TM 9-1751

WAR DEPARTMENT TECHNICAL MANUAL

ORDNANCE MAINTENANCE

9-Cylinder, Radial, Gasoline Engine

(Continental Model R975-C1)

WAR DEPARTMENT • *19 APRIL 1944*

FOR ORDNANCE PERSONNEL ONLY

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Washington, D. C., 19 April 1944

TM 9-1751, Ordnance Maintenance: 9-cylinder, Radial, Gasoline Engine (Continental Model R975-C1), is published for the information and guidance of all concerned.

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Chief of Staff.

OFFICIAL:
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Major General,
The Adjutant General.

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(For explanation of symbols, see FM 21-6.)

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ORDNANCE MAINTENANCE — 9-CYLINDER, RADIAL, GASOLINE ENGINE (CONTINENTAL MODEL R975-C1)

CHAPTER 1

INTRODUCTION

1. SCOPE.

a. Purpose. The instructions contained in this manual are for the information and guidance of personnel charged with the maintenance and repair for the Continental R975-C1 engine. These instructions are supplementary to Field Manuals and Technical Manuals prepared for the using arms. This manual does not contain information which is intended primarily for the using arms, since such information is available to ordnance maintenance personnel in 100-series Technical Manuals or Field Manuals.

b. Contents. This manual contains a description of and procedure for disassembly, inspection, repair and assembly of the Continental R975-C1 engine.

c. Accessories. The present accessories used with this engine and the publications which contain the disassembly, inspection, repair, and assembly instructions for these accessories are:

ITEM	MODEL	TM NO.	TM TITLES
Cranking motor	DR-1108685	TM 9-1825A	Ordnance Maintenance: Electrical Equipment (Delco Remy)
	EC-817	TM 9-1750D	Ordnance Maintenance: Accessories for Wright R975-EC2 Engines for Medium Tanks M3 and M4
Generator	EC-314-31	TM 9-1750D	Ordnance Maintenance: Accessories for Wright R975-EC2 Engines for Medium Tanks M3 and M4
Fuel pump	AC-BF	TM 9-1828A	Ordnance Maintenance: Fuel Pumps

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Figure 1 — R975-C1 Engine – Left Front View

ITEM	MODEL	TM NO.	TM TITLES
	RE-F8	TM 9-1750D	Ordnance Maintenance: Accessories for Wright R975-EC2 Engines for Medium Tanks M3 and M4
Carburetor	BS-NAR9D	TM 9-1826B	Ordnance Maintenance: Carburetors (Stromberg)
	BS-NAR9G	TM 9-1826B	Ordnance Maintenance: Carburetors (Stromberg)

ORDNANCE MAINTENANCE — 9-CYLINDER, RADIAL, GASOLINE ENGINE (CONTINENTAL MODEL R975-C1)

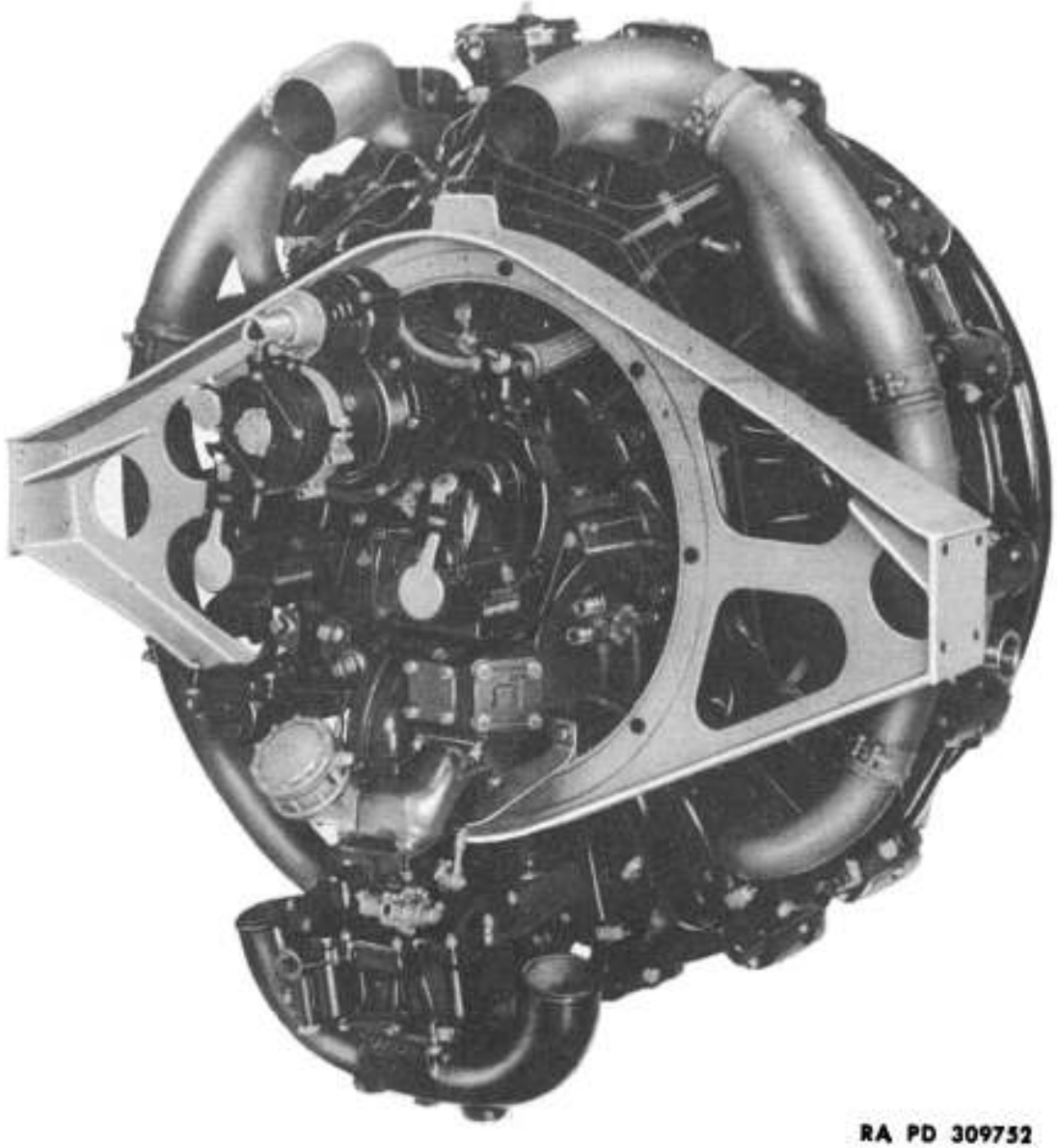

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Figure 2 — R975-C1 Engine — Right Rear View

ITEM	MODEL	TM NO.	TM TITLES
Magnetos	SCI-VAG-9-DFA	TM 9-1750D	Ordnance Maintenance: Accessories for Wright R975-EC2 Engines for Medium Tanks M3 and M4
	BO-MJT9A306	TM 9-1750C	Ordnance Maintenance: American Bosch Magnetos, MJT7A302, MJT-9A304, and MJT-9A306

INTRODUCTION

2. RECORD OF MODIFICATIONS.

a. Description. Every vehicle is supplied with a copy of AGO Form No. 478 which provides a means of keeping a record of each MWO completed or major unit assembly replaced. This form includes spaces for the vehicle name and U. S. A. registration number, instructions for use, and information pertinent to the work accomplished. It is very important that the form be used as directed and that it remain with the vehicle until the vehicle is removed from service.

b. Instructions for Use. Personnel performing modifications or major unit assembly replacements must record clearly on the form a description of the work completed and must initial the form in the columns provided. When each modification is completed, record the date, hours and/or mileage, and MWO number. When major unit assemblies, such as engines, transmissions, transfer cases, are replaced, record the date, hours and/or mileage, and nomenclature of the unit assembly. Minor repairs and minor parts and accessory replacements need not be recorded.

c. Early Modifications. Upon receipt by a third or fourth echelon repair facility of a vehicle for modification or repair, maintenance personnel will record the MWO numbers of modifications applied prior to the date of AGO Form No. 478.

ORDNANCE MAINTENANCE — 9-CYLINDER, RADIAL, GASOLINE ENGINE (CONTINENTAL MODEL R975-C1)

CHAPTER 2

R975-C1 ENGINE (CONTINENTAL)

Section I

ENGINE DESCRIPTION AND DATA

3. DESCRIPTION.

a. Identification. Throughout this manual the flywheel end of the engine is referred to as the "front" and the antiflywheel end (accessory case) as the "rear." The terms "right" and "left" designate the sides of the engine as viewed from the rear (engine in vertical position). "Top" and "bottom" are referred to as viewing the engine in such a position that its carburetor points directly downward and the crankshaft extends horizontally. Directions of rotation are determined by looking from the rear of the engine toward the front. The cylinders are numbered in a clockwise direction, commencing with the top cylinder, designated as cylinder No. 1.

b. Serial Numbers. The following are serial numbers identifying the engine: Numbers 122699 through 130925 and 300001 up.

c. Accessory Drives. The direction of rotation of the crankshaft is clockwise. The direction of rotation and ratio to crankshaft speed of the various accessory drives as viewed from the rear of the engine are given in the following table:

Accessory Drive	Rotation	Ratio of Drive to Crankshaft Speed
Cranking Motor	Counterclockwise	0.80 to 1
Generator	Clockwise	2.40 to 1
Magnetos	Counterclockwise	1.125 to 1
Upper Tachometer	Counterclockwise	0.50 to 1
Lower Tachometer	Clockwise	0.50 to 1
Supercharger Impeller	Clockwise	10.15 to 1
Fuel Pump	Counterclockwise	1.159 to 1

d. Engine Components.

(1) FRONT SECTION. The front section is a conical-shaped aluminum casting which houses the crankshaft thrust ball bearing, a front oil seal assembly, and a scavenge oil pump. A heavy boss cast on the outside of the housing is machined and fitted with studs and a cap to hold the engine front support tube.