radio access hatch on port side of the fuselage.
- Camouflage:
  - Sky, PRU Pink, PRU Blue, dark blue (very dark, almost USN Sea Blue), and standard fighter camouflage (Temperate Land Scheme).
  - PRU Blue standardized in 1941.
- Markings:
  - Same as Type A but with Medium Sea Grey unit codes "LY" aft of fuselage roundel. No individual aircraft code.
  - 12" x 12" Fin flash added to each side of fin.
  - Some aircraft had Blue/Red roundels, others had standard roundels. Roundel types varied on each aircraft.
- 1/72 kits:
  - IBG?
  - Pavla conversion U72-125
  - LF Models conversion 7215
- 1/48 kits:
  - Airwaves conversion
  - Pavla conversion
- 1/32 kits:
  - Kotare?
  - Scratch conversion

Spitfire PR Mk I Type D (later re-designated PR Mk III)

- Two converted from Spitfire F Mk I taken off production line (hand made).
- Considered Special or Super Long Range
- "D" wing with 57 gallons fuel in leading edge tanks.
- 30 gallon tank under pilot's seat.
- 2x F.24 8" or 20" or 2x F.8 20" or 1x .52 36" cameras in aft fuselage in various configurations (W or Y); or X configuration of W + 1x F24 14" oblique camera pointed to port side.
  - Note: This is standard PR configuration for all subsequent PR Spitfires from 1941.
- To model:
  - Standard PR windscreen and canopy.
  - No radio
  - Vokes or Aboukir tropical filter if applicable to subject
  - Camera port on access hatch aft of cockpit, if applicable to subject
  - Camera ports on underside of fuselage below hatch (same configuration as PRXIX).
  - Mk Va wing with all gun ports, ejector chutes and panel lines filled.
  - Extended wingtips if applicable to subject
- PRU Blue overall
- 1/72 kits:
  - KP KPM0501
  - Sword SW72043 / 72044
  - Pavla conversion U72-125
  - LF Models conversion 7215
- 1/48 kits:
  - Airwaves conversion
  - Pavla conversion
- 1/32 kits:
  - Kotare?
  - AIMS 32P026
  - Scratch conversion

Spitfire PR Mk V Type D (later re-designated PR Mk IV)

- Based on Mk V aircraft.
- Initial production variant (not a conversion).
- 229 produced. Some delivered as PR Mk IV(Trop).
- Same configurations as PR Mk I Type D but added or changed:
  - Radio
  - Cockpit heating
  - Leading edge fuel tanks now hold 66.5 gallons
  - Aft fuel tank deleted (to fix CoG issues)
- Some aircraft assigned to Egypt had Aboukir filter added, otherwise Vokes.
- Some aircraft delivered with extended wingtips.
- To model:
  - Standard PR windscreen and canopy.
  - Radio mast
  - Vokes or Aboukir tropical filter if applicable to subject
  - Camera port on access hatch aft of cockpit, if applicable to subject
  - Camera ports on underside of fuselage below hatch (same configuration as PRXIX).
  - Mk Va wing with all gun ports, ejector chutes and panel lines filled.
  - Extended wingtips if applicable to subject
- PRU Blue overall from production line. Standard markings as above. Some were sent to USSR.
- 1/72 kits:
  - KP KPM0501
  - Sword SW72043 / 72044
  - Pavla conversion U72-125
  - LF Models conversion 7215
- 1/48 kits:
  - Airwaves conversion
  - Pavla conversion
- 1/32 kits:
  - Kotare?
  - AIMS 32P026
  - Scratch conversion

Spitfire PR Mk V Type E (later re-designated PR Mk V)

- One aircraft converted from PR Mk V Type D for low altitude reconnaissance.
- 2x F.24 cameras, one under each wing at right angle to line of flight, pointing slightly down from horizontal.
- To model:
  - Type B configuration on a Mk Va model.
  - Standard PR canopy and windscreen.
  - Blisters are more shaped like a club.
- PRU Pink overall. Standard markings as above.
- 1/72 kits:
  - IBG 72582, can be built as Type A, B or E.
  - Pavla conversion U72-125
- 1/48 kits:
  - Pavla conversion
- 1/32 kits:
  - Kotare?
  - Scratch conversion

Spitfire PR Mk I Type F (later re-designated PR Mk VI)

- Fourteen aircraft converted from F Mk I in 1941 and 1942 for very long range reconnaissance.
- Same camera configurations as Type D.
- Deepened chin to house larger oil tank.
- Two blister tanks under both wings similar to Type C.
- To model:
  - Type D camera configuration on a Mk Ia model.
  - Standard PR canopy and windscreen.
  - Add 2x teardrop blisters similar to Type C fuel blister.
- PRU Blue overall with one exception. Standard markings as above.
  - Exception is X4492, RCAF, Ottawa 1943. Dark Green / Ocean Grey in standard pattern with PRU Mauve undersides. Mauve can be mixed by adding a small amount of PRU Blue to PRU Pink.
- 1/72 kits:
  - LF Models conversion 7215
  - Pavla conversion U72-125
- 1/48 kits:
  - Airwaves conversion
  - Pavla conversion
- 1/32 kits:
  - Kotare?
  - Grey Matter Aviation GMAA3233 for canopy & chin
  - Scratch conversion

Spitfire PR Mk I Type G (later re-designated PR Mk VII)

- 55 aircraft converted from F Mk I in 1941 and 1942 for low level armed reconnaissance.
- Same camera configurations as Type D.
- Standard fighter windscreen w armored glass
- Teardrop "PR" canopy.
- "A" wing with 8x .303" guns
- To model:
  - Type D camera configuration on a Mk Ia or Va model.
  - Replace canopy with PR canopy.
- Standard markings as above.
- Camo was either Temperate Land Scheme or Day Fighter Scheme late 1941, or PRU Pink, "Off White" (probably pink), natural metal (RCAF in Canada), and at least one (X4555) with Sky spinner, Dark Green/Ocean Grey, and Mauve undersides (RCAF).
- 1/72 kits:
  - Pavla conversion U72-125
- 1/48 kits:
  - Airwaves conversion
  - Pavla conversion
- 1/32 kits:
  - Kotare?
  - AIMS 32P026
  - Scratch conversion

Spitfire PR Mk XIII

- 25 aircraft converted for low level armed reconnaissance (Dicer)
- Based on F Mk Vb
- Same camera configurations as Type G.
- Standard fighter windscreen w armored glass
- Teardrop "PR" canopy.
- "B" wing with 4x .303" guns outboard and cannons removed. Fair over the gun ports but retain all bulges.
- To model:
  - Type G configuration on a Mk Vb model.
  - Replace canopy with PR canopy.
- Standard markings as above.
- Official camo was Extra Dark Sea Grey / Extra Dark Sea Green over Mauve undersides. The scheme may have had Dark Green / Ocean Grey.
- 1/72 kits:
  - Pavla conversion U72-125
- 1/48 kits:
  - Airwaves PR.1G conversion
  - Pavla PR.1G conversion
- 1/32 kits:
  - Kotare?
  - AIMS 32P026
  - Scratch conversion