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TECHNICAL MANUAL

**OPERATOR'S, ORGANIZATIONAL, DS, GS,
AND DEPOT MAINTENANCE MANUAL**

**TEST SET GROUP
OPTICAL ALIGNMENT
OQ-62/APS-94D**

HEADQUARTERS, DEPARTMENT OF THE ARMY

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Operator's Organizational, Direct Support, General Support and Depot
 Maintenance Manual
 TEST SET GROUP, OPTICAL ALIGNMENT OQ-62/APS-94D

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CHAPTER 1 INTRODUCTION

Section I. General

1-1. Scope

Test Set Group, Optical Alignment OQ-62/APS-94D (optical alignment test set) described in this manual is special test equipment for Radar Surveillance Set AN/APS-94D issued for depot only. The optical alignment test set is comprised of Test Fixture, Optical Alignment TS-2965/APS94D (mirror alignment test fixture) and Test Fixture, Optical Alignment TS-2966/APS-94D (Lens focus fixture). Operation, organizational maintenance, and depot maintenance for the aforementioned equipment items are covered in the eight chapters and two appendices that comprise this manual. Common names have been substituted for nomenclature items. Refer to table 1-2. Direct Support and General Support maintenance is not applicable.

1-2. Indexes of Publications

- a. **DA Pam 310-4.** Refer to the latest issue of DA PAM 310-4 to determine whether there are **new** editions, changes, or additional publications pertaining to the equipment.
- b. **DA PAM 310-7.** Refer to the latest issue of DA PAM 310-7 to determine whether there are Modification Work Orders for the equipment.

1-3. Forms and Records

- a. **Reports of Maintenance and Unsatisfactory Equipment.** Maintenance forms, records, and reports which are to be used by maintenance personnel at all maintenance levels are listed in and prescribed by TM 38-750.
- b. **Report of Packaging and Handling Deficiencies.** Fill out and forward DD Form 6 (Packaging Improvement Report) as prescribed in AR 700-581 NAVSUPINST 4030.29/AFR 71-13MCO P4030.29A, and DSAR 4145.8.
- c. **Discrepancy in Shipment Report (DISREP) (SF 361).** Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 55-38/NAVSUPINST 4610.33A/AFR 75-181MCO P4610.19B and DSAR 4500.15.

1-3.1. Reporting of Errors

The reporting of errors, omissions, and recommendations for improving this manual by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications and Blank Forms) and forwarded to Commander, U.S. Army Electronics Command, ATTN: DRSEL-MA-Q, Fort Monmouth, NJ 07703.

Section II. DESCRIPTION AND DATA

1-4. Purpose and Use

The optical alignment test set optically aligns Recorder-Processor-Viewer, Radar Mapping RO-352/APS-94D Test Fixture. The mirror alignment fixture adjusts RO-352/APS-94D mirror angles and sets optical path length at its maximum. The lens focus fixture reduces the optical path length in the RO-352/APS-94D until focus has been achieved and positions lenses along the optical path to obtain the correct object magnification ratio.

1-5. Technical Characteristics

- a. **Optical Alignment Test Set.**
Alignment and focus accuracy. A resolution of 30 line pairs (minimum) per milliter, covering the distance from the cathode-ray tube (CRT) phosphor surface to the emulsion surface of the recording film

- b. **Mirror Alignment Fixture.**
 - (1) **Telescope alignment mirror.**
Type of mirror Front surface
Mirror flatness Flat to 3 fringes per inch at 5893 Angstroms
 - (2) **Lens plane mirror**
Type of mirror Front surface
Mirror flatness Flat to 3 fringes per inch at 5893 Angstroms
 - (3) **Image plane mask.**
Type of mask Front Surface
Mirror flatness Flat to 9 fringes per inch at 5893 Angstroms
Type of mask Line
 - (4) **Lens plane reticule.**
Type of reticule Circular
Window flatness Flat to 9 fringes per inch at 5893 Angstroms
 - (5) **Image plane light.**
Type of diffuser Sand blasted surface
Color of filter Blue
Type of lamp No. 4505 sealed beam
Lamp power requirements 28 vdc at 1.8 amperes