

761x/764x SERIES MOBILE SERVICE MANUAL REVISION

REVISION OVERVIEW

This is a revision to the 761x/764x Mobile Service Manual, Part No. 001-7600-001, with a printing date of November 1998. Information in this revision supplements and updates information currently in that manual. Some of the new information this revision includes is as follows:

- Information on the revised operating and programming software that began shipping in late 1999.
- UHF main board part changes to minimize deviation changes across the audio band.
- Other miscellaneous changes and corrections

SECTION 1 GENERAL INFORMATION CHANGES

TABLE 1-1 ACCESSORIES (PAGE 1-2)

The part number for the 2-tone/5-tone module kit microphones, and compact speaker are incorrect. The correct part numbers and additional accessories are shown in the updated Table 1-1 which follows:

Table 1-1 76xx Accessories

Accessory	Part No.
Mounting bracket	585-7600-040
DC cable assembly	585-7600-029
Mounting screws and fuses	585-7600-041
Microphone hanger	023-3514-001
Mic hanger ground wire	023-7171-911
Function name stickers	585-7600-042
Microphone, standard	589-7600-020
Microphone, DTMF	589-7600-022
2-Tone/5-tone module kit	585-7500-026

Table 1-1 76xx Accessories (Continued)

Accessory	Part No.
5", 4.7-ohm, 15W external speaker	250-0151-010
Compact speaker	589-7600-023
Accessory/data cable (DB-9 connector)	585-7600-027
Base/Control Station Accessories	
Pedestal power supply, 120 VAC	239-0226-113
Pedestal power supply, 240 VAC	239-0226-213
Microphone, desk	250-0742-009
Adapter power cable for above supply	023-7600-001
Wedge-style mounting base (includes 10-ft. DC power cable; above power supply and mtg bracket req'd)	023-7600-950
Programming Accessories	
Programming software, 3-1/2 disk	585-7600-030
Programming cable, computer-adapter	585-7500-031
Adapter cable, prog cable-xcvr	585-7600-031
Replication (cloning) cable	597-2002-200
DB-9 M to DB-25 F adapter	515-9000-015

SECTION 3 OPERATION CHANGES

Updated Operating Software

General

Beginning later in 1999, transceivers began shipping with a new version of operating software. Transceivers with this new operating software can be identified as follows:

- The revision letter in the identification number is “C” or later (see Section 1.5 of the service manual).
- The operating software is Rev 2.0 or higher. This number can be determined using the programming software by selecting Program > Information as described in Section 4.4.4 of the service manual.

Programming software Revision 2.1 or later is required to program transceivers with this new operating software. See “Programming Changes” on the next page for more information.

New Features

New features provided by this updated operating software are as follows:

- Additional banks can be programmed (see “Bank Select” which follows).
- Microphone hanger off-hook detection can be disabled (see “Microphone Hanger” which follows).
- Support is added for an optional scrambler. However, that particular scrambler is not available, so references to scrambling on programming screens

can be ignored. If scrambling is desired, use the Transcript SC20 scrambler instead. Contact your E.F. Johnson sales representative for more information on available scramblers.

- With a 2-tone decoder, the 2nd Tone Period can now be set for 0-25.5 on the Screen > 2 Tone Code Ch screen.

Microphone Hanger

The radio can now be programmed so that the microphone hanger off-hook condition is not detected. The functions which can be enabled by an off-hook condition are then not available. They are disabling scan, enabling the monitor mode, and selecting the priority channel. Off-hook detection is disabled by the Screen > Expert menu by programming the “Mic Hanger Hook” parameter “On”.

3.2.1 Front Panel Controls

Microphone Connector - The part numbers listed in this description are incorrect. The correct numbers are listed in Table 1-1 on the preceding page.

3.3.7 Bank Select

In addition to two banks of up to 16 channels each, the following bank configurations can now be programmed:

- 2 banks of up to 16 channels each
- 4 banks of up to 8 channels each
- 2 banks, one with 20 channels and the other with 12 channels

SECTION 3 PROGRAMMING CHANGES

Updated Programming Software

A new release of the programming software is now shipping. This new release is Rev 2.1, and the revision number is indicated in the upper left corner of most programming screens. This programming software is backward compatible which means that it can also be used to program earlier model 76xx transceivers as well as current models.

This new release (Rev 2.1 or later) is required to program transceivers with the updated operating software (Rev 2.0 or later) described on the preceding page. The transceiver operating software revision can be determined as described in the “Updated Operating Software” description on the preceding page.

Table 4-1 - Memory Channel Screen Changes (Page 4-4)

BANK SELECT

Additional bank configurations are now available (see “3.3.7 Bank Select” on the preceding page). Chose the desired bank configuration by selecting Screen > Key and Display Assign > MR-CH Bank/Free. Then program a Bank select option switch, and switch between banks on the Memory Channel screen by pressing the PgUp/PgDn keys.

SCRAMBLING

A “Scrambler” column has been added at the end of the Memory Channel screen. However, ignore these parameters because the scrambler which they program is not available. Refer to “New Features” on the preceding page for more information.

Table 4-2 - Key and Display Assign Screen Changes (Page 4-4)

- The “Scrambler” switch is not available (see preceding paragraph).
- The “Hanger Action” functions are not available if microphone hanger off-hook detection has been disabled (see following “Expert Screen Changes”).
- The “MR-CH Bank/Free” parameter now selects additional bank configurations (see preceding “Bank Select” description).

Table 4-7 Common Screen Changes (Page 4-13)

This screen has four scrambler parameters that are not used (see preceding “Scrambling” description). They are Scrambler Type, Scrambler Group Code, Synchronous Capture, and Tone Start Timing.

Table 4-8 Expert Screen Changes (Page 4-14)

A new “Mic Hanger Hook” parameter has been added near the bottom. This parameter is used to disable microphone off-hook detection. Selecting “On” disables off-hook detection so that taking the microphone off-hook has no affect on operation. When off-hook detection is disabled, the “Hanger Action” functions on the Key and Display Assign Screen are not available (see above).

SECTION 7

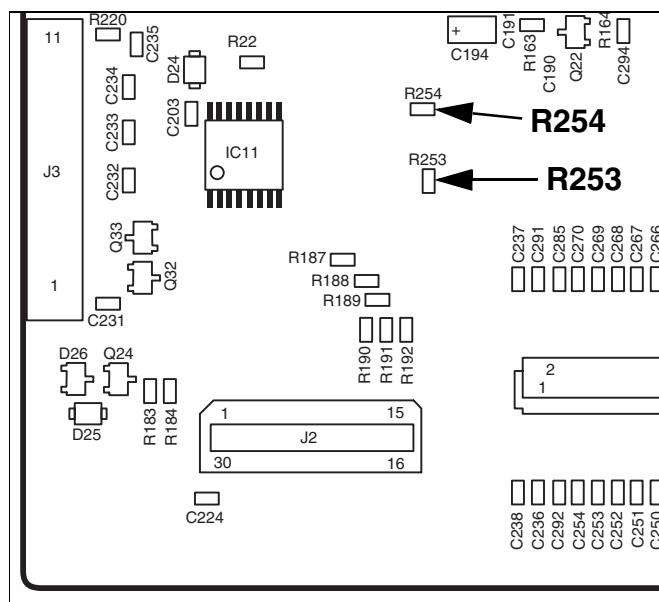
PARTS LIST CHANGES

Ref No.	Description	Part No.
7510 (VHF) MAIN UNIT CHANGES (Page 7-1)		
R253	Res ERJ3GEYJ 101 V (100 ohm)	022-3906-143
R254	Res ERJ3GEYJ 101 V (100 ohm)	022-3906-143
7540 (UHF) MAIN UNIT CHANGES (Page 7-8)		
C 180	Ceramic, C1608 JB 1C 104KT-N	022-3906-614
C 184	Ceramic C1608 CH 1H 150J-T-A	022-3906-067
C 319	Ceramic C1608 JB 1C 104KT-N	022-3906-614
C 350	Ceramic C1608 JB 1H 102K-T-A	022-3906-060
C 351	Ceramic C1608 JB 1C 473K-T-A	022-3906-080

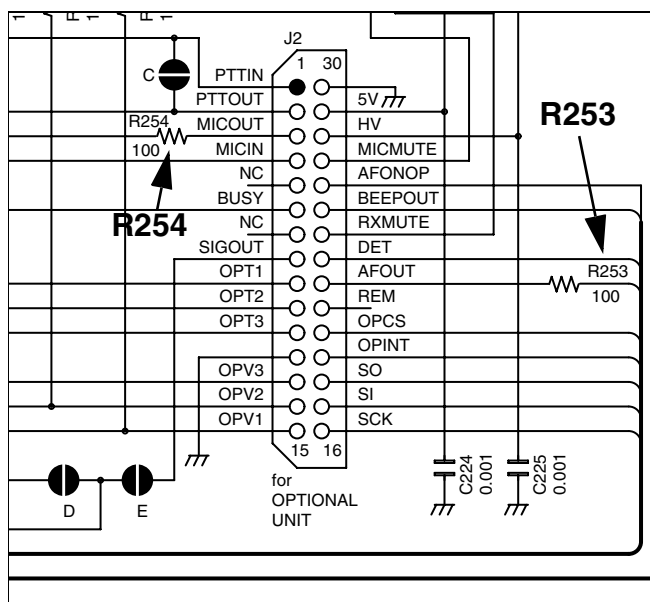
Ref No.	Description	Part No.
R 002	Res ERJ3GEYJ 101 V (100 ohm)	022-3906-143
R108	Res ERJ3GEYJ 153 V (15 k ohm)	022-3906-165
R151	Res ERJ3GEYJ 155 V (1.5M ohm)	022-3906-182
R157	Res ERJ3GEYJ 274 V (270 k ohm)	022-3906-179
R265	Res ERJ3GEYJ 822 V (8.2 k ohm)	022-3906-256
R279	Deleted	
R280	Res ERJ3GEYJ 104 V (100 k ohm)	022-3906-175
R281	Res ERJ3GEYJ 153 V (15 k ohm)	022-3906-165
R282	Res ERJ3GEYJ 1R0 V (1 ohm)	022-3906-688
R283	Res ERJ3GEYJ 101 V (100 ohm)	022-3906-143
R284	Res ERJ3GEYJ 101 V (100 ohm)	022-3906-143

SECTION 8

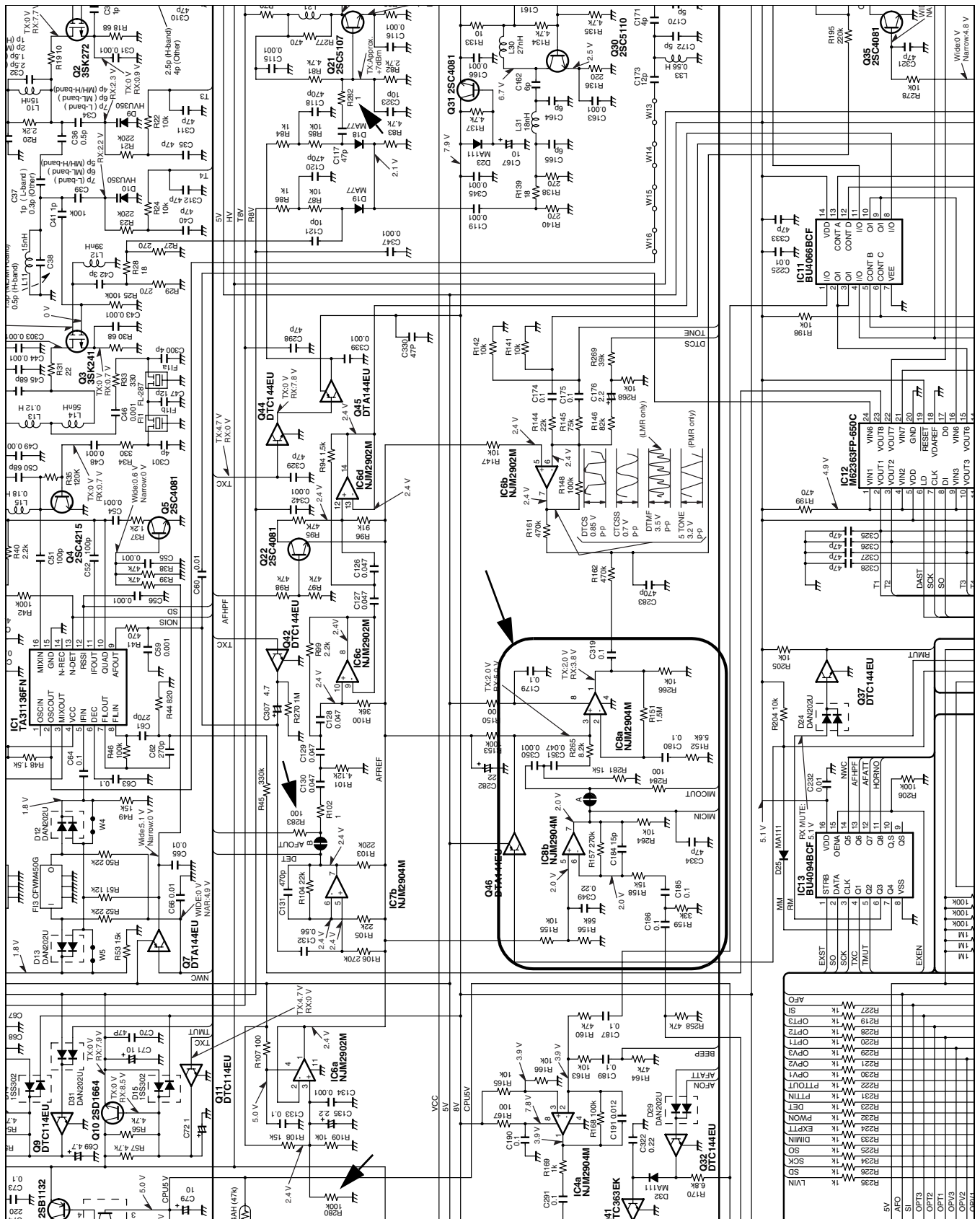
PC BOARD AND SCHEMATIC CHANGES



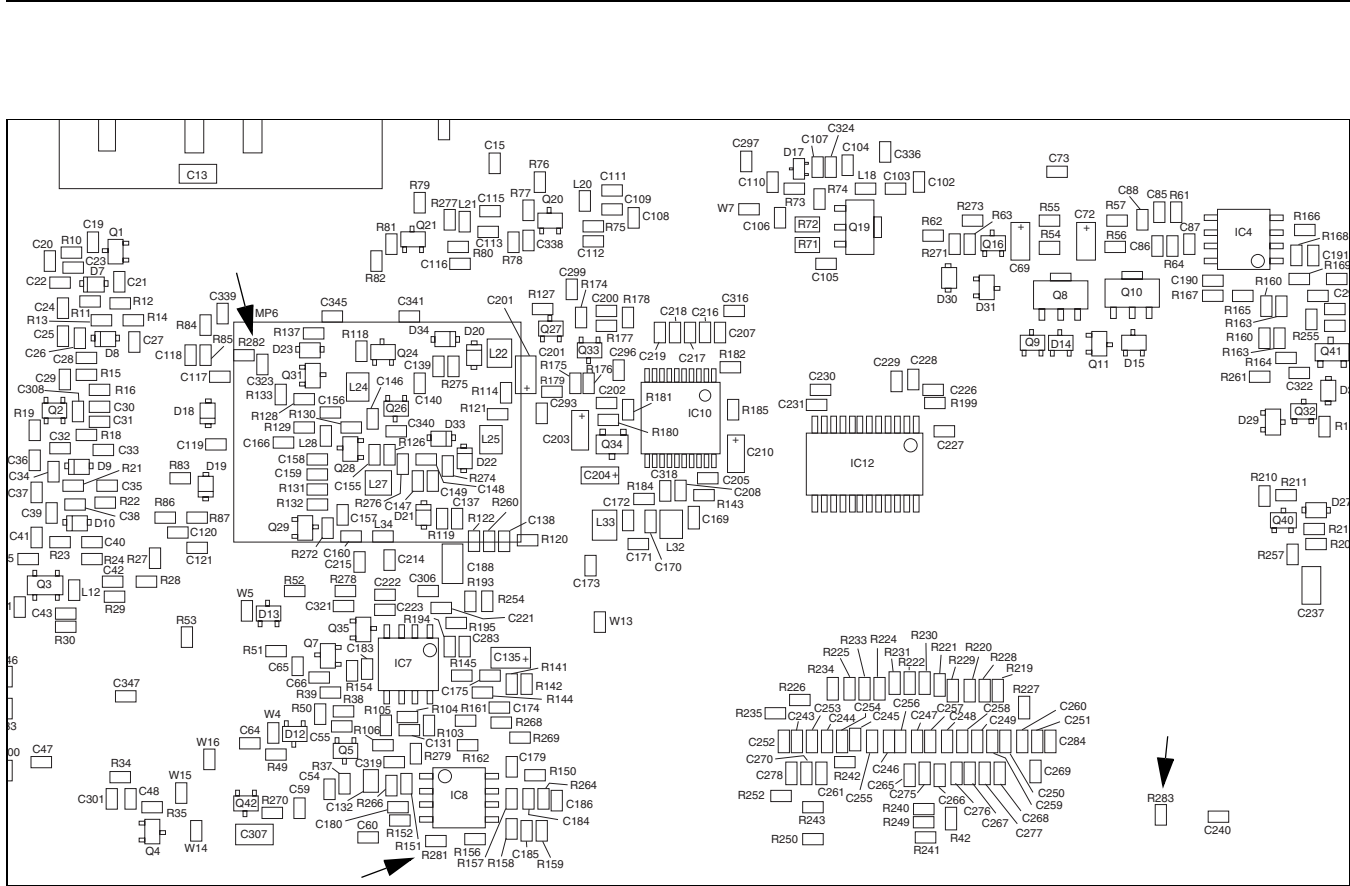
VHF (7610) MAIN BOARD TOP VIEW CHANGES
(Page 8-4)



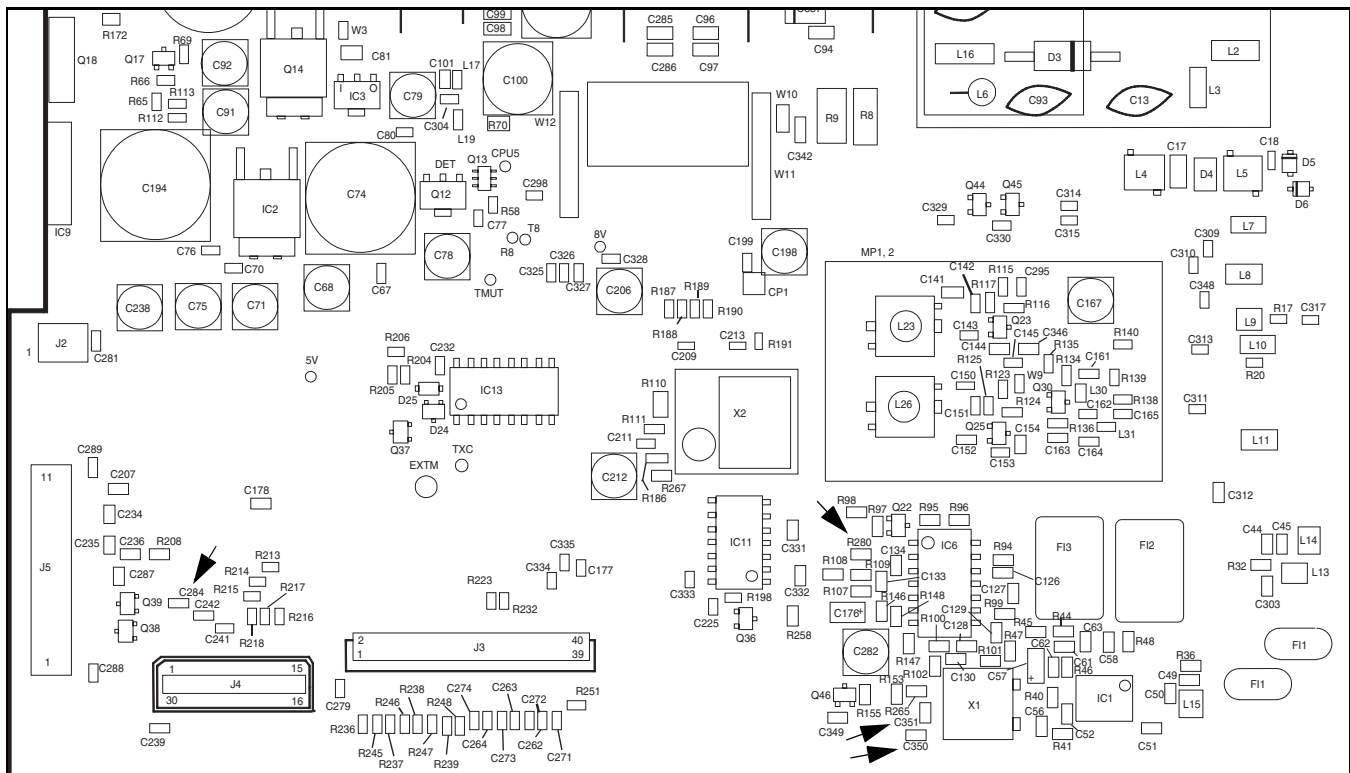
VHF (7610) MAIN BOARD SCHEMATIC CHANGES
(Page 8-5)



UHF (7640) MAIN BOARD SCHEMATIC CHANGES
(Page 8-9)



(Page 8-7)



(Page 8-8)