



Technical Note TN-752

Tait Orca 5000 “Green” Chassis Upgrade Instructions

18th November 2002

Applicability

This Technical Note applies to any Tait Orca 5000 radio that is required to be upgraded to the new ‘Green’ chassis (Bow Tie design) to accommodate the new ‘Green’ audio and carry accessories.

1. Upgrade Tool Requirements

Tools

- Torx 6 driver bit (supplied in TOPA-SV-001 or available as IPN 355-00000-10)
- Torx Driver that can be set to 2 inch / pounds
- 8MM LONG REACH SKT 1/4" IPN 355-00000-20
- Flat bladed screw driver
- Small side cutters.
- Battery (any Tait Orca battery will do)
- TOPA-SV-003 Programming Lead
- TOPA-SV-003G Programming Lead.

Parts

- TOPA-SP-10HG chassis change kit. (This kit comes in quantities of 8 chassis’ and associated parts)
- Radio serial number and compliance labels. (These can be ordered from TEL logistics by either quoting serial numbers or quoting product codes and quantities). Please expect a short lead-time for the labels to be printed.

Work Area

- Statically (ESD) safe with static safe matting and heel and / or wrist straps as a minimum requirement.

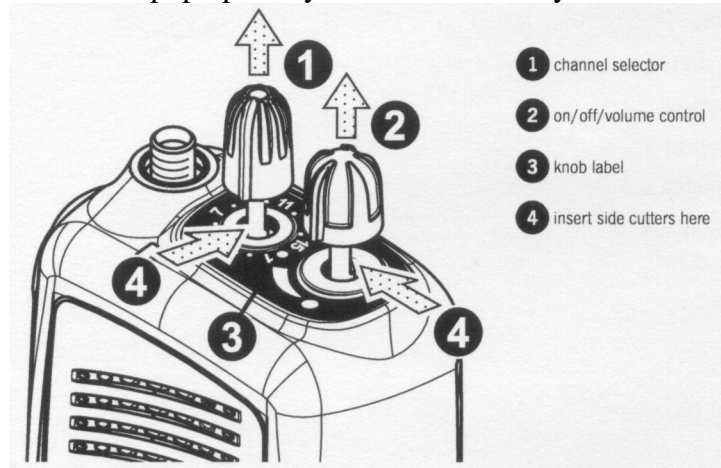
NOTE

Please read the radio personality before performing this upgrade in case of database corruption due to accidental short circuit while the battery is attached.

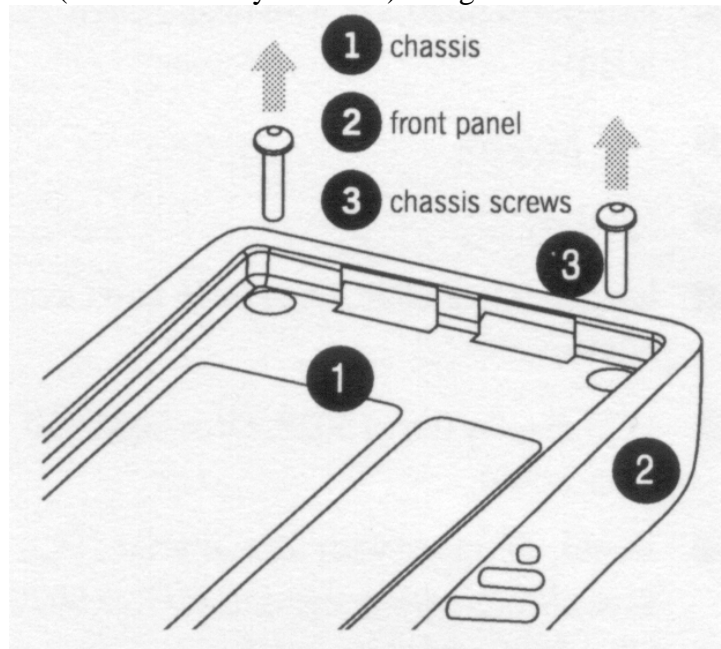
2. Instructions

Steps

- 1) Unscrew the antenna
- 2) Remove the channel and volume knobs by gently prising them up by inserting a side cutter at the base of the knob (flat side down making sure not to damage the knob and label). Gently squeeze the side cutters together and the knobs should pop up. They can be removed by hand at this point.

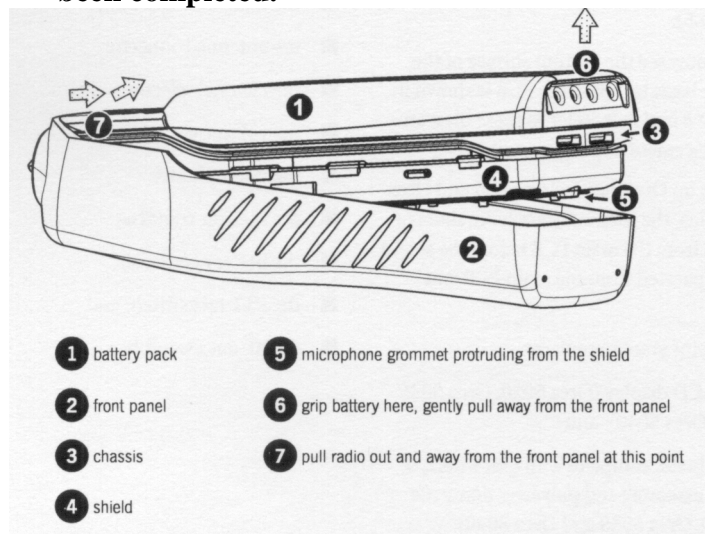


- 3) Unscrew the two Torx head screws at the base of the chassis (with the battery removed) using the T6 head driver bit.

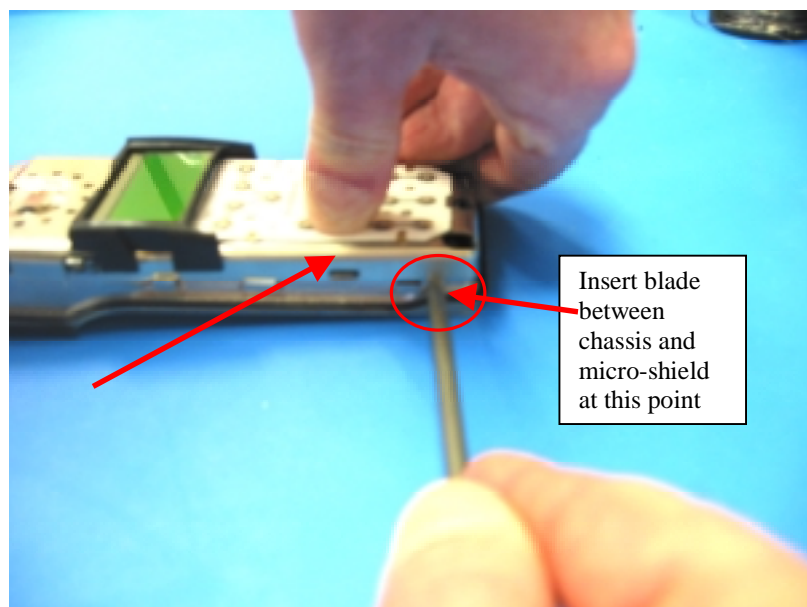


Step (cont.)

- 4) Remove the PCB/chassis using a battery. Pull up from the bottom of the battery. **Remove battery after this step has been completed.**



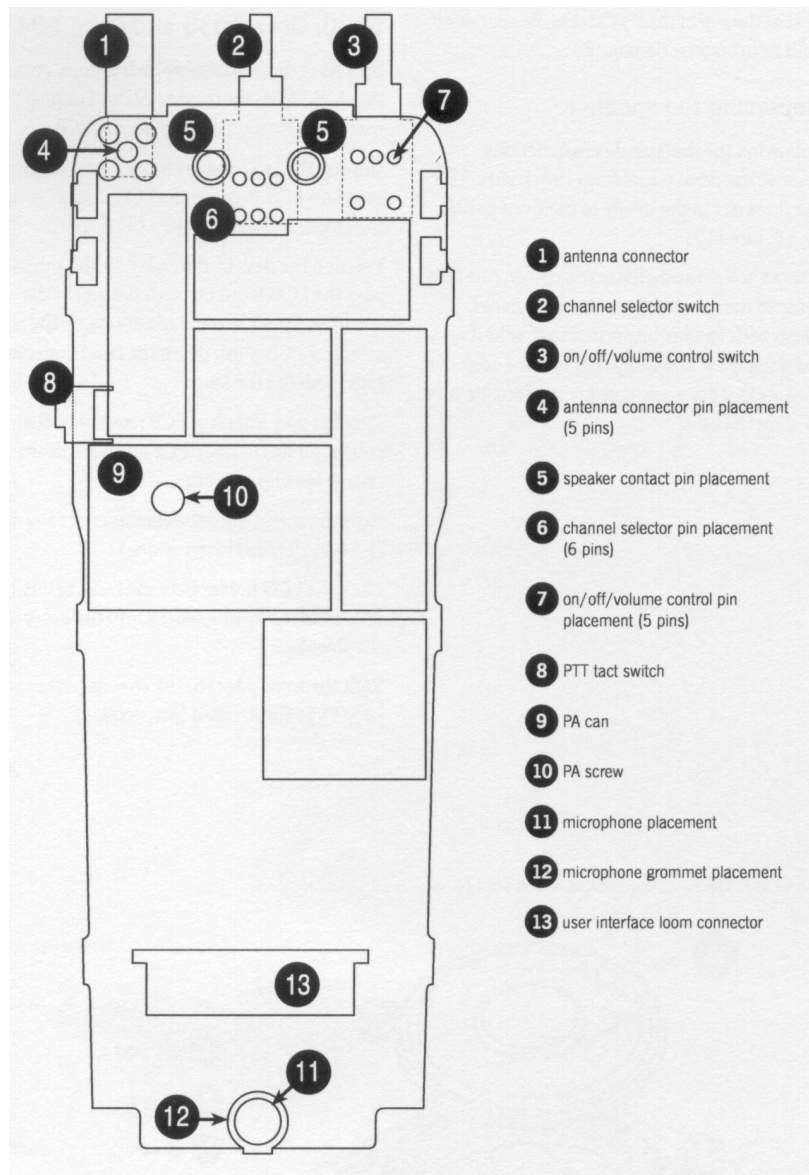
- 5) Remove the micro-shield as shown in the picture below using a flat blade screwdriver whilst applying downward pressure at the point indicated below. Repeat process for the other side of the micro-shield. Please also remove any speaker spacers that may be fitted to the radio unit and keep these aside to be fitted once the new chassis is attached.



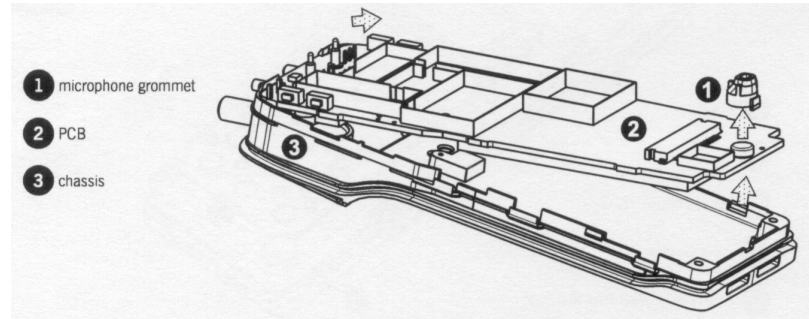
NOTE: Failure to remove the micro shield in this way will result in damage to the micro-shield. This damage could possibly void the IP54 rating of the hand-portable.

Steps (cont.)

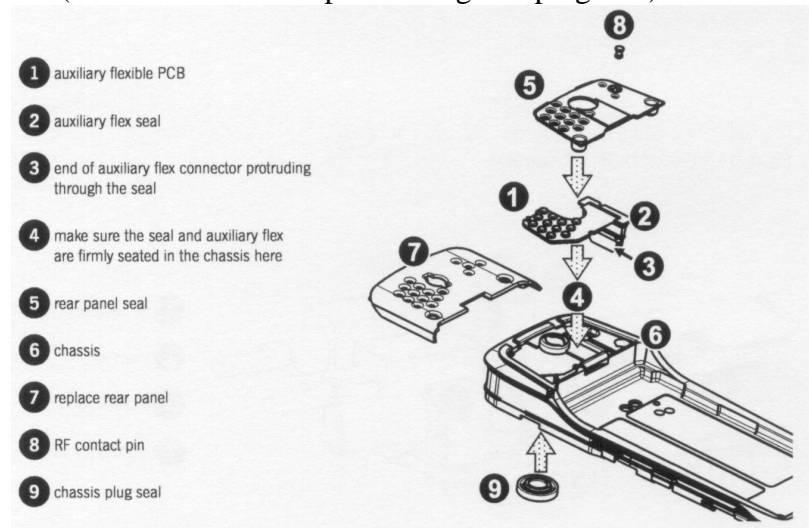
- 6) Remove the small T6 head Torx screw holding the PCB to the chassis. This screw is located in the RF shield / Can (location 10 in the diagram below).



- 7) Once the screw is removed, the PCB can be removed from the chassis as shown below. Take the bottom microphone grommet away to be re-attached once the new chassis has been fitted. Remove the battery contact seal once the PCB has been removed.



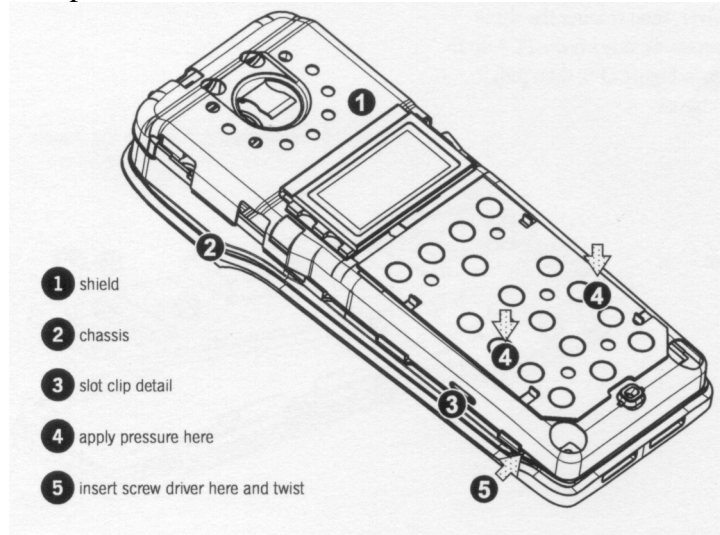
- 8) Remove the accessory flex PCB from the back of the chassis. This needs to be kept and fitted to the new chassis (but with a new rear panel and green plug seal)



- 9) Now the new chassis can be fitted. Please new get the new rear panel and green plug seal and repeat the steps listed in **STEP 8** above but in reverse.
- 10) Refit the battery contact plug seal to the PCB.
- 11) Refit the radio PCB as detailed in **STEP 7** above. Please add a white label to the channel selector knob. This will make the Green seal brighter and easier to see when the radio is re-assembled.
- 12) Screw in the T6 head screw through the RF can as in **STEP 6** above. Ensure the screw is tightened to 2 inch pounds.
- 13) Refit the bottom microphone grommet to the PCB

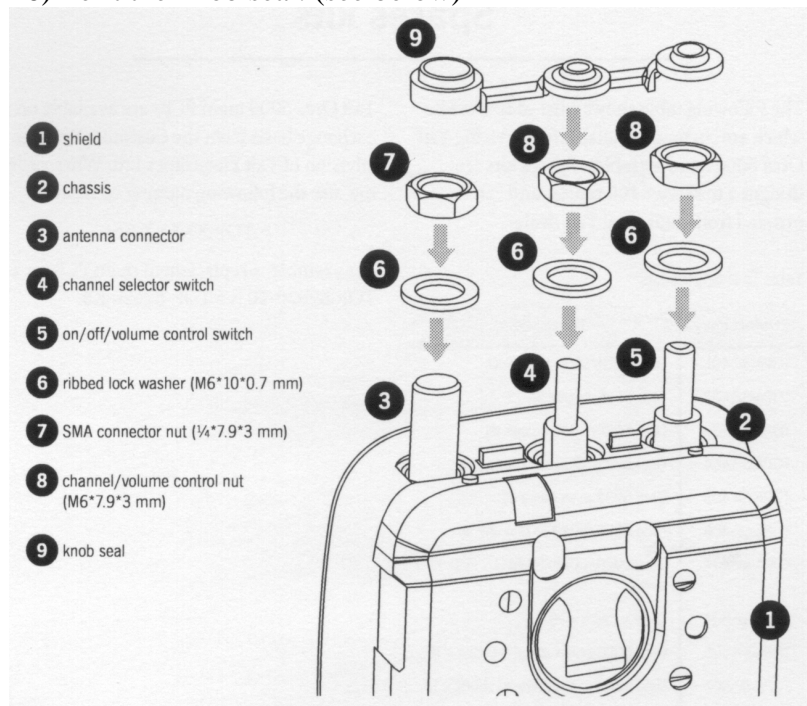
Steps (cont.)

- 14) Re-attach the micro shield. The correct method for doing this is to connect the Keypad flex loom first (5020,5035 and 5040 only). Then locate the top of the micro-shield onto the two pillars at the top of the chassis; then bring the micro-shield down into position until there is an audible 'click' on both sides of the micro-shield. The end result should be as in the diagram below. Refit the speaker spacers.



- 15) Refit the antenna nut and washer and the channel selector and volume knob nut and washer. Please torque to 2 inch / pounds. (see below)

- 16) Refit the knob seal. (see below)



- 17) Refit the front panel of the radio ensuring that the LCD frame is kept in place whilst doing so.
- 18) Screw in the 2 chassis screws as per instructions in **STEP 3** above.
- 19) Refit the channel selector and volume knobs and re-attach the antenna.
- 20) Refit the radio battery.

3. Post Upgrade Radio Test

Basic Radio Testing

- 1) Check the radio still powers on and the programming database has not been corrupted.
- 2) Into a Test-set or other appropriate test equipment, check the radios transmit power. Is the output power still present and as first calibrated? (High power settings 4W UHF, 5W VHF, 3W 800/900MHz)
- 3) Check the radio's deviation. Is the transmit audio still at an acceptable level to the user? (2.5kHz N/B , 5kHz W/B)
- 4) Does the receiver still work correctly? Does it mute and un-mute with a 1kHz signal injected into the antenna test lead at -117dBm to -120dBm.
- 5) Does the audio quality still sound acceptable?
- 6) Do the PTT and function buttons still work?
- 7) Do the channel selector and volume knobs still work correctly?

Compliance

Currently the new Green chassis is not approved for IS use. Please do not upgrade any IS radio with the new chassis until such a time that the new green chassis is put into mainstream IS hand-portable production.

CSO Instruction

Please ensure these instructions are followed by all those who are to undertake a chassis upgrade.

4. Issuing authority

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