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**USER HANDBOOK
FOR
CLANSMAN
RADIO INSTALLATIONS
IN
ARMOURED PERSONNEL CARRIER
FV 432**

**PART 4
STATION RADIO UK/VRC 353**

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LIST OF ASSOCIATED PUBLICATIONS

COMPLETE EQUIPMENT SCHEDULES

Station Kit Radio Station UK/VRC 353 Kit No 1	CES No 43754
Installation Kit VRC 353 in FV 432	CES No 44681
Conversion Kit for Clansman Radio in FV 432	CES No 44700

ELECTRICAL AND MECHANICAL ENGINEERING REGULATIONS

TUAAM	TELS L 210
ARFAT	TELS L 210
Radio Installation in FV 432	COMNS INST H 215 series

USER HANDBOOKS

User Handbook for Radio Station UK/VRC 353	Army Code No 61393
VHF Antennas for Clansman	Army Code No 61388
Reference Handbook for Clansman Radio and Ancillary Equipment	Army Code No 61004
Clansman Radio Control Harness	Army Code No 61172

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STATION RADIO UK/VRC 353

INTRODUCTION

101. This part of the handbook describes the Radio Station UK/VRC 353 in the FV 432 and the three positions 'A', 'B' or 'C' available for the radios and location of the associated equipment to cater for all requirements. The radio set is described in the User Handbook for Radio Station UK/VRC 353, Army Code No 61393, which includes full operating and servicing instructions, together with the method of fitting and removing a set to and from Clansman mounting bars.

102. Description of remote control and rebroadcasting are given in Part 2 for Clansman harness and Part 3 for Larkspur harness.

STATION RADIO UK/VRC 353

103. The VRC 353 is a VHF/FM transmitter/receiver operating in the 30-75.975MHz range with 25kHz or 50kHz channel spacing.

104. The block diagram of a single set installation (Fig 1) shows the connexions to the internal batten box for the three sets. The 28V dc supply from the Clansman installation is connected to each radio via a 2-point cable assembly from the Radio Junction Box (RJB). A 7-point cable assembly connects the radio to the Clansman harness via an IB-2 (or IB-3), or to the Larkspur harness via an Interconnecting Box Radio Adaptor (IBRA).

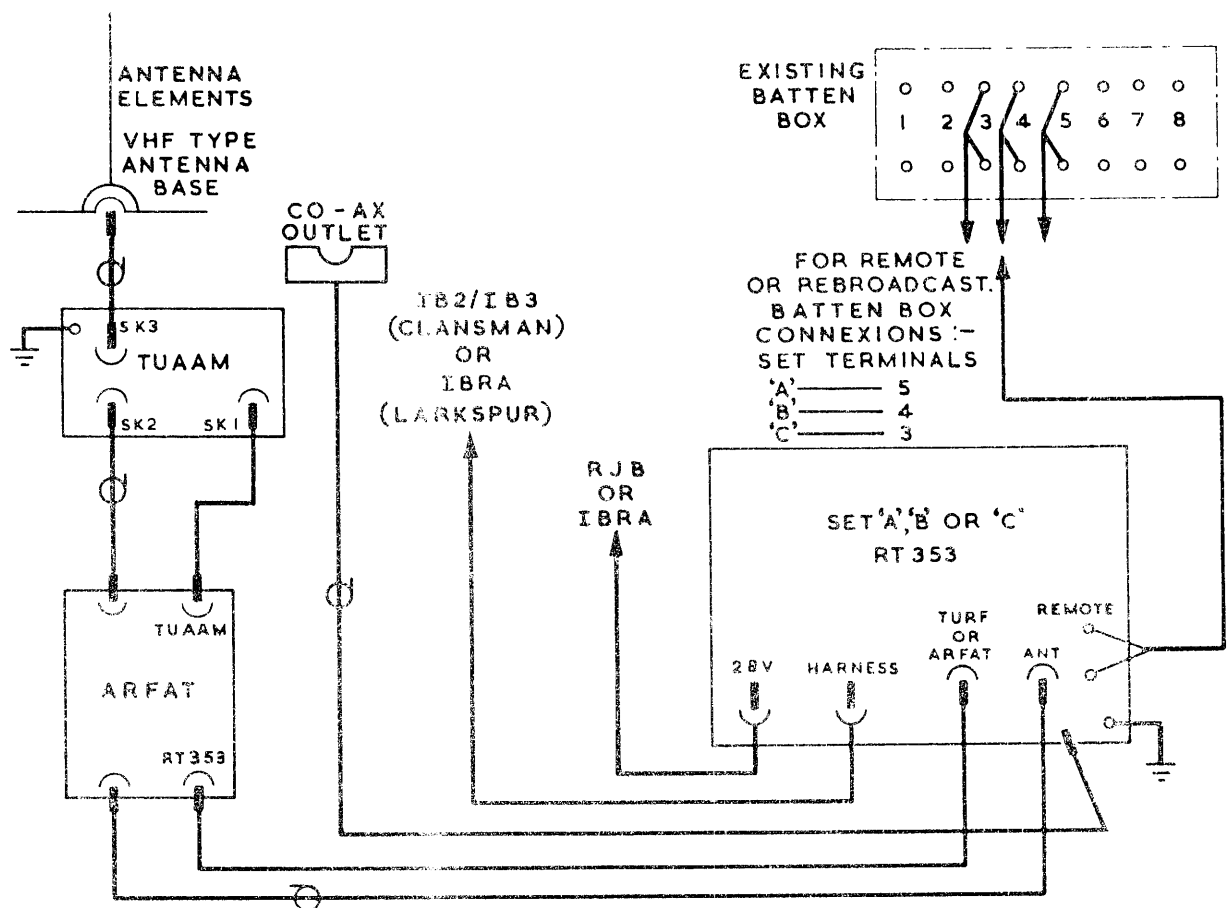


Fig 1 Block Diagram of RT 353 Installation for Sets 'A' 'B' or 'C'

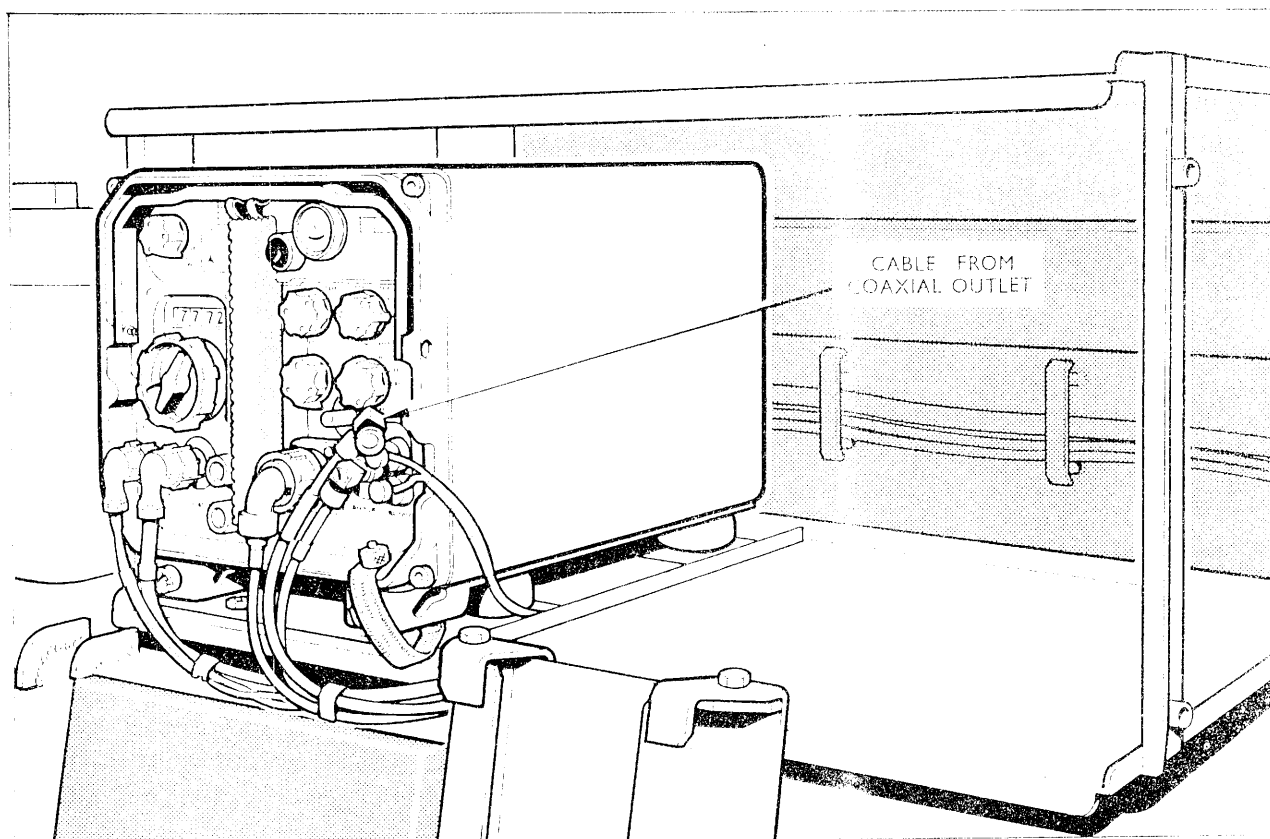


Fig 2 View of RT 353 in Position 'A'

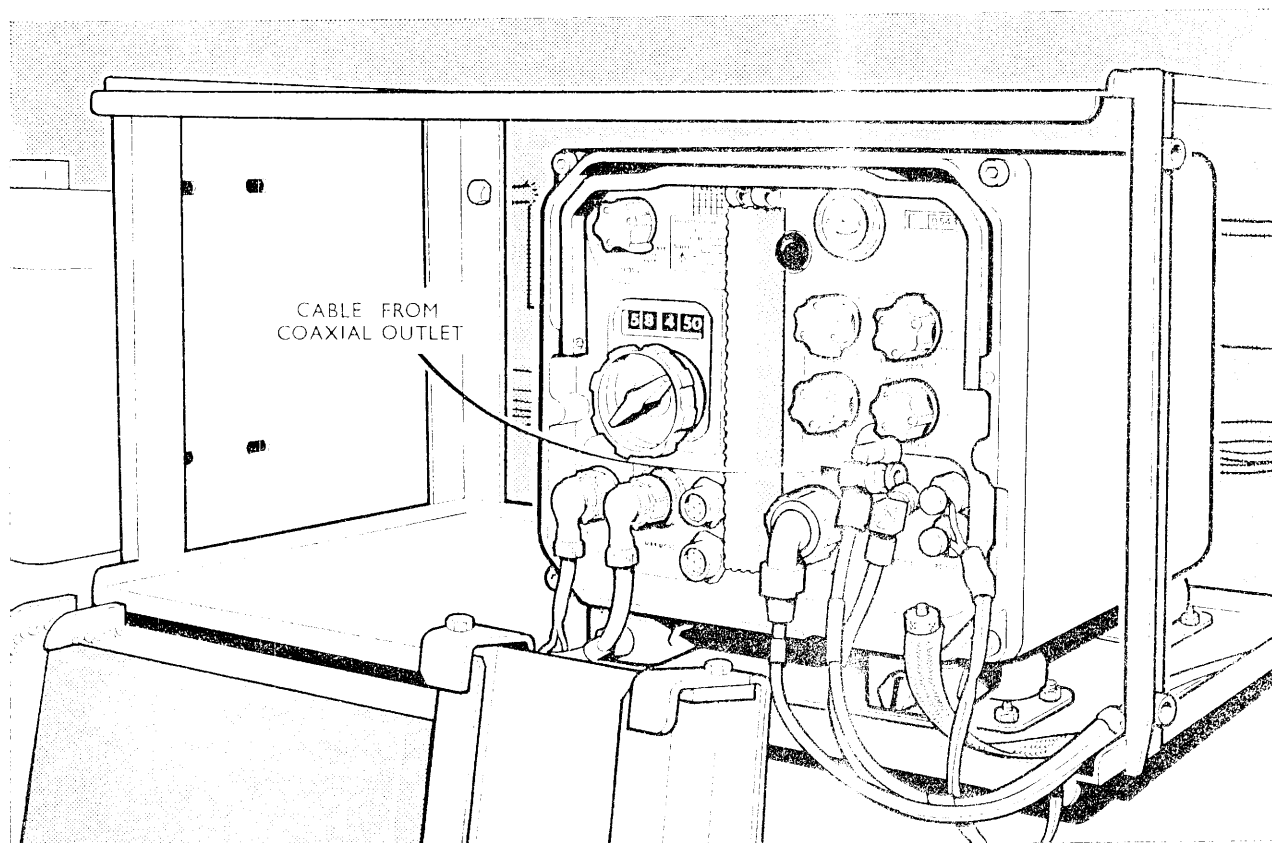


Fig 3 View of RT 353 in Position 'B'

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TUNING AND MATCHING UNITS

105. All antenna tuning and matching functions over the frequency range are performed automatically by a TUAAM. An ARFAT is used in conjunction with the TUAAM to match the latter to the VRC 353 radio.

LOCATION OF EQUIPMENT

106. The VRC 353 can utilize any of three positions on the two-tier rack on the forward right-hand sill. The lower shelf of the rack has provision for two sets, position 'A' on the left-hand side (Fig 2) and position 'B' on the right-hand side (Fig 3). Position 'C' is on the left-hand side of the upper shelf (Fig 4). Details of the set location when the VRC 353 is used alone or with combinations of sets are given in Part 1, Table 2. The detail of removal and fitting of the VRC 353 from and to the Clansman mounting bars is given in its User Handbook Army Code 61393.

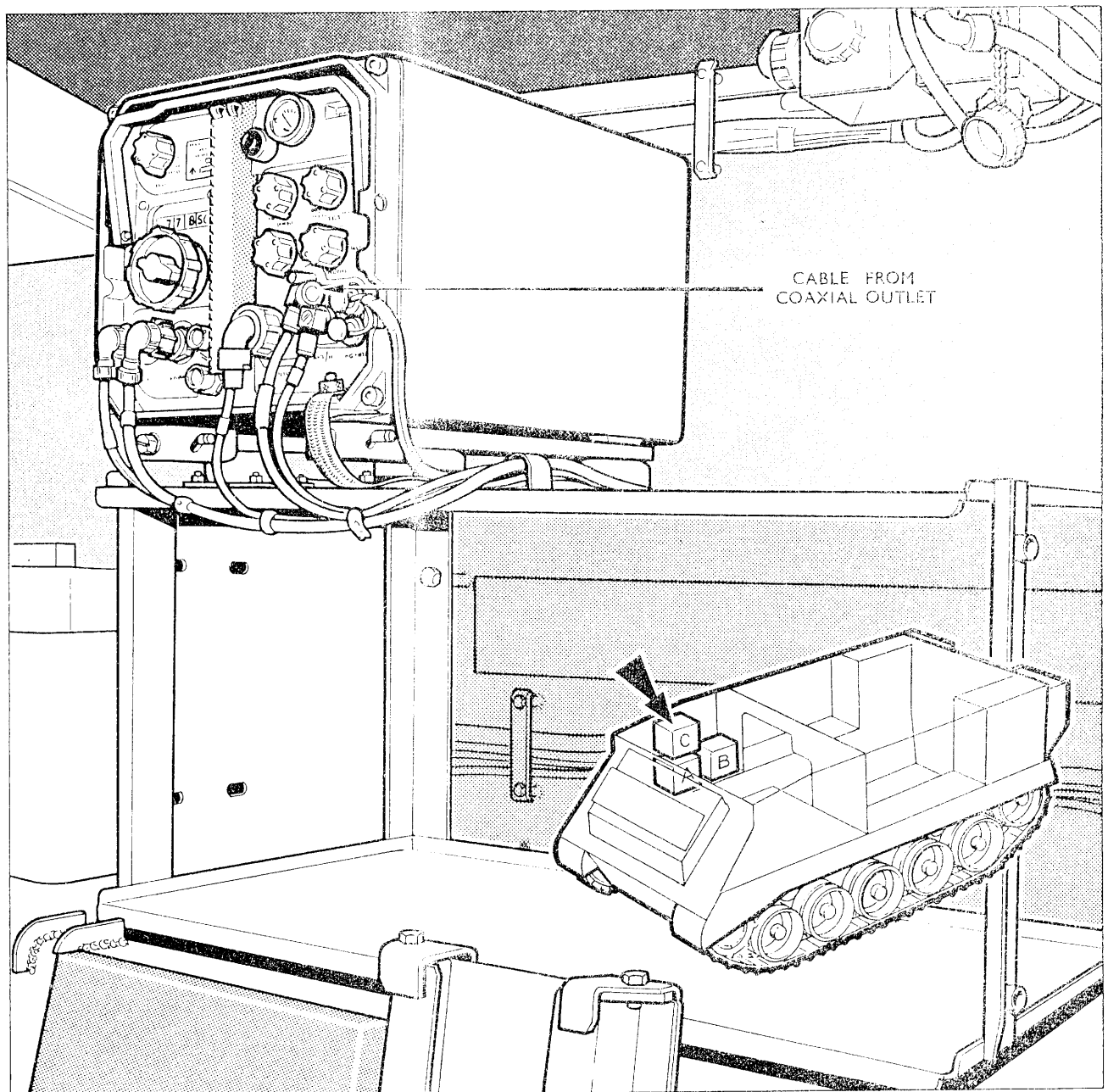


Fig 4 View of RT 353 in Position 'C'

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107. The location of the TUAAM and ARFAT for each set position is shown in Figs 5, 6 and 7. For ease of fitment and withdrawal, the units are mounted on threaded studs and secured by nuts. Anti-vibration mountings consisting of rubber blocks and sleeves are used in the mounting of the TUAAM on the studs.

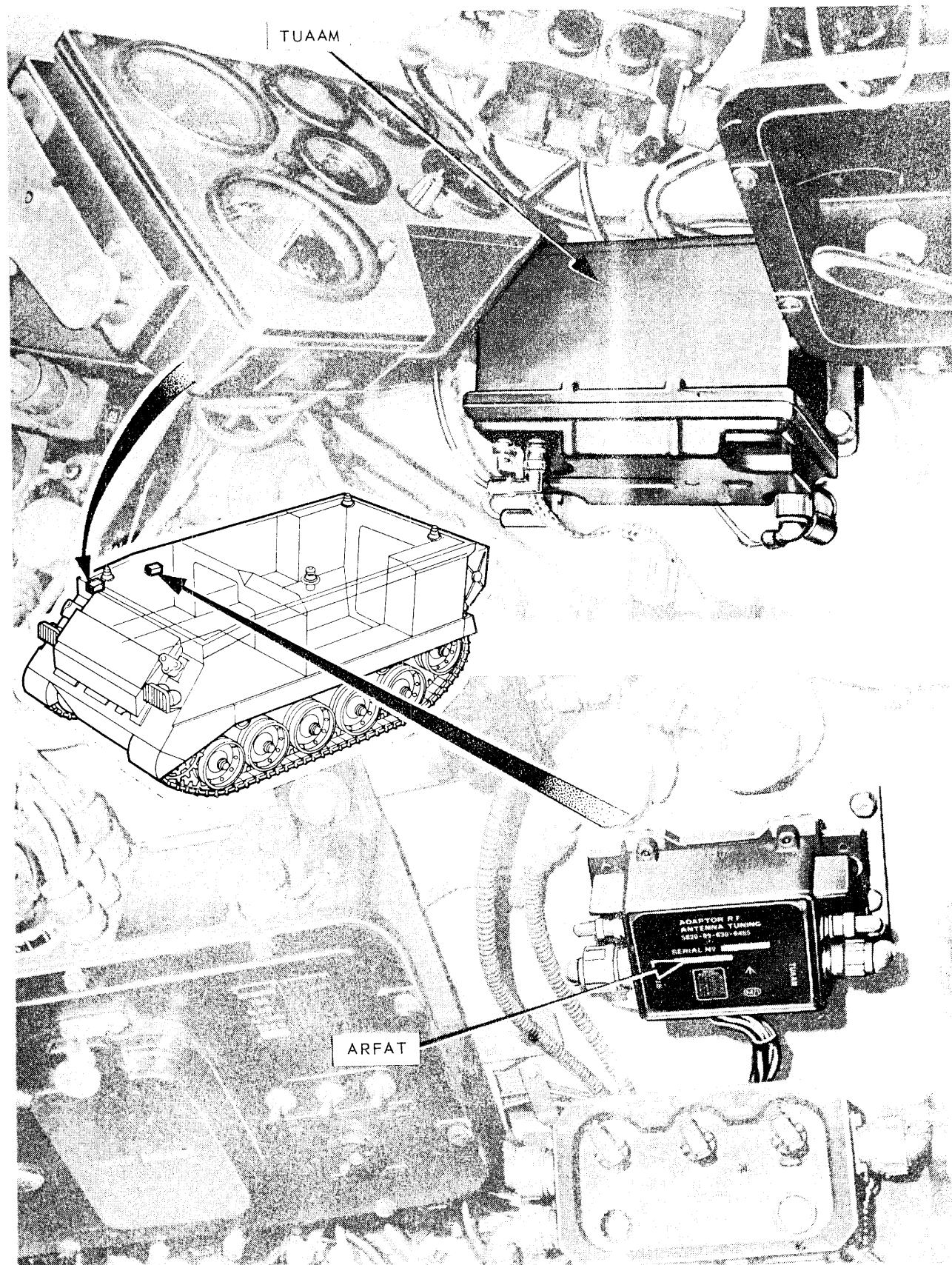


Fig 5 TUAAM and ARFAT in Position 'A'

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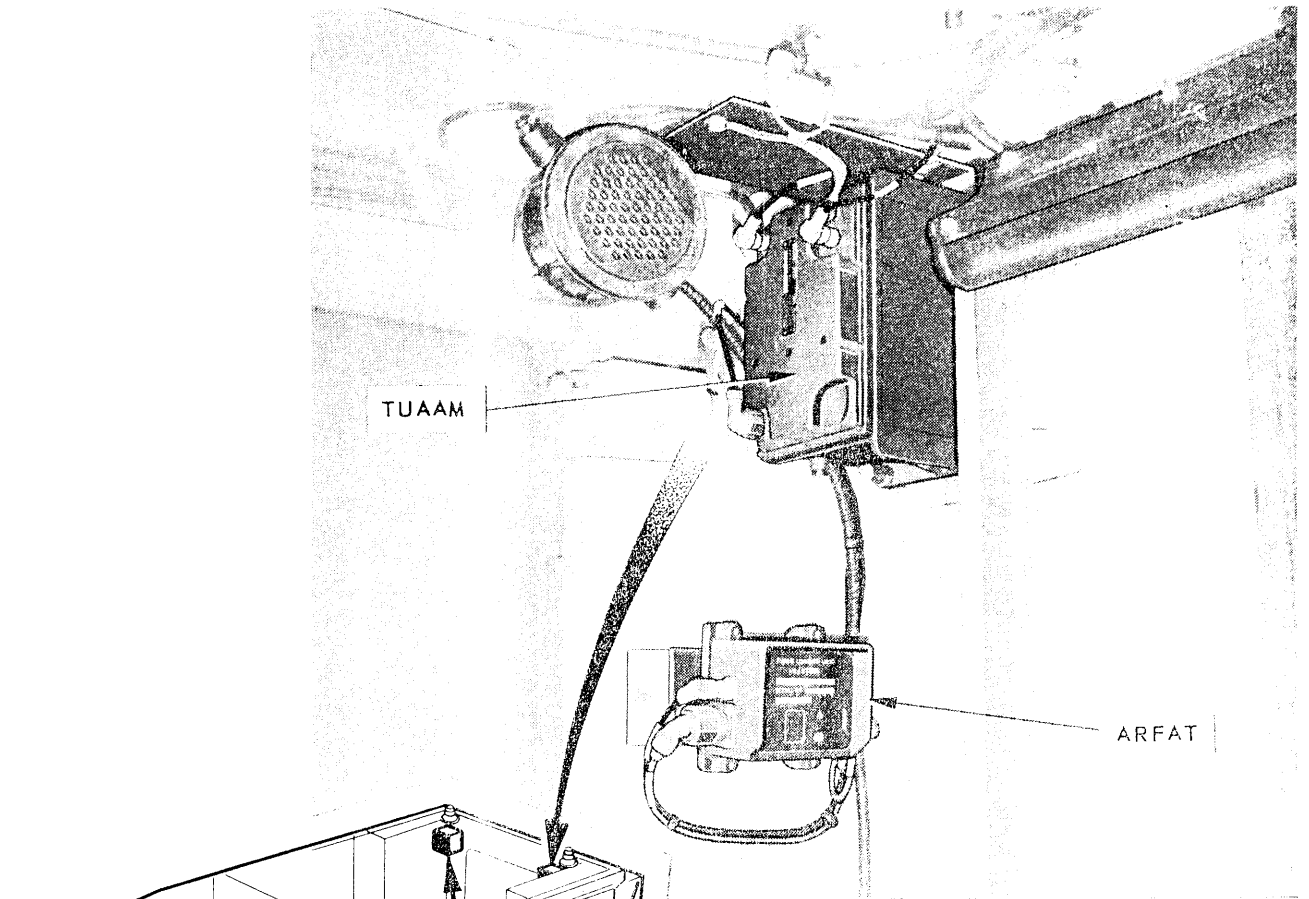


Fig 6 TUAAM and ARFAT in Position 'B'

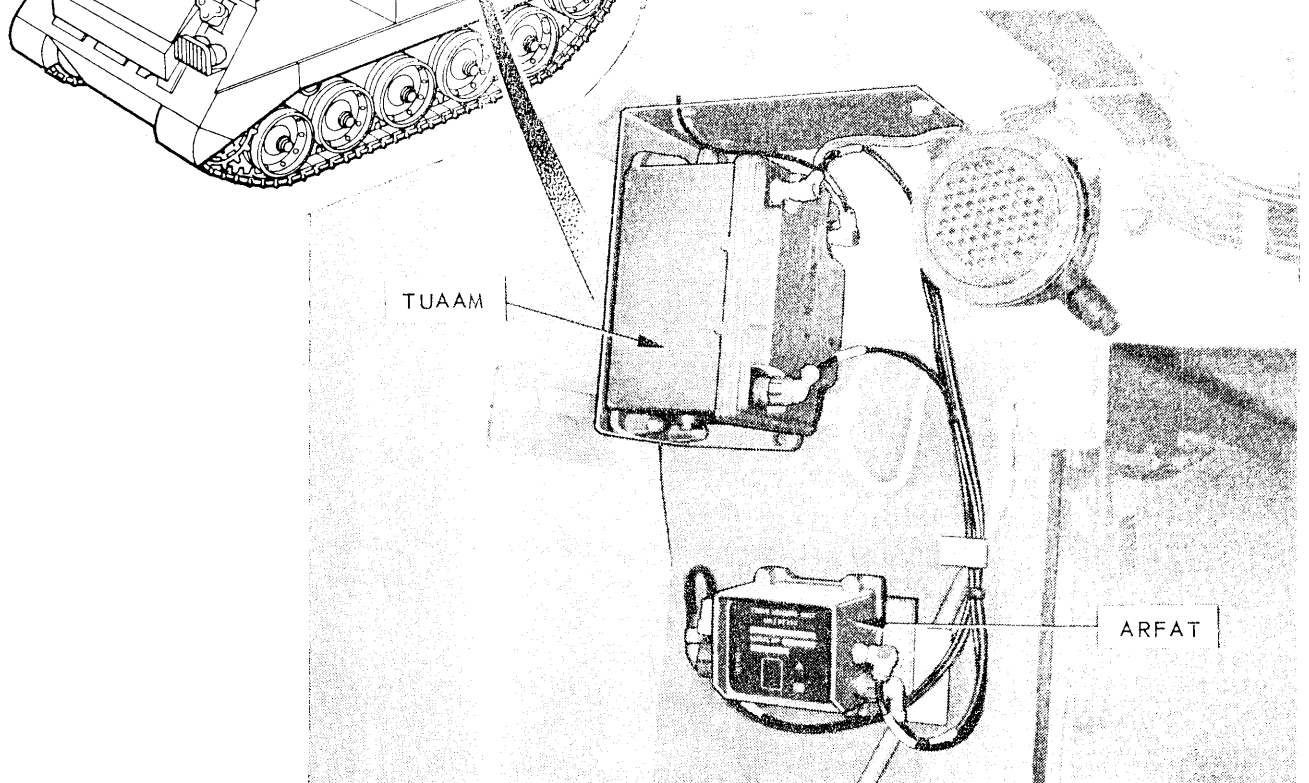


Fig 7 TUAAM and ARFAT in Position 'C'

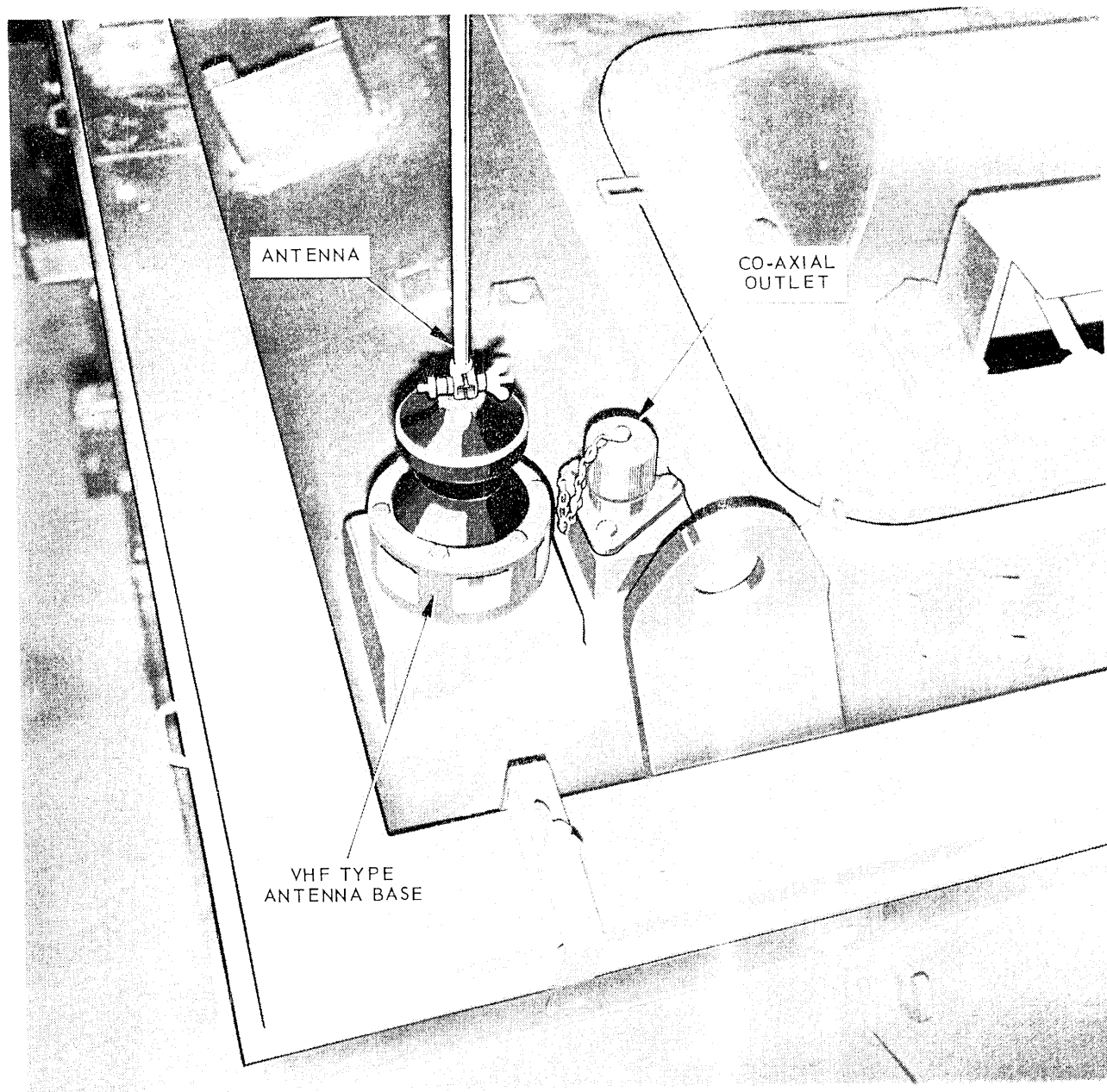


Fig 8 Typical Installation of VHF Antenna Base,
Antenna and Co-axial Outlet ('A' Position Shown)

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ANTENNA SYSTEMS

108. The maximum operating distance of the VRC 353 is approximately 30 kilometres using 2 metre end fed type whip antennas, or 60 kilometres using an elevated antenna.

109. The VHF antenna system comprises a 2 metre end fed whip antenna, consisting of two screwed elements, and an adapted No 31 antenna base assembly which incorporates a matching transformer in the base. Use of other type whip antennas may result in the Antenna Matching Units being unable to fulfil their task.

110. A typical VHF antenna base with antenna is shown in Fig 8. The location of antenna base positions on the roof of the vehicle is shown in Part 1, Fig 3.

NOTE ...

A radio set fitted at positions 'A', 'B' or 'C' does not necessarily use the antenna position designated with the same letter, ie radio set A may use antenna position 'A', 'B' or 'C'. Refer to Table 2 in Part 1 which lists antenna positions for each radio installation.

111. Adjacent to each antenna base is a co-axial outlet for the connexion of a variety of specially developed antenna systems which are available for use in a static role. To allow use of the co-axial outlet, the cable to ANT/ARFAT socket on the radio must be disconnected and replaced by the cable from the co-axial outlet - see Figs 1, 2, 3 and 4.

ELEVATED ANTENNAS

112. To increase the range of radio stations, an elevated antenna can be used in conjunction with a Telescopic Mast, which can be either ground mounted or fitted to the RH rear position of a suitably modified vehicle.

113. The User Handbook for Clansman VHF Antennas, Army Code No 61388, contains further information on the range of VHF Antennas that have been designed for use with the Clansman series of radios.

LAMP DATA

114. Lamp data is given in Table 1. Ensure that the supply is switched off before attempting to replace a defective lamp.

TABLE 1

RADIO LAMP REPLACEMENT DATA - VRC 353

Catalogue No	Description	Qty
X5/6340-99-995-9182	Lamp Indicator 28V 0.045A Midget Flange Clear	1