

## Chapter 4 ENGINE SERVICES

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## Introduction

1. The engine services on this aircraft are identical to those described and illustrated in A.P. 101B-1202-1B, Cover 1, Sect. 6, Chap. 4, except for the auto-relight circuit described herein.

## ENGINE AUTO-RELIGHT

## General

2. To obviate a flame-out during weapon firing the engine ignition is automatically operated when stores are released. Information regarding the stores release circuits is contained in Section 20.

## Function

3. During release of stores, the closing of secondary firing relay contacts triggers the operation of a time delay unit. Operation of the unit connects a d.c. supply to a switching relay, the contacts of which by-pass the push-switches in the port and starboard engine relight circuits, thereby causing the two circuits to operate. When the operating cycle of the time delay unit is complete, the engine relight circuits are restored for manual selection of their operation and the auto-relight facility is ready for further use.

## Description

4. A time delay unit A, and relay B, are located on panel C-FZ. The time delay

unit is designed to close a circuit on reception of a triggering supply and open the circuit again after a period of 10 secs has elapsed. The contacts of the relay are incorporated in the engine relight circuits, one set being connected in parallel with the port engine relight push-switch and a second set in parallel with the starboard engine relight push-switch.

## Operation (fig 1 and 2)

5. A d.c. supply from fuse D1 (panel C-HR) is fed to pin D of the time delay unit and contact 13 of secondary firing relay A. When the secondary firing relays are energized (Sect. 20), the closing of contacts 13-12 of relay A connects the d.c.

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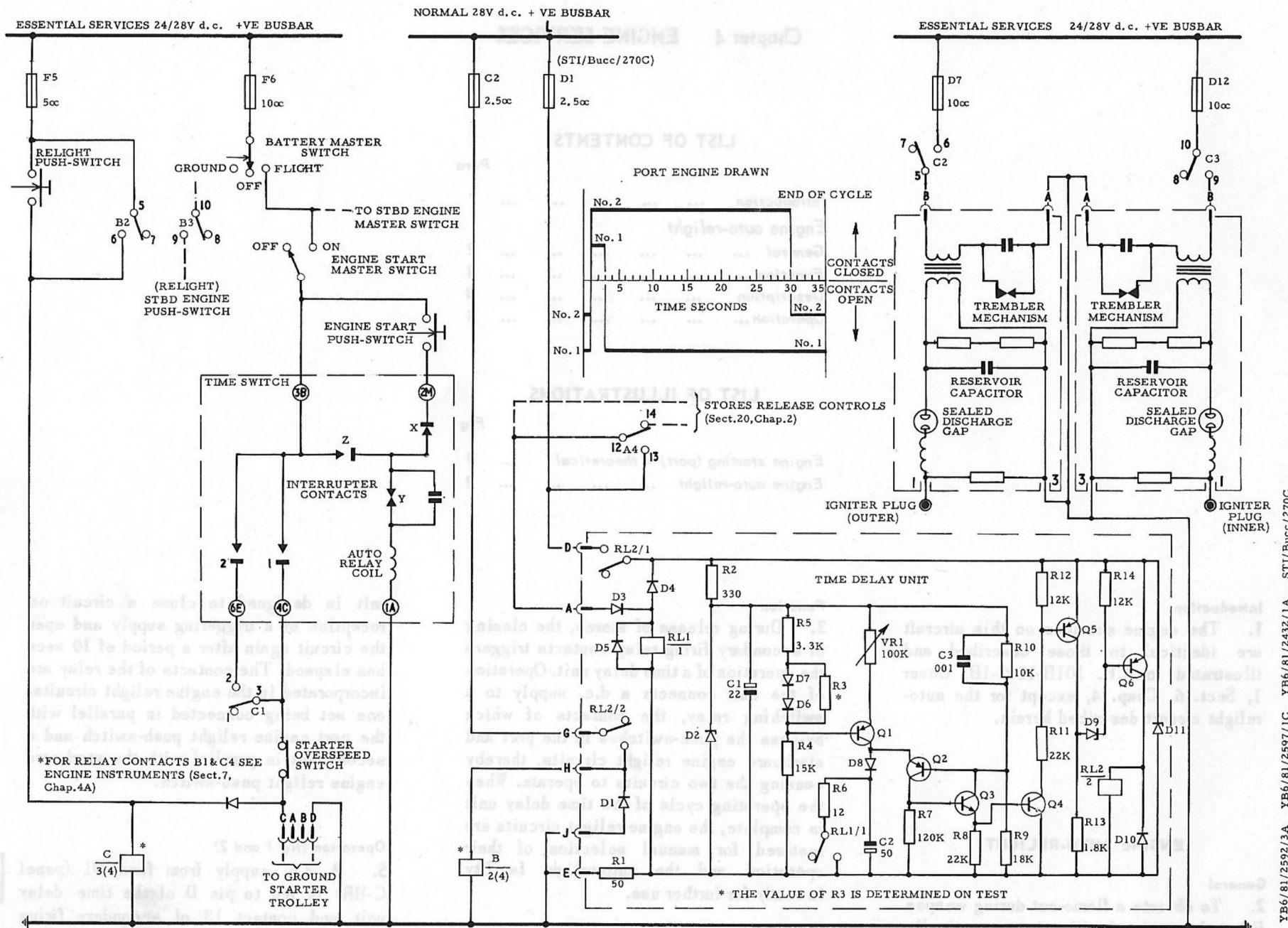


Fig. 1. Engine starting (port) - theoretical  
(STI/Bucc/270C incorporated)

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supply to pin A of the time delay unit. The operation of the time delay unit is triggered by the supply at pin A and maintained by a hold-in circuit fed via pin D.

6. Contacts between pins G and H of the time delay unit are closed for the duration of the operating cycle and complete a circuit from fuse C2 (panel C-HR) to the

coil circuit of the auto-relight relay B. Contacts B5-6 and B9-10 of the auto-relight relay then close to connect d.c. supplies from fuses F5 and F4 (panel C-J) to energize relays C and B in the port and starboard engine starting circuits respectively, contacts 6-5 and 10-9 of which close and connect 28 V d.c. L T supplies to the respective ignition units.

7. When the operating cycle of the time delay unit is complete, the hold-in circuit is broken and the contacts between pins G and H of the unit open to disconnect the coil circuit of relay B. The contacts of relay B then open to disconnect the supplies to the engine relight circuits, thereby removing the automatic relight facility.

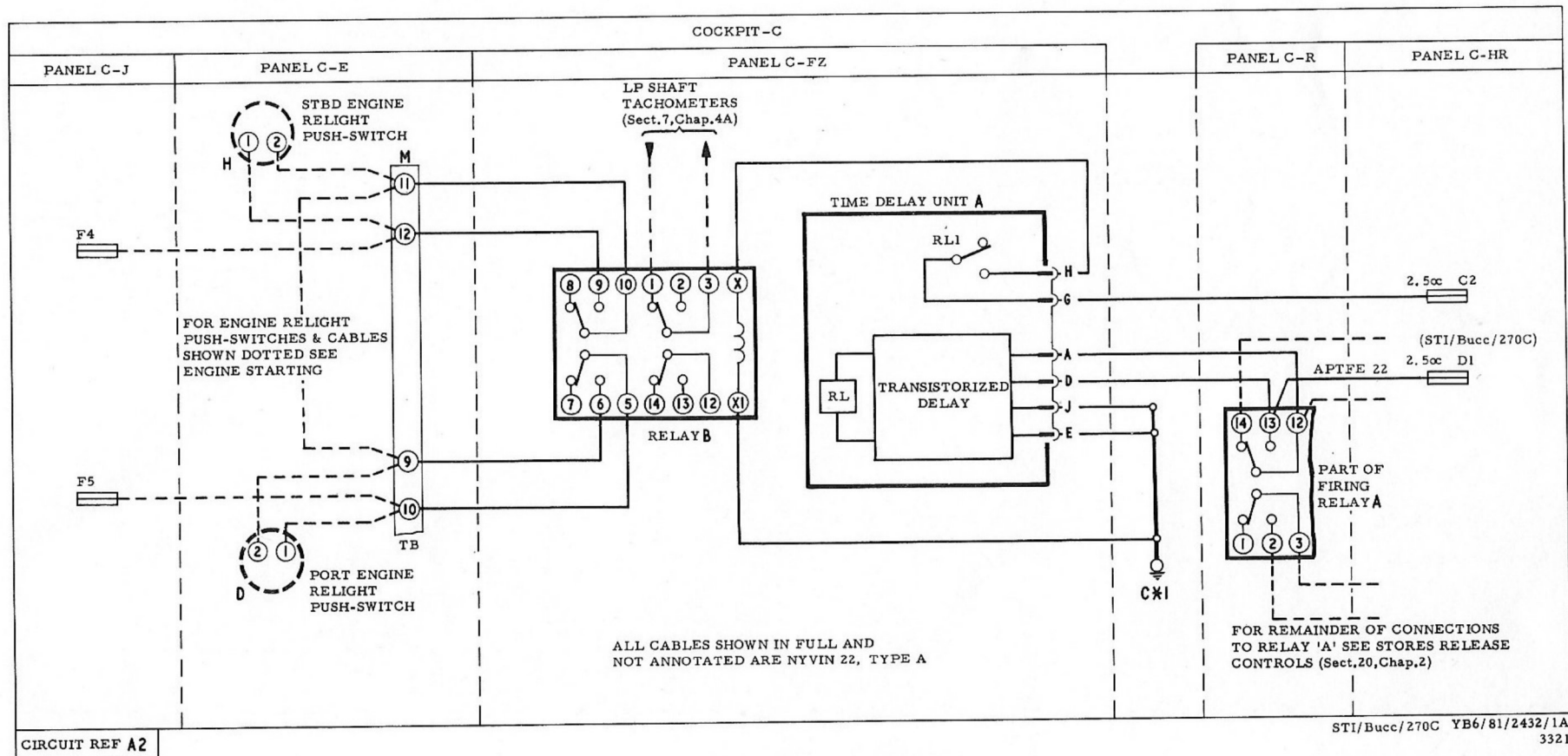


Fig. 2. Engine auto-relight  
(STI/Bucc/270C incorporated)