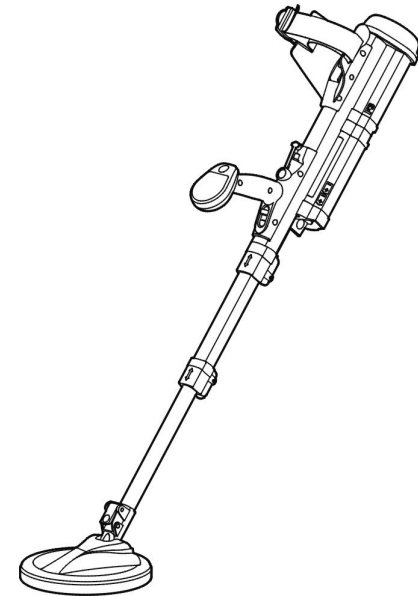


F3 OPERATOR TRAINING



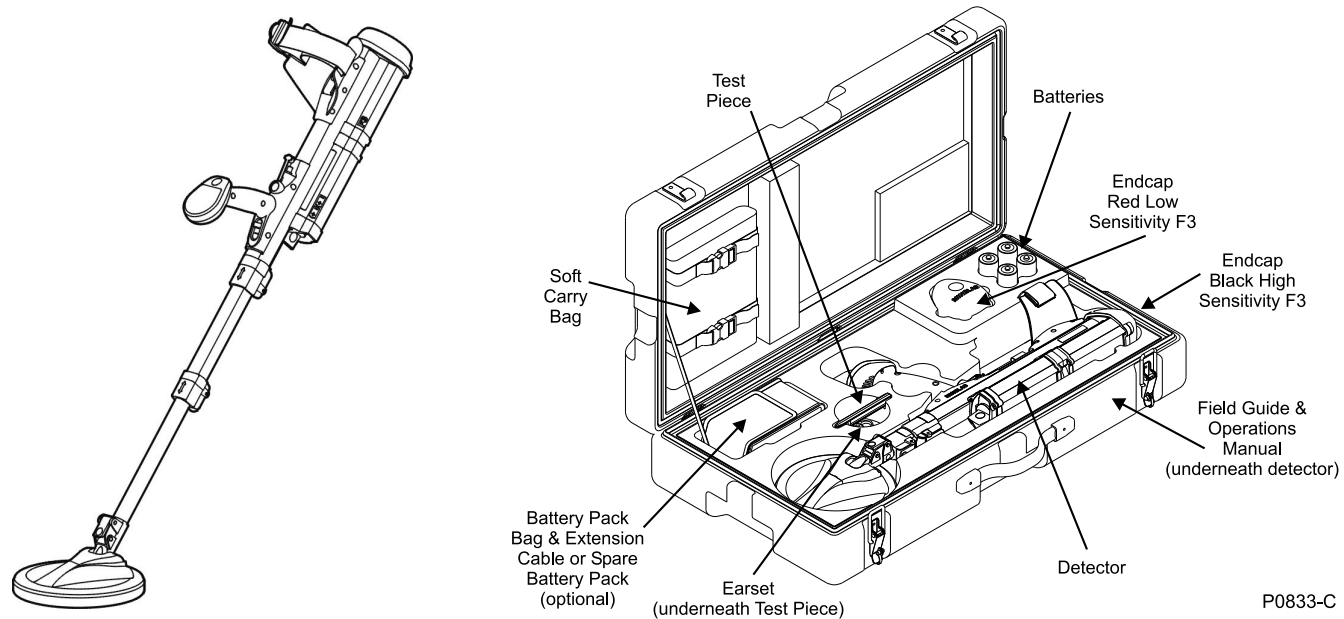
Introduction

- Lesson 1: General Description & Preparation
- Lesson 2: Functional Description
- Lesson 3: Operating Procedures
- Lesson 4: Care & Trouble Shooting



Operator Confirmation Exercise

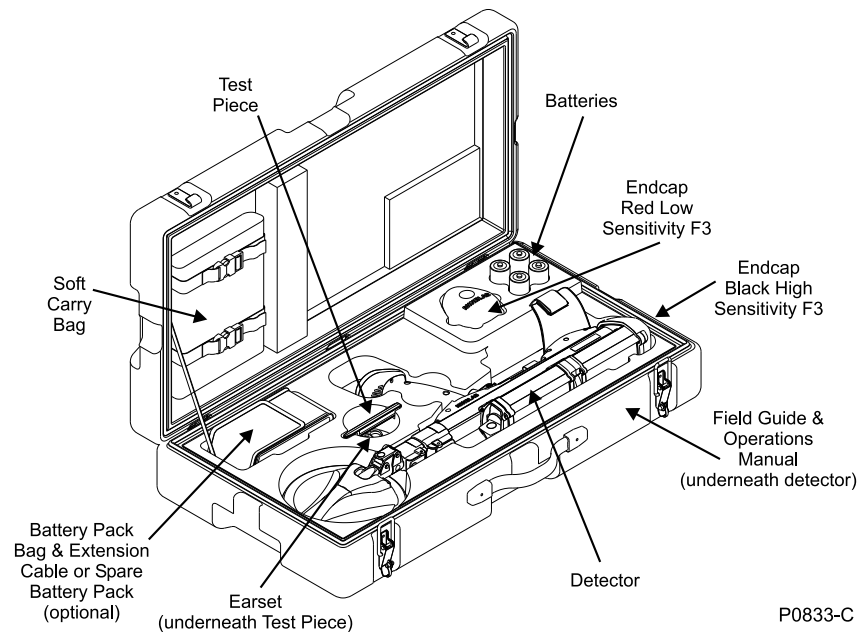
Lesson 1: General Description & Preparation



Specifications

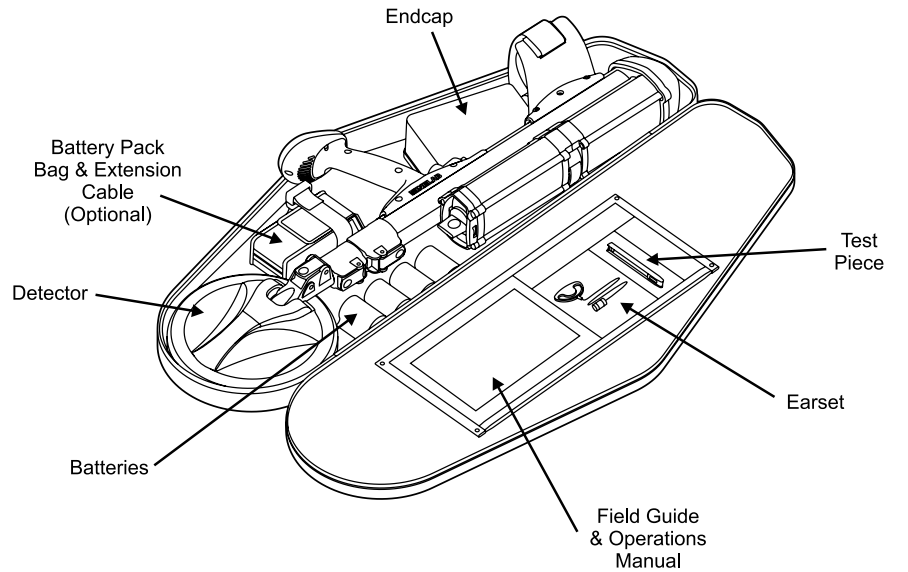
Packed Length:	760mm/30ins
Operating Length:	750mm/29.5ins to 1510mm/59.5ins
Operating Weight:	3.2kg/7lbs (with batteries)
Operating Weight:	2.3kg/5lbs (less Battery Pack)
Shipping Weight:	12.6/28lbs (in Hard Case)
Transmission:	Bi-polar Pulse Induction
Operating Temp:	-30 deg C to 60 Deg C
Water Proof:	IP67
Battery Supply:	4 x D cell (LR 20) High Quality Alkaline Rechargeable

Mine Detecting Set



- Hard Case
- Detector
- Soft Carry Bag
- Earset
- Red – Low Sensitivity Endcap
- Four D Cell Batteries
- Battery Pack Bag & Extension Cable (Optional)
- Test Piece
- Operations Manual
- Field Guide

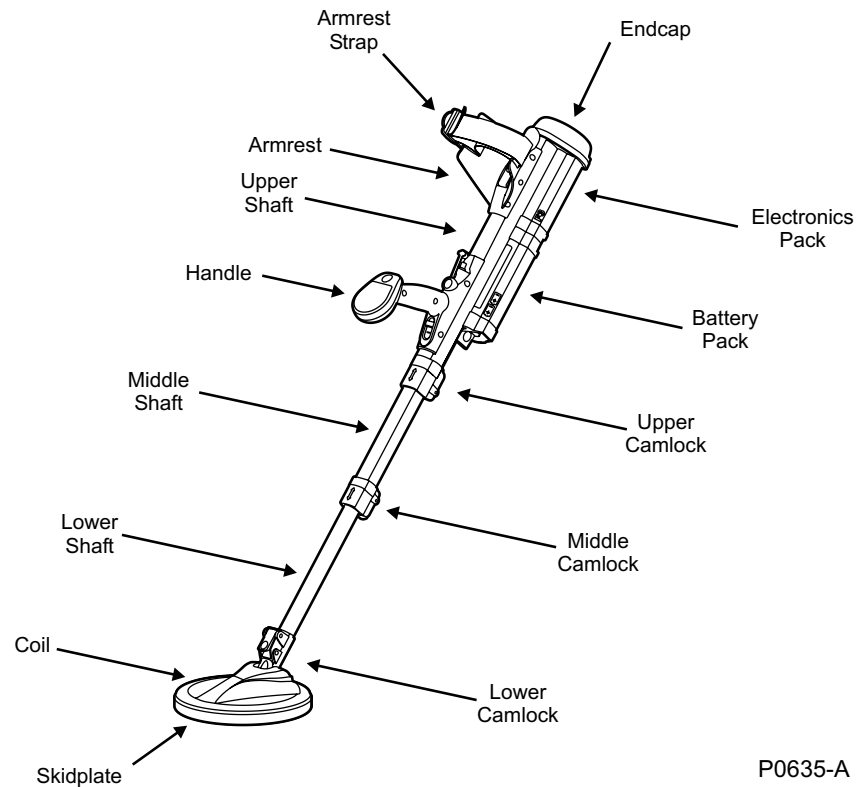
Soft Carry Bag



P0636-B

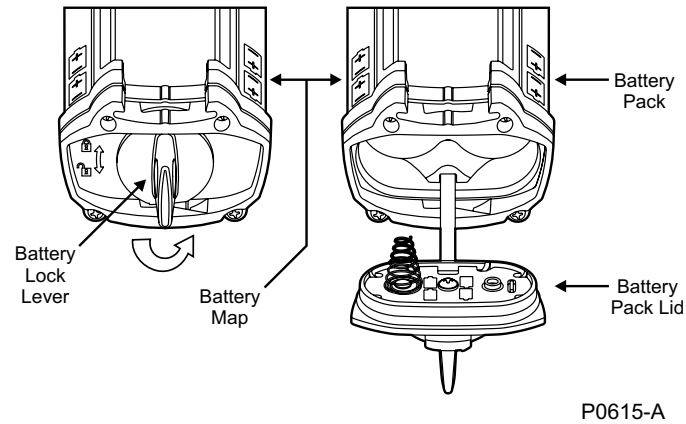
- Detector
- Earset
- Endcap
- Four D Cell Batteries
- Battery Pack Bag & Extension Cable (Optional)
- Operations Manual
- Field Guide
- Test Piece

F3 Major Components

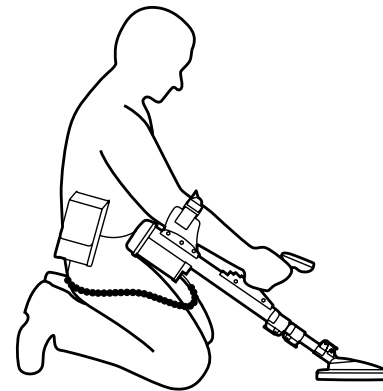
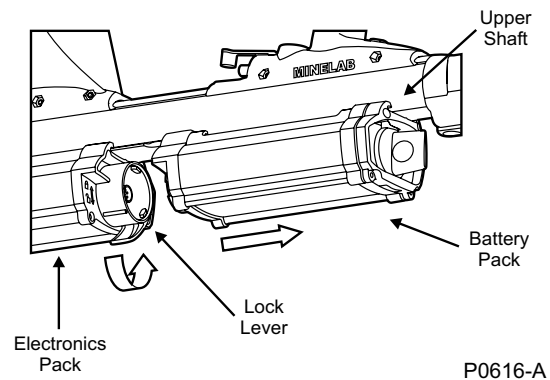


- Endcap
- Armrest and Strap
- Electronics Pack
- Battery Pack
- Upper, Middle & Lower Shafts
- Handle
- Upper, Middle & Lower Camlocks
- Coil
- Skid Plate

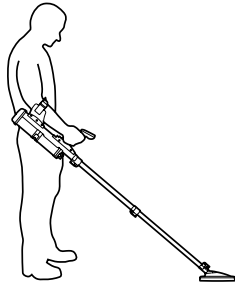
F3 Preparation



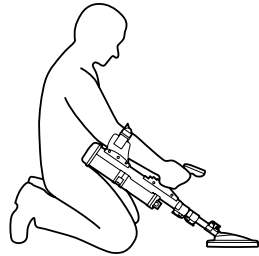
- Open Hard Case or Soft Carry Bag
- Remove F3 – inspect for damage
- Check correct Endcap fitted
- Insert Batteries (separate Battery Pack if required)



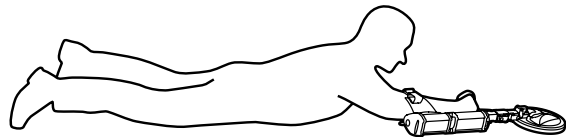
F3 Preparation



P0618-A

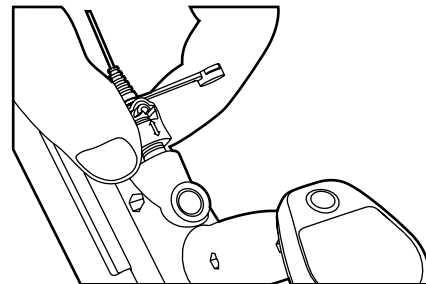
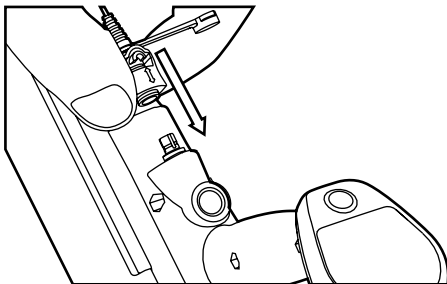


P0619-A



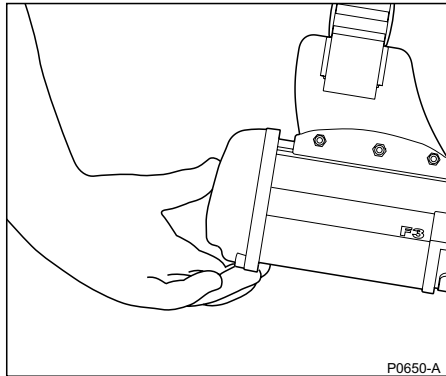
P0620-A

- Extend Middle & Lower Shafts to suit demining position
- Connect Earset
- Adjust Armrest as required

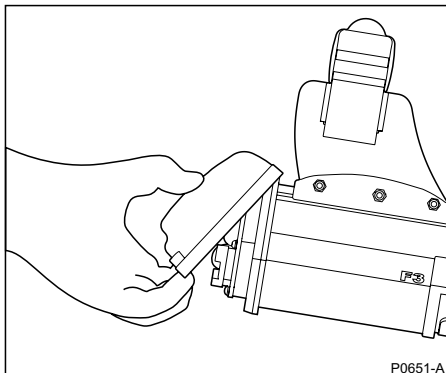


P0638-B

Changing Endcaps

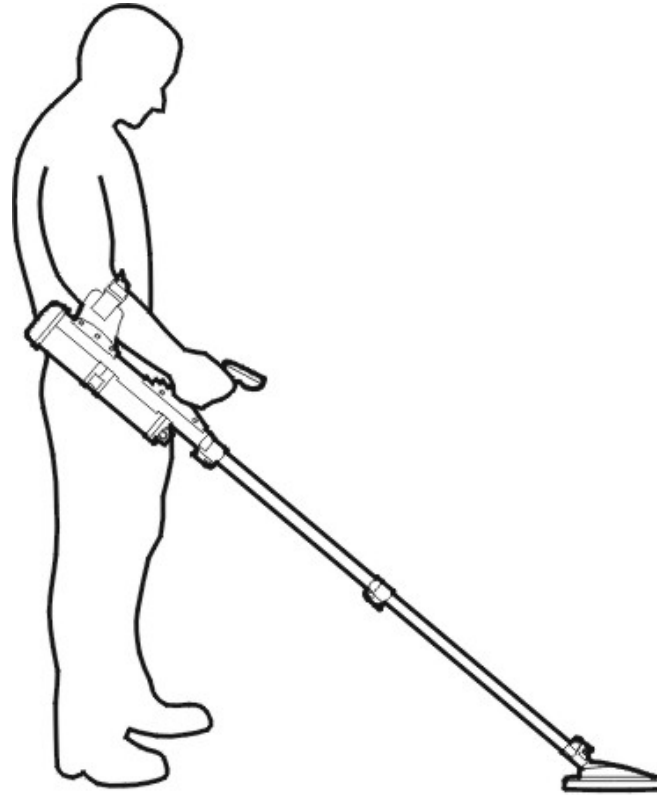


- Ensure F3 switched off
- Use thumb and fingers
- Gently remove Endcap



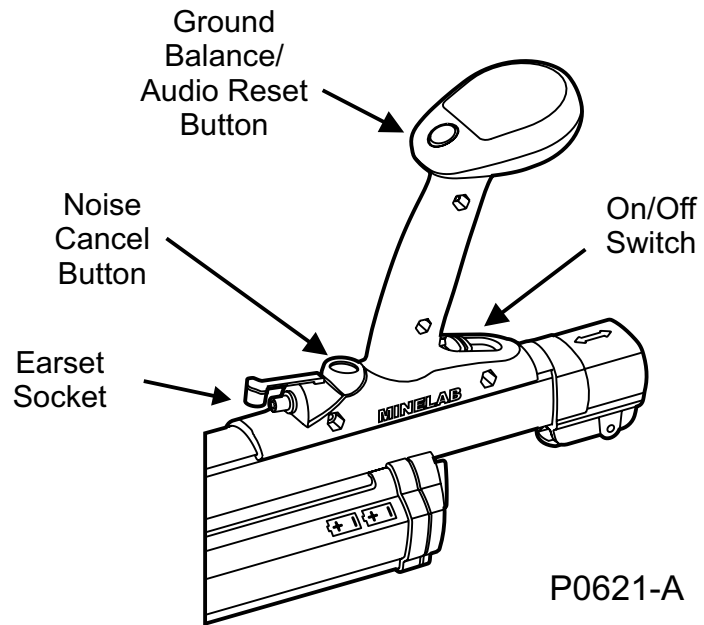
- BLACK ENDCAP –
Maximum Sensitivity
- RED ENDCAP –
Minimum Sensitivity

Lesson 2: Functional Description



P0618-A

Functional Controls



- On/Off Switch
- Ground Balance/Audio Reset Button
- Noise Cancel Button
- Earset Socket

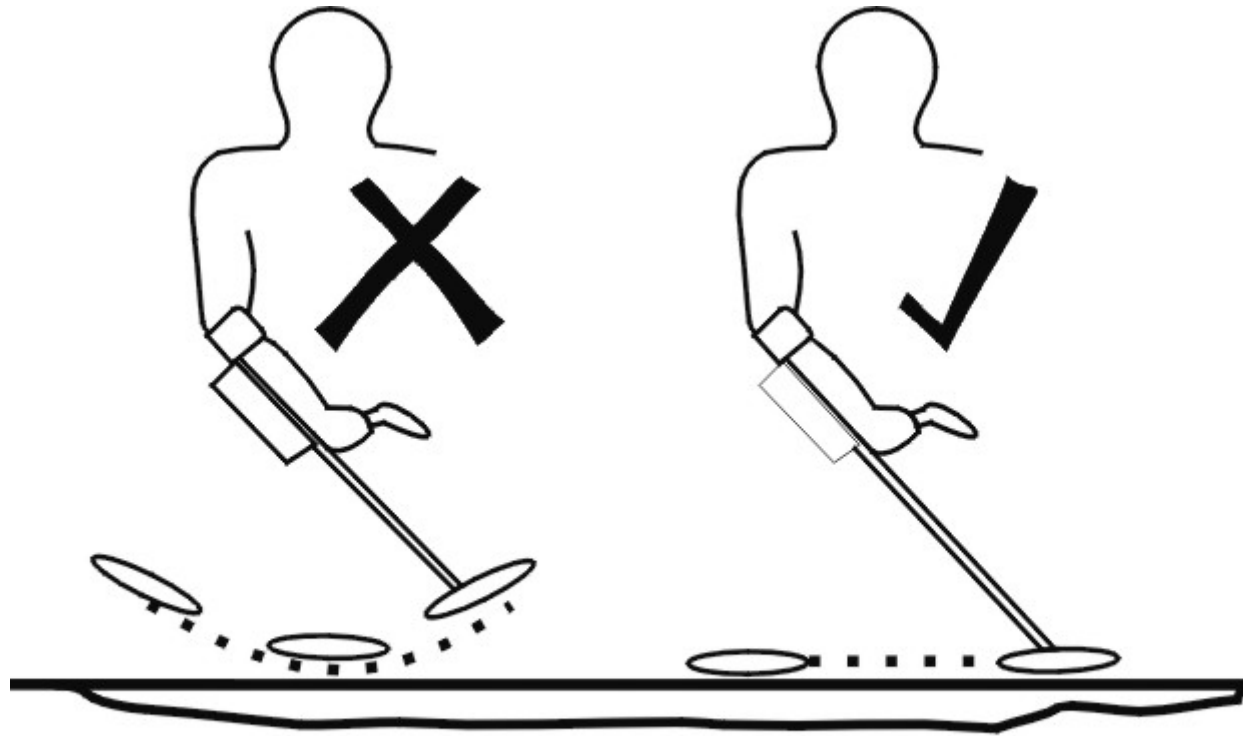
Functional Tones

Tones	Event	Description
Start-Up	Internal checks when the F3 is switched on	Four rising tones over 12 seconds
Threshold	Signifies correct operation of detector	Steady low volume continuous tone
Target	Indicates metal target detected	Increases volume (compared to Threshold Tone) and high or low pitch depending on target metal composition and depth
Low Battery	Indicates batteries do not have enough charge to continue detection	High pitched fast oscillating tone

Functional Tones

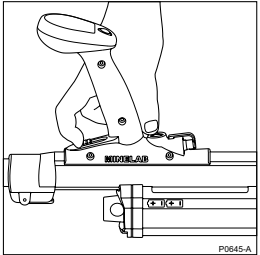
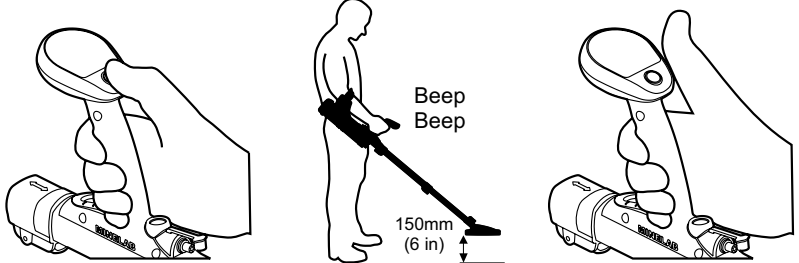
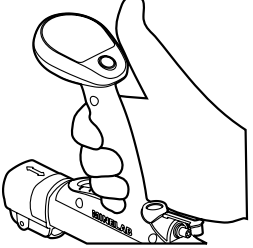
Tones	Event	Description
Equipment Fault	Indicates failure of detector component or dislodged RED Sensitivity Endcap	Low pitched fast continuous oscillating tone
Coil Fault	Indicates coil not connected or not receiving sufficient current	Low pitched slow oscillating tone (ee-aww, ee-aww)
Noise Cancel	Indicates Noise Cancel procedure working	Two single beeps followed by 45 seconds of short double beeps finishing with four single beeps

Lesson 3: Operating Procedures

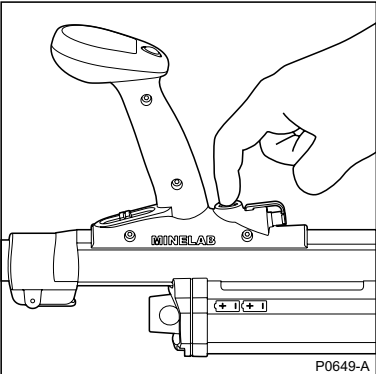
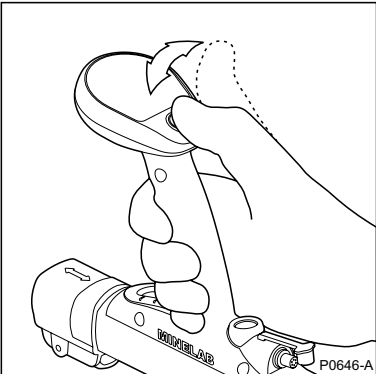


P0624-A

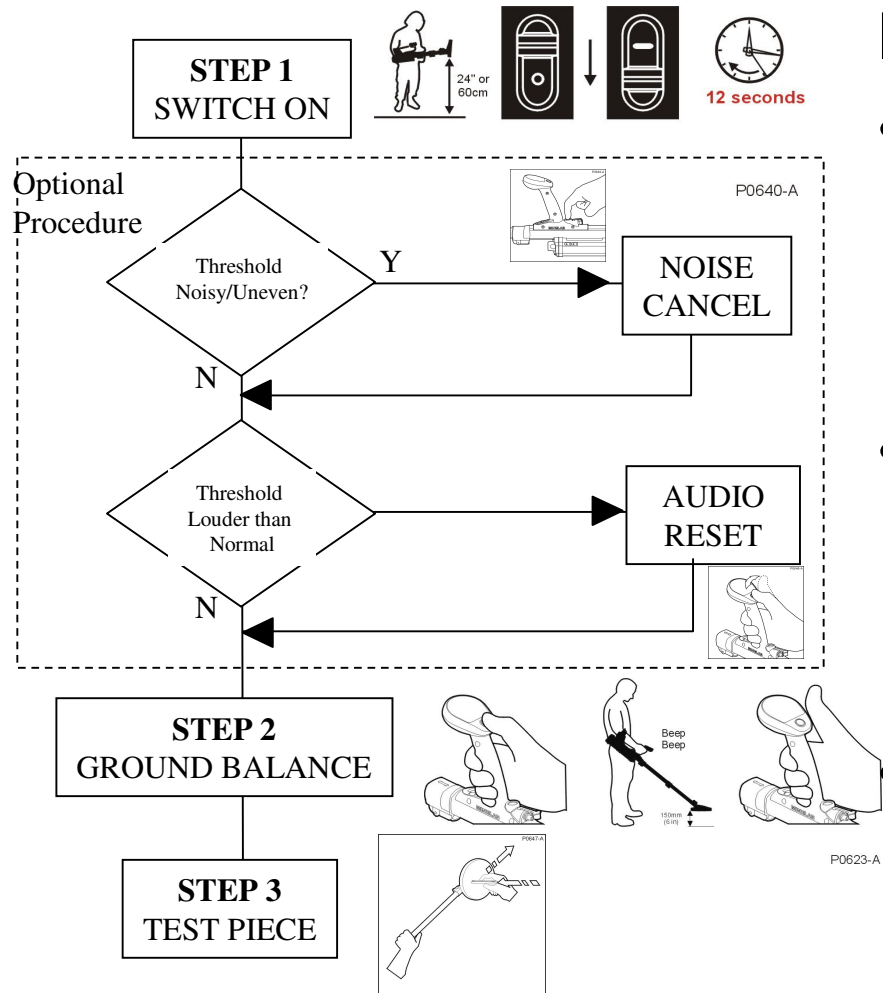
Standard Procedure

<p>STEP 1 SWITCH ON</p>	<p>Hold Coil at least 600mm (24ins) from ground and away from metallic objects</p>	 <p>P0645-A</p>
<p>STEP 2 GROUND BALANCE</p>	 <p>Beep Beep</p> <p>150mm (6 in)</p> <p>P0623-A</p>	
<p>STEP 3 TEST PIECE</p>	<p>BLACK END CAP Test Piece "Away" from Coil</p> <p>RED END CAP Test Piece "Toward" Coil</p>	 <p>P0647-A</p>

Optional Procedure

<p>Noise Cancel</p> <p>Threshold Tone noisy or uneven when Coil is stationary</p>	<p>Hold Coil at least 600mm (24ins) above ground and away from metallic objects</p> <p>Press & Release Noise Cancel Button (Black Button)</p>	
<p>Audio Reset</p> <p>Threshold Tone sounds louder than normal</p>	<p>Hold Coil at least 600mm (24ins) above ground and away from metallic objects</p> <p>Press & Release Ground Balance Button (Green Button)</p>	

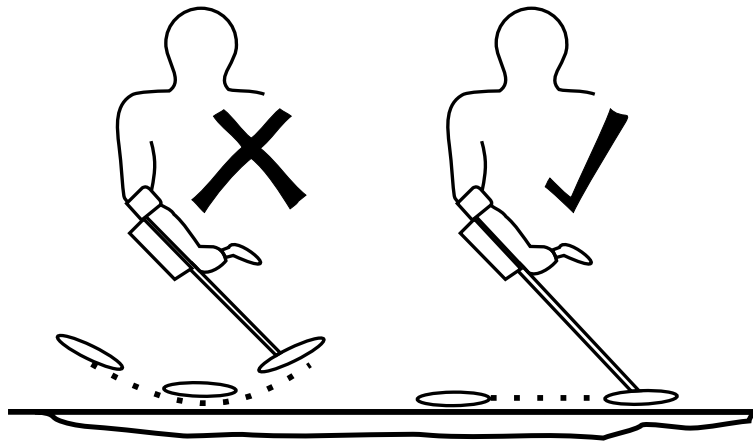
Summary of Procedures



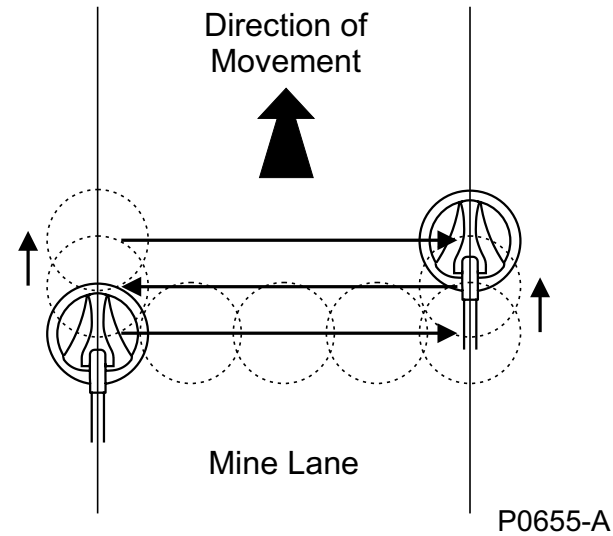
Notes:

- Optional Procedure can be performed at any time during operations but F3 cannot be used for detection of targets
- After STEPS 1, 2 & 3, F3 remembers Ground Balance setting even after being switched off
- After Noise Cancel F3 remembers frequency to minimise interference even after being switched off

Sweeping Procedure



P0624-A

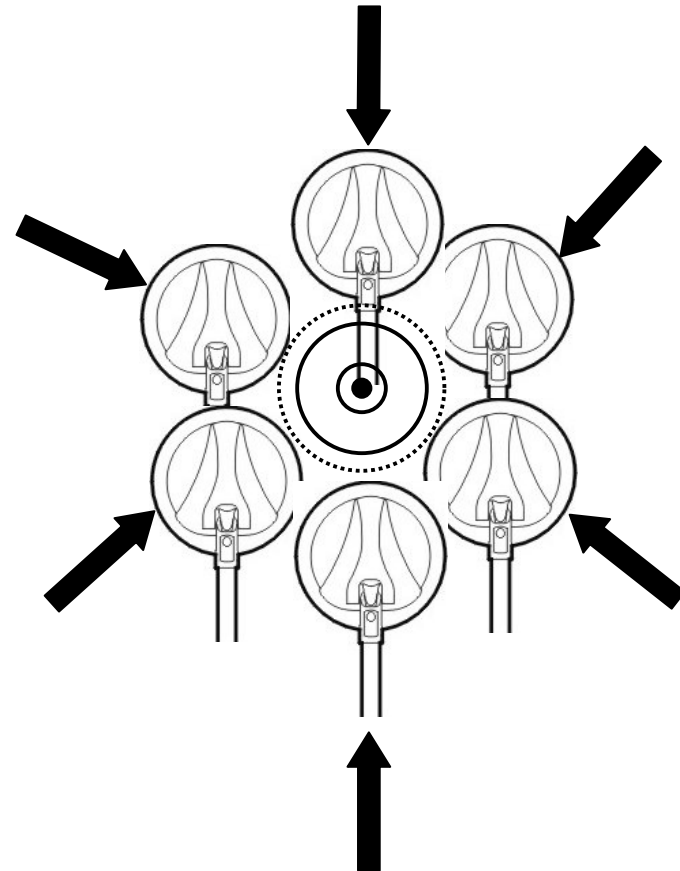


P0655-A

Pin-Pointing Procedure

STEP 1: Mapping the Target

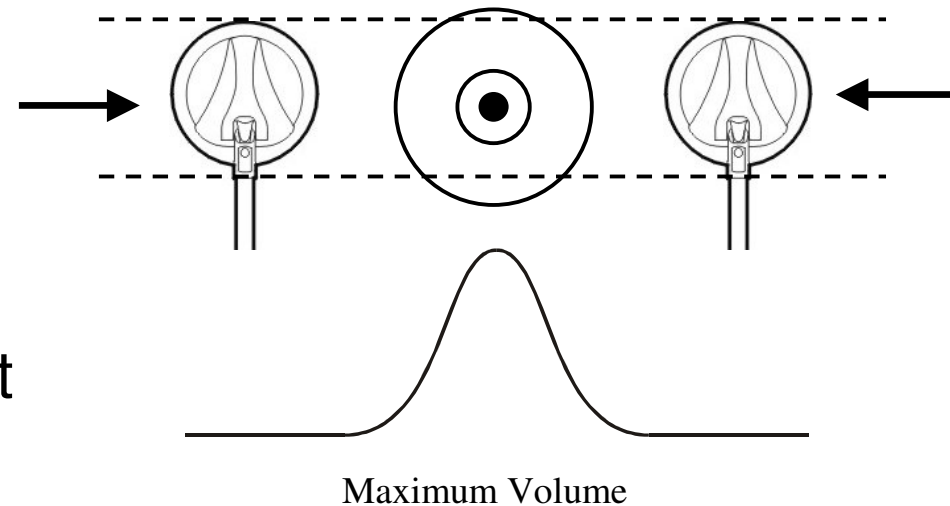
- Edge Detection Technique
- Threshold Tone change indicates close proximity to target
- Achieve “mental” image of suspicious area



Pin-Pointing Procedure

STEP 2: Determine Centre of Target

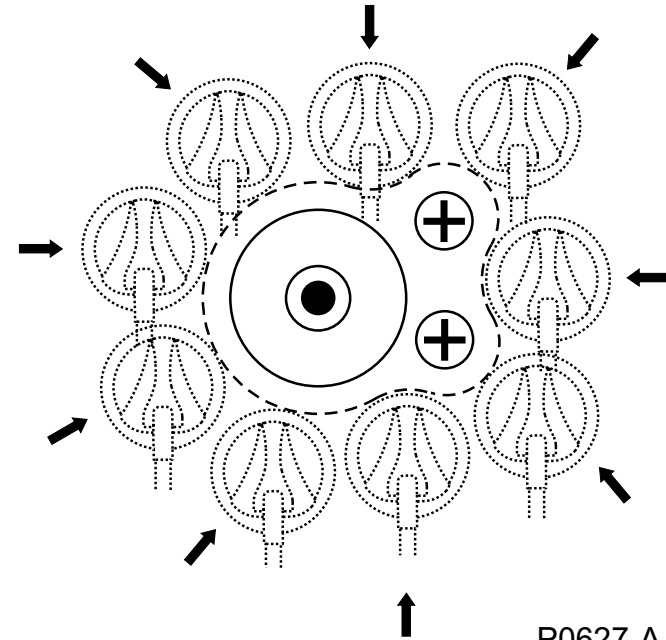
- Slowly move coil left and right over suspicious area
- Maximum volume is approximate centre of target



Multiple Targets

STEP 1: Mapping the Target

- Edge Detection Technique
- Threshold Tone change indicates close proximity to target
- Achieve “mental” image of suspicious area

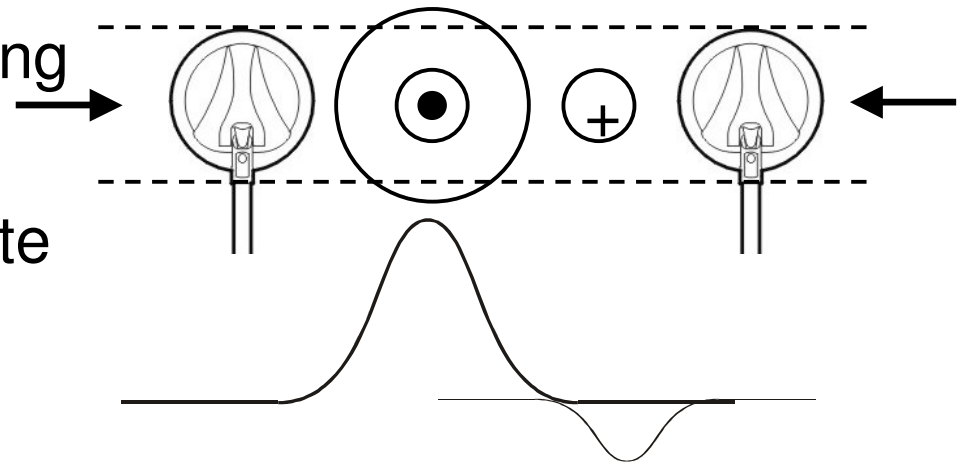


Note: Volume from large target may mask volume of small target

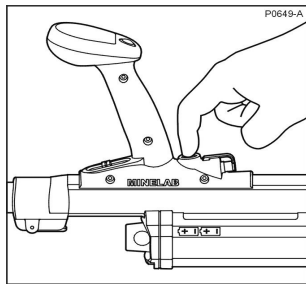
Multiple Targets

STEP 2: Determining the Centre

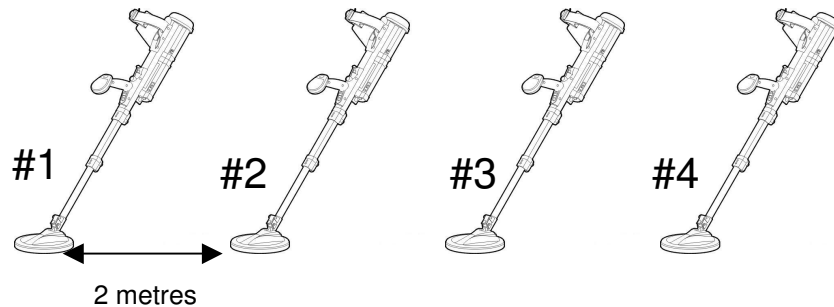
- Pitch will rise or fall depending on combination of metals
- Changes in tone may indicate multiple targets



Detectors in Close Proximity



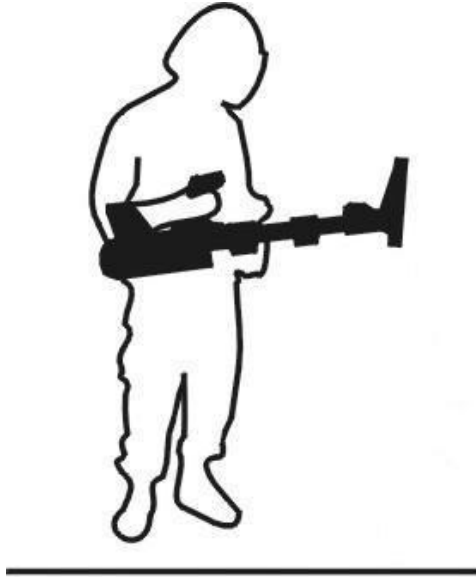
NOISE CANCEL



- All detectors switched off, switch on #1
- Conduct Noise Cancel on #1
- Leave #1 switched on and switch on #2
- Conduct Noise Cancel on #2
- Continue process

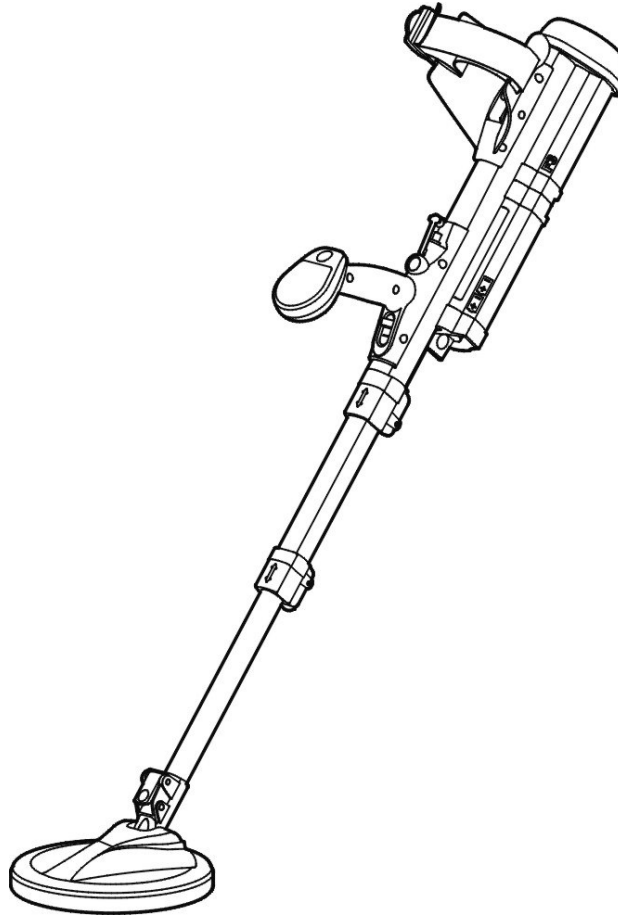
Note: Under normal circumstances, F3 detectors can operate within 2m (7feet) of each other

Completion of Operations



- Conduct Test Piece Test
- Turn F3 Off
- Clean detector and inspect for signs of damage
- Remove batteries
- Disconnect Earset
- Retract middle and lower shafts
- Stow in Hard Case
- Check all equipment correctly packed

Lesson 4: Care & Trouble Shooting



Routine Care

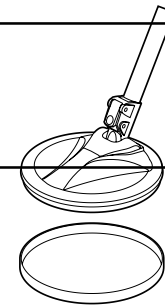
During rest periods, if possible, shelter detector from direct sun, rain, snow etc

Before packing and with the F3 fully extended, all shafts should be wiped with a damp clean cloth to remove dirt and dust

Do not use solvents. If the detector comes into contact with solvents (including salt water) clean with fresh water and a dry clean cloth

Ensure F3 dry before packing

Ensure batteries are removed before packing



P0654-A

Replace skid plate as necessary to ensure protection of coil surface

Trouble Shooting

Problem	Recommended Procedure
F3 will not switch On	<ol style="list-style-type: none">1. Check batteries have been inserted correctly2. Replace batteries3. Remove Battery Pack and reconnect4. Exchange Battery Packs
After switching On there is a very loud noise	<ol style="list-style-type: none">1. Ensure Lower Shaft is extended at least 100mm (4ins) beyond Middle Shaft2. Conduct Audio Reset
After switching On the Threshold Tone varies in pitch and volume even though the coil is stationary	<ol style="list-style-type: none">1. Conduct Noise Cancel

Trouble Shooting

Problem	Recommended Procedure
There is no sound from the Earset	<ol style="list-style-type: none"> 1. Disconnect and reconnect the Earset 2. Try a serviceable Earset (if problem solved original Earset is faulty)
There is no sound from the Speaker	<ol style="list-style-type: none"> 1. Switch Off and On 2. Disconnect Earset, Switch Off and On
The Start Up Tones keep repeating	<ol style="list-style-type: none"> 1. Replace batteries
Cannot hear Test Piece with RED Endcap	<ol style="list-style-type: none"> 1. Repeat Test and ensure metal in Test Piece is pointed toward the coil surface
Cannot hear Test Piece with BLACK Endcap	<ol style="list-style-type: none"> 1. Ensure that the detector has been switched on for at least 30 seconds.



This is to certify that



is a qualified operator of the

***MINELAB F3 METAL MINE
DETECTOR***

MINELAB ELECTRONICS PTY LTD

Signed Dated.....