

ADMIRALTY
AIR MINISTRY

Chapter 3

BURNER, TYPE A.S.M.

(Python Mk. 2 & 3 aero-engine)

LIST OF CONTENTS

| | Para. | | Para. |
|-------------------------------|-------|---------------------|-------|
| Introduction | 1 | Installation | 5 |
| Description | 2 | Servicing | 7 |
| Principle of operation | 4 | | |

LIST OF ILLUSTRATIONS

| | |
|----------------------------------------------------------------------------|----------|
| Sectioned view of burner fitted to locating boss in combustion chamber ... | Fig 1 |
|----------------------------------------------------------------------------|----------|

INTRODUCTION

1. The burner, Type A.S.M., described in this chapter, is fitted to the Python Mk. 2 and 3 aero-engine. The engine has eleven burners, one fitted in each combustion chamber. The function of the burner is to discharge fuel in a readily ignitable form into the mixing chamber of the flame tube. Fuel is supplied to the burners from the high-pressure fuel pump via the flow control unit and the distributor unit.

DESCRIPTION

2. The burner (*fig. 1*) consists of a stainless steel stem, one end of which is enlarged and formed with a flange. This flange is slotted to accommodate a dowel for registering the burner in the locating boss fitted to the combustion chamber. The stem of the burner is bored for the greater part of its length, this bore terminating at its inner end in four small holes drilled radially; these holes forming the fuel outlet from the burner.

3. The outer end of the burner is counter-bored and threaded to receive a banjo pivot which secures the fuel feed pipe banjo to the burner. The burner is retained in position in the locating boss by the burner lock-nut. Sealing washers are fitted between the banjo and burner and between the burner and locating boss. The burner lock-nut and the locating dowel are wire-locked after assembly.

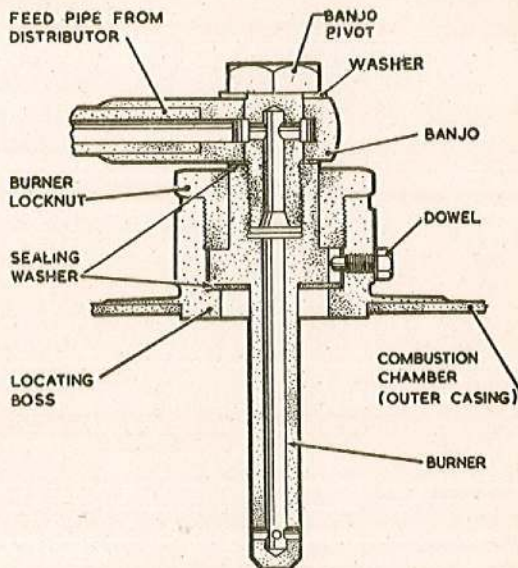


Fig. 1. Sectioned view of burner fitted to locating boss in combustion chamber

PRINCIPLE OF OPERATION

4. Fuel necessary for all conditions of engine operation, except starting, is delivered from the distributor unit through individual pipes to each of the eleven burners. After passing down the bore of the burners the fuel is ejected through the radially drilled holes, where it is injected into the mixing chambers of the flame

RESTRICTED

FUEL SYSTEM COMPONENTS (GENERAL) FOR GAS-TURBINE
AERO-ENGINES
This is Amendment List No. 25 to Air Publication 4282, Volume 1
Section 5, Chapter 3. Remove and dispose of the existing Chapter and substitute this Chapter 3. Record the incorporation of this A.L. in the Amendment Record Sheet.

ENGINEER

tubes. On entering the mixing chambers the fuel mixes with a predetermined volume of air. As combustion of this mixture of fuel and air is continuous it maintains the mixing chamber at a temperature sufficient to ensure subsequent rapid vaporization of the fuel within the mixing chamber.

INSTALLATION

5. Place the soft copper washer in position on the underside of the burner flange, then insert the burner into its locating boss; ensure that the stem of the burner enters the support boss in the flame tube and that the slot in the flange registers with the dowel in the locating boss.

6. Fit and tighten the burner lock-nut and wire-lock, also wire-lock the dowel. Fit the feed pipe banjo with its two soft aluminium washers, one on each side, then screw in the banjo pivot, tighten and wire-lock. After running the engine check that all pipe joints are free from fuel leaks.

SERVICING

7. Servicing of the burners, other than checks of the security of fuel pipes as described in the relevant Air Publication, must be carried out in accordance with the instructions given in A.P.4293A, Vol. 1, Section 2, Chapter 1.



This file was downloaded
from the RTFM Library.

Link: www.scottbouch.com/rtfm

Please see site for usage terms,
and more aircraft documents.