1. SCOPE

1.1 Purpose.- The purpose of this specification is to provide instructions for the cleaning of aircraft instruments.

1.2 Application.- All cleaning operations covered by this specification may be accomplished where required without further authorization. Cleaning operations not authorized by this specification cannot be performed without further authorization.

1.3 List of Pages and Revisions.- This specification consists of the pages listed below. An asterisk (*) denotes the pages revised by the current revision.

Page	Date	Description of Revision	Serial Effectivity
1	2-9-53		
2	2-9-53		
3	2-9-53		
4	2-9-53		

APPROVED:

USAF Quality Control

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WRITTEN BY: Leo L. Holmes	DATE ISSUED 2-9-53	OVERHAUL SPECIFICATION	
PROJECT ENGINEER: R. B. Barnhill		INSTRUMENT CLEANING	
APPROVAL: R. D. Howard	DATE REVISED	Beech Aircraft CORPORATION Wichita 1, Kansas	OVERHAUL SPECIFICATION NO. 7012 / PAGE 1
APPROVAL: B. Edwards			

2. APPLICABLE PUBLICATIONS

2.1 Specifications:

2.1.1 Air Force - Navy.-

AN-A-18	Alcohol, Denatured Ethyl
AN-O-4	Oil, Lubricating

2.1.2 Federal.-

TT-N-95	Naphtha, Aliphatic

2.2 Technical Orders.- Compliance with this specification constitutes compliance with the technical order listed below.

04-20B-4A	Antifriction Bearings - Processing Instrument and Bombsight Bearings, dated November 5, 1947

3. REQUIREMENTS

3.1 Parts Involved.- Aircraft instruments undergoing reconditioning and overhaul.

3.2 Cause for Rejection.- Refer to the detail specification on the instrument involved for cause for rejection.

3.3 Reconditioning Operations:

3.3.1 Equipment.-

(a) L & R washing machine or equivalent.

(b) Several glass containers (approximately 1 quart) for brush application and rinse.

(c) Several soft, fine-bristled brushes.

(d) Fine-mesh wire basket for holding parts for immersion in cleaning fluid.

(e) Air hose and equipment for drying and cleaning purposes.

3.3.2 Cleaning Fluids.-

(a) L & R Nofoam instrument cleaning solution.

(b) L & R instrument rinsing solution.

3.3.2 Cleaning Fluids.- (Continued)

(c) Denatured ethyl alcohol.

(d) Distilled water for rinsing.

(e) Naphtha (for rinsing after alcohol wash).

NOTE: Carbon tetrachloride must not be used in cleaning instrument parts and bearings or clock parts.

3.3.3 Procedure:

3.3.3.1 Machine Washers.- Use for all parts except hair springs, balance assemblies and jewels. Use procedure outlined in Paragraph 3.3.3.3 to clean instrument antifriction bearings.

(a) Place instrument or clock parts in L & R instrument washing machine, or equivalent, and wash with L & R Nofoam instrument cleaning solution.

(b) When the parts are thoroughly washed, run through two rinses of L & R instrument rinsing solution.

(c) Place the machine in drying position and dry parts thoroughly.

(d) Inspect parts for cleanliness.

(e) Once the parts are removed from the basket they must be handled with the utmost care. Contact of any part with the bare fingers will destroy the value of the cleaning procedure. Use finger stalls on fingers and tweezers to handle parts.

3.3.3.2 Hand Washing.- Hair springs, balance assemblies, and jewels will be washed by the following method. All parts may be washed this way when no washing machine is available.

(a) Place parts in a small glass container of denatured ethyl alcohol and/or L & R Nofoam instrument cleaning solution.

(b) After a short soak period, remove the parts with tweezers and finish cleaning with a soft-bristled brush.

(c) Jewels washed in denatured ethyl alcohol will be rinsed in distilled water and/or naphtha and dryed with dehydrated compressed air.

3.3.3.3 Instrument Antifriction Bearings, Cleaning and Lubricating.- Instrument antifriction bearings, whether new or used, will be processed according to the following procedure.

(a) Place instrument bearings in L & R instrument washing machine and wash thoroughly with L & R Nofoam instrument cleaning solution.

3.3.3.3 Instrument Antifriction Bearings, Cleaning and Lubricating.- (Continued)

(b) Run through two rinses of L & R instrument rinsing solution.

(c) After rinsing place in drying position.

NOTE: During processing, handle the bearings on hooks, racks, or in baskets suitable for satisfactory cleaning application. When bearings must be handled with the hands, use finger stalls to prevent fingerprint contamination which will set up corrosion.

(d) Instrument bearings will be demagnetized after completing the first washing cycle.

(e) Prior to final inspection, the bearings must be rinsed, first in L & R Nofoam instrument cleaning solution and second in L & R instrument rinsing solution. The bearings must then be thoroughly dryed with dehydrated compressed air.

(f) After inspecting the bearings, they must be lubricated with AN-O-4 lubricating oil to prevent corrosion and provide a lubricant for the bearings. A hypodermic syringe will be used to oil the bearings.

(g) When it is impossible to install the bearings immediately after lubricating them, they will be stored in glass containers filled with AN-O-4 lubricating oil.

4. INSPECTION

4.1 General.- The parts will be inspected to the general acceptable quality standards of Overhaul Specification 7008.