
Gas Turbine Maintenance Manual

Aviation Unit and Aviation Intermediate Maintenance Manual
Intermediate (direct and General Support) Maintenance Manual
Operation and Service Manual
The Gas Turbine Manual
Operator and Organizational Maintenance Manual
Gas Turbine Manual
Maintenance Manual
Department of the Army Technical Manual
Aviation Unit and Aviation Intermediate Maintenance Manual
Operation and Service Manual
Manuals Combined" ARMY AIRCRAFT GAS TURBINE ENGINES
Manuals Combined: 50 + Army T-62 T-53 T-55 T-700 AVIATION GAS TURBINE ENGINE Manuals
Operator and Organizational Maintenance Manual
Aviation Unit and Aviation Intermediate Maintenance Manual
Gas Turbine Engine Basic Training Course
Maintenance Manual
Operator and Organizational Maintenance Manual
Operator and Organizational Maintenance Manual
Technical Manual, Direct and General Support Maintenance Manual
Department of the Army Technical Manual
Aviation Unit and Aviation Intermediate Maintenance Manual
Gas Turbine Engine Model T5313A, T5313B, T53-L-13, T53-L-13A, T53-L-13B Maintenance Manual
Operator and Organizational Maintenance Manual
ST6 Industrial and Marine Gas Turbine Engines
Enclosed Pneumatic Power Gas Turbine Engine
Operator's and Unit Maintenance Manual

Gas Turbine Engine Commercial Series Maintenance Manual
 Direct Support and General Support Maintenance Manual
 Direct Support and General Support Maintenance Manual
 Aircraft Gas Turbine Engine Repair and Overhaul Technician
 Intermediate (direct and General Support) Maintenance Manual
 Organizational, Direct Support, and General Support Maintenance Manual
 Operator and Organizational Maintenance Manual
 Operator and Organizational Maintenance Manual
 Organizational, DS and GS Maintenance Manual
 Aviation Unit and Aviation Intermediate Maintenance Manual
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 Operator's and Unit Maintenance Manual
 Aviation Unit and Aviation Intermediate Maintenance Manual
 Direct Support and General Support Maintenance Manual

*Gas Turbine
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DRAKE BETHANY

*Aviation Unit and Aviation Intermediate
 Maintenance Manual* Jeffrey Frank Jones
 Over 70 (350+ Mbs) U.S. Army Repair,
 Maintenance and Part Technical Manuals
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 fixed-wing turbine aircraft engines, as well
 as turbine power plants / generators! Just
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 AIRCRAFT, TURBOSHAFT MODELS T700-
 GE-700, T700-GE-701, T700-GE-701C,

1,485 pages - TURBOPROP AIRCRAFT
 ENGINE, 526 pages - ENGINE, GAS
 TURBINE MODEL T55-L-712, 997 pages -
 ENGINE ASSEMBLY GAS TURBINE
 (GTCP36-150 (BH), GTCP36-150 (BH), 324
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 (T63-A-5A) (T63-A-700), 144 pages -
 ENGINE, AIRCRAFT, GAS TURBINE MODEL
 T63-A-720, 208 pages - ENGINE,
 AIRCRAFT, TURBOSHAFT (T703-AD-700),
 (T703-AD-700A), (T703-AD-700B), 580
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 TURBINE (GTCP3645(H), 214 pages -

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 T63-A-720, 208 pages - GAS TURBINE
 ENGINE (AUXILIARY POWER UNIT - APU)
 MODEL T - 62 T - 40 - 1, 344 pages -
 ENGINE ASSEMBLY, T700-GE-700, 243
 pages - SANDY ENVIRONMENT AND/OR
 COMBAT OPERATIONS FOR T53-L-13B,
 T53-L-13BA AND T53-L-703 ENGINES, 112
 pages - DUAL PURPOSE MOBILE CHECK
 AND ADJUSTMENT/GENERATOR STAND
 FOR T62T-2A AND T62T-2A1 AUXILIARY
 POWER UNITS; T62T-40-1 AND T62T-2B
 AUXILIARY POWER UNITS, 193 pages -
 Others included: POWER PLANT, UTILITY;

GAS TURBINE ENGINE DRI (LIBBY WELDING CO., MODEL LPU-71) (FSN 6115-937-0929) (NON-WINT AND (6115-134-0825) (WINTERIZED) POWER PLANT, UTILITY (MUST), GAS TURBINE ENGINE DRIVEN (AIRESEARCH CO MODEL NO. PPU85-5); (LIBBY WELDING CO., MODEL NO. LPU-71); (AME CORP., MODEL APP-1) AND (HOLLINGSWORTH CO., MODEL NO. JHTWX10/9 (NSN 6115-00-937-0929) (NON-WINTERIZED) AND (6115-00-134-0825) (WINTERIZED) POWER PLANT, UTILITY (MUST), GAS TURBINE ENGINE DRIVEN (AIRESEA MODEL PPU85-5), (LIBBY WELDING CO., MODEL LPU-71), (AMERTECH CO MODEL APP-1) AND (HOLLINGSWORTH CO., MODEL JHTWX10/96) (NSN 6115-00-937-0929, NON-WINTERIZED AND 6115-00-134-0825, WINTERIZED) GENERATOR SET, GAS TURBINE ENGINE DRIVEN, TACTICAL, SKID MTD, 1 400 HZ, ALTERNATING CURRENT GENERATOR SET, GAS TURBINE ENGINE: 45 KW, AC, 120/208 AND 240/4 3 PHASE, 4 WIRE; SKID MTD, WINTERIZED (AIRESEARCH MODEL GTGE 70 (FSN 6115-075-1639) POWER PLAN UTILITY, (MUST), GAS TURBINE ENGINE DRIVEN (AIRESEARCH CO., MOD PPU85-5) (LIBBY

WELDING CO., MODEL LPU-71), (AMERTECH CORP., MODEL APP-1) AND (HOLLINGSWORTH CO., MODEL JHTWX 10/96) (NSN 6115-00-937-0929) (NONWINTERIZED) AND (6115-00-134-0825) (WINTERIZED) POWER PLANT, UTILITY, GAS TURBINE ENGINE DRIVEN (AMERTECH CORP MODEL APP-1) POWER PLANT UTILITY, GAS TURBINE ENGINE DRIVEN (LIBBY WELDING CO. MODEL LPU-71) POWER UNIT UTILITY PACK: GAS TURBINE ENGINE DRIVEN (AIRESEARCH MODEL PPU85-5 TYPE A) AVIATION UNIT AND INTERMEDIATE MAINTENANCE FOR GAS TURBINE ENGI (AUXILIARY POWER UNIT - APU) MODEL T-62T-2B, PART NO. 161050-10 (NSN 2835-01-092-2037) AVIATION UNIT AND INTERMEDIATE MAINTENANCE REPAIR PARTS AND SPE TOOLS LIST (INCLUDING DEPOT MAINTENANCE REPAIR PARTS AND SPECIA FOR GAS TURBINE ENGINE (AUXILIARY POWER UNIT - APU), MODEL T-62 PART NO. 160150-100 (NSN 2835-01-092-2037)

Intermediate (direct and General Support) Maintenance Manual Jeffrey Frank Jones
COURSE OVERVIEW: Fulfilling the Army's

need for engines of simple design that are easy to operate and maintain, the gas turbine engine is used in all helicopters of Active Army and Reserve Components, and most of the fixed-wing aircraft to include the Light Air Cushioned Vehicle (LACV). We designed this subcourse to teach you theory and principles of the gas turbine engine and some of the basic army aircraft gas turbine engines used in our aircraft today. CHAPTERS OVERVIEW Gas turbine engines can be classified according to the type of compressor used, the path the air takes through the engine, and how the power produced is extracted or used. The chapter is limited to the fundamental concepts of the three major classes of turbine engines, each having the same principles of operation. Chapter 1 is divided into three sections; the first discusses the theory of turbine engines. The second section deals with principles of operation, and section III covers the major engine sections and their description. CHAPTER 2 introduces the fundamental systems and accessories of the gas turbine engine. Each one of these systems must be present to have an operating turbine engine. Section I describes the fuel

system and related components that are necessary for proper fuel metering to the engine. The information in CHAPTER 3 is important to you because of its general applicability to gas turbine engines. The information covers the procedures used in testing, inspecting, maintaining, and storing gas turbine engines. Specific procedures used for a particular engine must be those given in the technical manual (TM) covering that engine. The two sections of CHAPTER 4 discuss, in detail, the Lycoming T53 series gas turbine engine used in Army aircraft. Section I gives a general description of the T53, describes the engine's five sections, explains engine operation, compares models and specifications, and describes the engine's airflow path. The second section covers major engine assemblies and systems. CHAPTER 5 covers the Lycoming T55 gas turbine engine. Section I gives an operational description of the T55, covering the engine's five sections. Section II covers in detail each of the engine's sections and major systems. The SOLAR T62 auxiliary power unit (APU) is used in place of ground support equipment to start some helicopter

engines. It is also used to operate the helicopter hydraulic and electrical systems when this aircraft is on the ground, to check their performance. The T62 is a component of both the CH- 47 and CH-54 helicopters -- part of them, not separate like the ground-support-equipment APU's. On the CH-54, the component is called the auxiliary powerplant rather than the auxiliary power unit, as it is on the CH-47. The two T62's differ slightly. CHAPTER 6 describes the T62 APU; explains its operation; discusses the reduction drive, accessory drive, combustion, and turbine assemblies; and describes the fuel, lubrication, and electrical systems. CHAPTER 7 describes the T63 series turboshaft engine, which is manufactured by the Allison Division of General Motors Corporation. The T63-A-5A is used to power the OH-6A, and the T63-A-700 is in the OH-58A light observation helicopter. Although the engine dash numbers are not the same for each of these, the engines are basically the same. As shown in figure 7.1, the engine consists of four major components: the compressor, accessory gearbox, combustor, and turbine sections. This chapter explains the major sections

and related systems. The Pratt and Whitney T73-P-1 and T73-P-700 are the most powerful engines used in Army aircraft. Two of these engines are used to power the CH-54 flying crane helicopter. The T73 design differs in two ways from any of the engines covered previously. The airflow is axial through the engine; it does not make any reversing turns as the airflow of the previous engines did, and the power output shaft extends from the exhaust end. CHAPTER 8 describes and discusses the engine sections and systems. Constant reference to the illustrations in this chapter will help you understand the discussion. TABLE OF CONTENTS: 1 Theory and Principles of Gas Turbine Engines - 2 Major Engine Sections - 3 Systems and Accessories - 4 Testing, Inspection, Maintenance, and Storage Procedures - 5 Lycoming T53 - 6 Lycoming T55 - 7 Solar T62 Auxiliary Power Unit - 8 Allison T62, Pratt & Whitney T73 and T74, and the General Electric T700 - Examination. I
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