The Descriptive Finding Guide for the Mitsubishi Zero-Special Collection.
SDASM.SC.10100

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URL: http://www.sandiegoairandspace.org/
Abstract: This collection contains materials used to restore the San Diego Air and Space Museum's A6M7 Mitsubishi Type Zero. Some materials include painting information, such as colors and decal placement, engine specifications, building manuals, guns and mounting, cockpit information, and correspondence between restorators and manufacturers.

Conditions Governing Access
This collection is open to the public by appointment.

Immediate Source of Acquisition
This collection of materials was donated to the San Diego Air and Space Museum.

Preferred Citation
[Item], [Collection Name], Archives, San Diego Air & Space Museum

Biographical / Historical
The Japanese Mitsubishi Navy Type Zero Carrier-Based Fighter or better known as Type Zero Fighter, or Rei-sen (Reisen), was a single-seat monoplane fighter that came to represent Japanese Imperial forces during World War II. It was the staple fighter plane of the Imperial Japanese Navy (IJN) and initially was able to out-fly American fighter planes at the time. It was built in response to a 1937 IJN spec that called for a carrier-based fighter, which was fast, armed with cannon, as maneuverable as the Claude, had long range, and climbed quickly.

Armed with two 7.7 mm machine guns and two 20mm cannon, it was considered "heavily armed" at its introduction in 1940. In late 1940, the Zeros dominated the skies over China, with claims for 59 Chinese aircraft destroyed against no losses. This trend continued into 1941, as the Zeros decimated the Chinese opposition, shooting down 45, with only two lost to anti-aircraft fire. The fighter was a success and when introduced to America and Britain at Pearl Harbor in 1941, it shocked and terrified the Allies with its surprising effectiveness.

However, the Zero's lightness was both positive and negative, and while the light weight aided the plane's maneuverability, it also meant that the Zero could not absorb a lot of battle damage or dive as fast as its heavier American opponents. Also, the lightweight Zero was optimized for low altitude (below 15,000 feet) combat; above that altitude, its controls were less responsive. "Defensive" features, like armor-plating, parachutes, and self-sealing gas tanks were considered not worth the extra weight. As experience showed, the Zero was a flying incendiary. With the right hit at the gas tank, and the whole aircraft would explode.

The Zero was often used for kamikaze, or suicide, missions that inflicted some of the most severe damage of the war on the U.S. Navy. Loaded with explosives and manned by pilots willing to lose their lives for their country, the Zero became a flying bomb aimed at American ships. The Zero was used in nearly 2,000 kamikaze attacks before Japan finally surrendered to bring down the curtain on the war in the Pacific.

At the time of Pearl Harbor there were only 420 Zeros active in the Pacific. The carrier borne Model 21 was the type encountered by the Americans, often much further from its carriers than expected, with a mission range of over 1600 miles. They were superior to all current Allied fighters in the Pacific and remained unchallenged until early 1943; although in competent hands, the Zero was deadly until the end of the war. Because of their reputation and ease of manufacture the Zero remained in production until the end, with over 11,000 of all types produced.

Scope and Contents
Description: This collection consists of 7 boxes containing materials used to restore the A6M7 on display at the San Diego Air and Space Museum.

Content notes: Materials in the collection include painting information, engine specifications, manuals, and correspondences. Much of the collection is in Japanese.

Related Materials
Mitsubishi Zero subject files

Subjects and Indexing Terms
Mitsubishi A6M Reisen (Zero Fighter) Zeke (Ben, Ray) Family
World War, 1939-1945
World War, 1939-1945 -- Campaigns -- Pacific Area
Airplanes -- Conservation and restoration
San Diego Air and Space Museum

Box 1 of 7

SERIES I: Painting Information

Folder 1: Print-Decals-Placards

Folder 2: Painting Information

Folder 3: Decals
Physical Description: 1. Envelope: Original markings and part inside cockpit section 2. Envelope: Uncovered manufacturers fuselage identification stenciling

SERIES II: Drawings and Manuals

Folder 4: Zero engine Nakajima-Sakae 21-31 painting instructions + specifications

Folder 6: Zero engine Nakajima-Sakae 21 Engine Part Photos

Folder 7: Engine Drawings and Photos

Folder 8: Engine Manual Log, Progress Report

Folder 9: Photos and Drawing of Propeller and Spinner
Physical Description: 1. Envelope: Picture of propeller blade 2. Envelope: Spinner assembly picture, agreement, paper cut-outs

Folder 10: Gun and Mounting

Folder 11: Cockpit Information
SERIES II: Drawings, Manuals, Photos, Misc Information

Folder 1: Mitsubishi Tech Manual for Zero

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Box 4 of 7
Physical Description: 1. Envelope: Photos of Chino Museum Planes (16 photos, 15 slides, negatives) 2. Envelope: Photos-Smithsonian photos of A6M7 (33 photos)

Folder 1: Restoration Guides

Folder 2: Volunteer Names on Zero Project
Physical Description: 1. Envelope: Miscellaneous negatives of project and museum 2. Original and photocopied lists of volunteer names

Folder 3: Restoration Report

Box 5 of 7
Folder 1: Fabric Specifications
Physical Description: 1. Correspondence to Timothy Cunningham from Gary Cline, National Air & Space Museum 2. Envelope: Rib stitching information for Zero A6M7 and other Japanese Aircraft, Correspondence and photocopied handwritten guide 3. Envelope: Photos of A6M7-63 wing restoration (21 photos)

Folder 2: Wing Specifications
Physical Description: 1. Papers: Handwritten and photocopied notes and sketches (5 pages) 2. Photos: Wing restoration (68 photos= 39 b+w, 29 color) 3. Envelope: Photos of A6M7-63 Zero control surface covering stitching techniques (11 photos b+w)

Folder 3: Tail Restoration
Physical Description: 1. Envelope: Photos of A6M7-63 tail section restoration (7 photos) 2. Photocopy: Tail dimensions 3. Photos: Tail restorations (6 photos= 3 color, 3 b+w)
Folder 4: Fuselage Restoration
Physical Description: 1. Photos of restoration (13 photos=5 color, 8 b+w)

Folder 5: Zero Tail Identification Number
Physical Description: 1. Photocopies of pictures and identifiers (4 pages)

Folder 6: Translation Assistance

Folder 7: Weight and Balance Specifications
Physical Description: 1. Written and typed specifications (3 pages)

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1. Zero tech manual for A6M2 through A6M7

Folder 1: Misc

Box 7 of 7

Folder 1: Tires and Wheels for Zero, Original
Physical Description: 1. Photos: Wheel farring (15 photos, b+w, negatives, and sketch) 2. Envelope: Photo of A6M7-63 tail wheel restoration (1 photo) 3. Photocopies, sketch of tires and wheels (8 pages) 4. Envelope: Photos of original Zero wheels and tires (22 photos and negatives) 5. Photos: Wheels and tires (4 photos, b+w) 6. Envelope: Photos of A6M7-63 landing gear including tail wheel (3 slides, 3 photos)

Folder 2: Zero Instruments

Folder 3: Fuel System
Folder 4: Zero Landing Gear