



INTERNATIONAL

Ⓢ DELACHAUX GROUP

REARGUARD

SECONDARY WARNING SYSTEM

Course Plan & Timetable

This course is designed to hold a minimum of 6, and a maximum of 12 delegates:

1. Introduction, registration, & safety brief (fire alarm test etc)	10 minutes
2. Aim of Objectives of the Training Session	5 minutes
3. The difference between Primary & Secondary Warning?	5 minutes
4. Vortok Rearguard Kit	10 minutes
5. Pre User Checks	10 minutes
6. Setting Up the Warning Device in the Worksite (video)	15 minutes
7. Maintenance & Storage	5 minutes
8. Demonstration & Practical Assessment	20 minutes
9. Feedback and Questions	10 minutes

Aims & Objective

1. Understand the concept of Primary & Secondary Warning
2. Understand the conditions of using the Vortok Rearguard System
3. Install, Commission and Decommission the Unit
4. Maintenance & Care
5. Read & Understand the User Operations Manual

Primary Protection & Secondary Warning

- **Primary Protection** is an action to prevent an outcome happening.
 - Primary Protection is a control
- **Secondary Warning** is an action that only happens should the event being prevented against actually occurs:
 - Secondary Warning is a mitigation
 - Secondary Warning will not stop the action which creates the hazard occurring

RearGuard

The Vortok Secondary Warning System will provide worksite protection within an engineering possession.

The device is designed to alarm when any vehicle encroaches within 200m of the protected site.

The Equipment

1. Alarm Box
2. Trigger Unit
3. Cable Reels
4. Bracing Bars



Health & Safety

- PPE TO BE WORN AT ALL TIMES
- ENGINEERING POSSESSION USAGE ONLY
- BOTH REELS FULLY EXTENDED TO 200m = 10 SECONDS OF WARNING TIME
- EAR PROTECTION DURING SETUP 120db
- DISTANCE FROM WORK GROUP 25m MAX
- BE AWARE OF TRIPPING WALKING IN CESS
- SPEND MINIMUM TIME IN 4 FOOT

Health & Safety

- BEWARE OF SHARPS, SLIPS, TRIPS & FALLS
- BEWARE OF PASSING TRAFFIC ON ADJACENT LINE
- UNIT WEIGHT:
 - ALARM UNIT WITH TREADLE 9.1KG
 - ALARM UNIT 5.7KG
 - TREADLE UNIT 3.4KG
 - 100M CABLE RELL 5KG
- AVOID LAYING CABLE WHERE IT WILL CREATE A TRIPPING HAZARD

Pre-user Checks Alarm Unit

- INSPECT CONTAINER FOR DAMAGE
- CHECK STROBES AND L.E.D. PANEL
- CHECK SOUNDER GRILLS
- CHECK EXTERNAL ELECTRICAL CONNECTOR
- OPEN TOP COVER AND SET ISOLATOR SWITCH TO ON
- CHECK BATTERY POWER DISPLAY (GREEN LIGHTS)

Pre-User Checks

Trigger Unit

- INSPECT THE EXTERIOR FOR DAMAGE
- CHECK THE TREADLE ARM FOR FREE OPERATION
- RELEASE THE SHOT BOLT AND CHECK OPERATION OF THE SPRUNG FOOT
- CHECK LIMPET MAGNETS ARE SECURE
- CHECK RAIL HEAD MICRO SWITCH AND L.E.D.
- CHECK FLY LEAD AND CABLE CONNECTOR

Pre-User Checks

Cable Reels & Bracing Strut

- CHECK CONNECTORS AT CABLE ENDS
- CHECK CABLES FOR DAMAGE, CUTS AND ABRASIONS
- INSPECT REEL FOR DAMAGE/FREE OPERATION
- SET REEL BRAKE FOR CONTROLLED UNWIND
- ENSURE STRUT IS FREE FROM DAMAGE
- CHECK RUBBER FOOT

Set Up

- PLACE ALARM UNIT ON THE SLEEP SHOULDER WITHIN 25m OF WORK GROUP
- SET ISOLATOR SWITCH TO “ON” (*INTERNAL SOUNDER WILL CHIRP*).
- SECURE TOP COVER WITH PADLOCK WHICH MUST BE RETAINED BY THE COSS (Padlock not included)
- PASS CABLE FROM REEL UNDER RAIL
- CONNECT CABLE END TO CONNECTOR ON FRONT OF BOX (*INTERNAL SOUNDER WILL WARBLE 1 SEC*)
- BATTERY CONDITION LIGHT ON

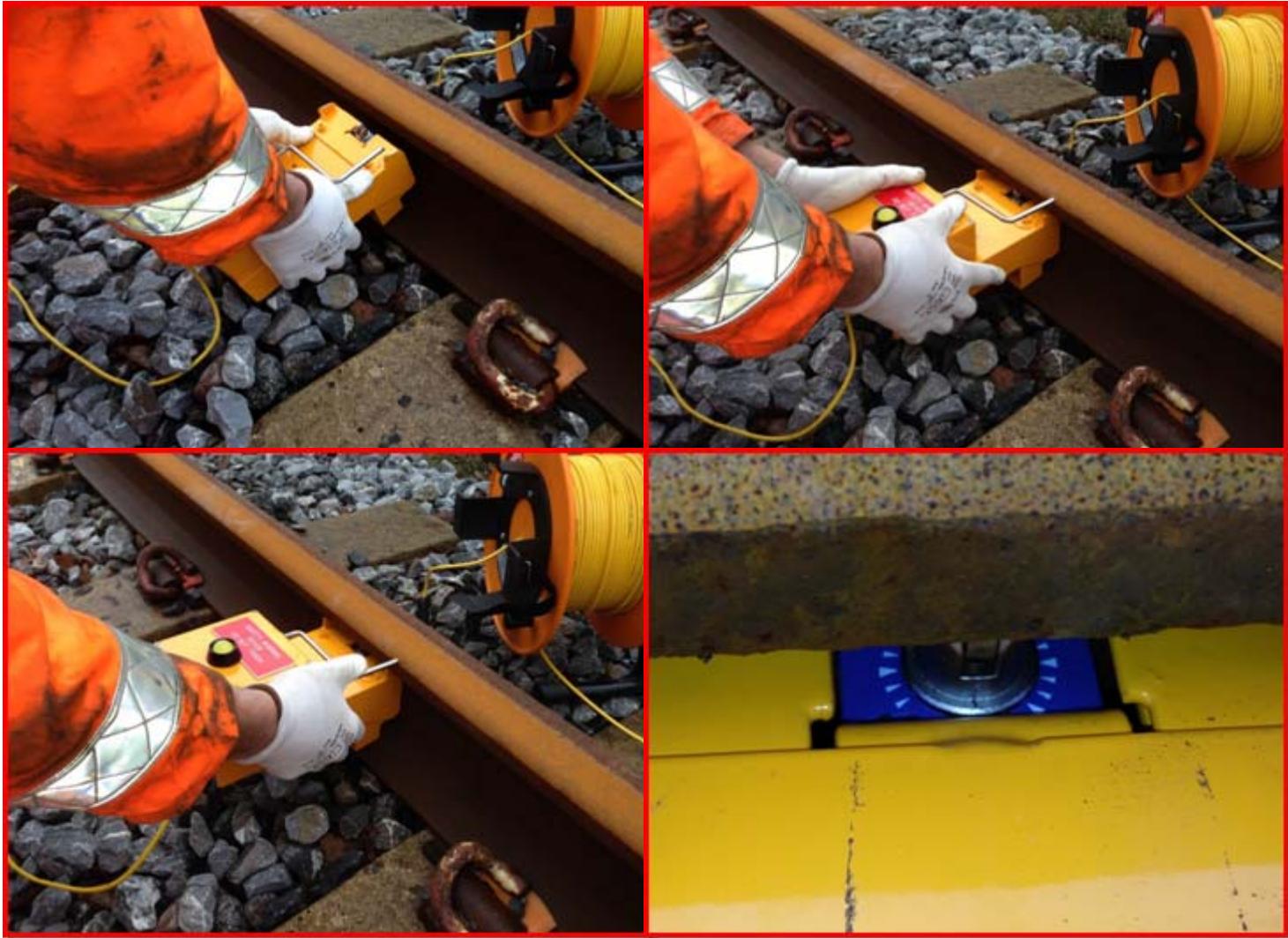
Set Up

- COLLECT BOTH CABLE REELS, TRIGGER UNIT AND BRACING BAR
- IN THE CESS, WALK FROM THE ALARM UNIT (UP THE GRADIENT) STEADILY UNREALING THE CABLE
(USE BRAKE ON REEL TO CONTROL RUN OUT)
- AT 100m CONNECT THE SECOND CABLE
- CONTINUE UNREELING WALKING AWAY FROM THE WORK SITE
- WHEN CABLE IS FULLY EXTENDED TO 200m *(10 SEC WARNING TIME AT 40 MPH)*

Set Up

- SELECT A SUITABLE LOCATION FOR THE TRIGGER UNIT ON THE INSIDE OF THE RUNNING RAIL (*FREE FROM WELDS OR ROLLING MARKS*)
- LOCATE THE SPRUNG FOOT AGAINST THE RAIL FOOT AND COMPRESS DOWNWARDS
- ROTATE THE UNIT INWARDS TOWARDS THE RAIL WEB UNTIL THE LIMPET MAGNETS MAKE CONTACT.
- RELEASE THE SPRUNG FOOT (*THE DEVICE WILL RISE UPWARDS*)

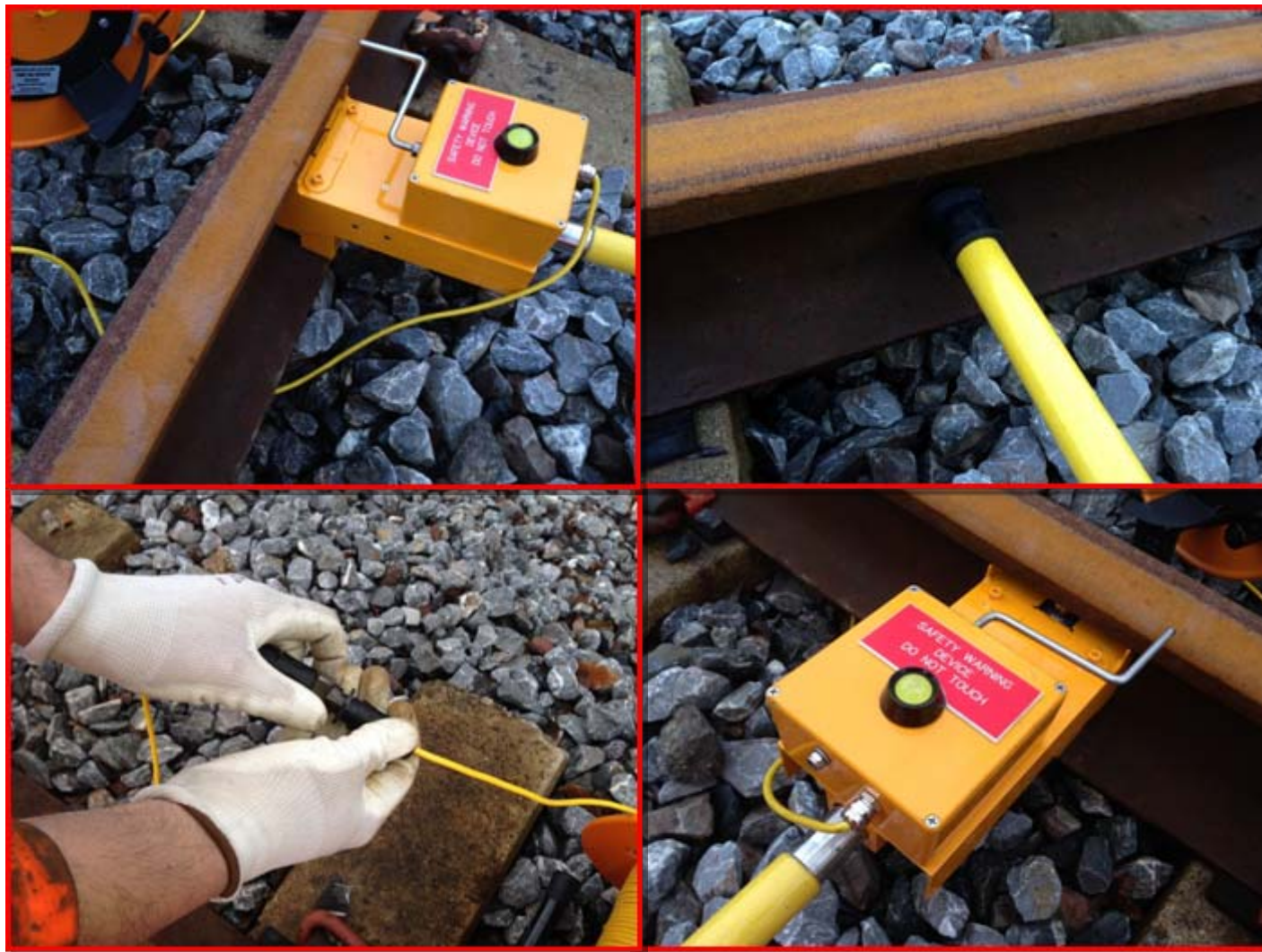
Set Up



Set Up

- ENSURE THAT THE RAIL HEAD MICRO SWITCH HAS BEEN DEPRESSED
- ENSURE THE TREADLE ARM IS CORRECTLY LOCATED (*CLEARANCE*)
- PASS THE FLY LEAD UNDER THE RAIL
- INSTALL THE BRACING STRUT
- STEP OUT OF THE 4 FOOT INTO THE CESS
- CONNECT THE FLY LEAD TO THE CABLE REEL
- CHECK L.E.D. 0.5 SEC FLASH ON THE TRIGGER UNIT & CHECK STROBE LIGHTS FLASHING ON THE ALARM BOX

Setup



Arming The System

- OPERATE THE TREADLE ARM TO ACTIVATE THE INTERNAL MICRO SWITCH
- THE L.E.D. FLASH RATE WILL CHANGE TO ONE EVERY SECOND
- AT THE ALARM BOX THE SOUNDERS WILL PULSE 10 TIMES TO INDICATE ARMING IN PROGRESS
- WHEN ARMED THE RED L.E.D. AND YELLOW L.E.D. ON THE ALARM BOX WILL FLASH EVERY 5 SECONDS
- A COMFORT TONE WILL PULSE EVERY 5 SECONDS

Alarm Condition

THE EQUIPMENT WILL **FAIL SAFE** AND AN ALARM CONDITION WILL OCCUR WITH ANY OF THE FOLLOWING

- IF THE TREADLE ARM IS OPERATED BY A WHEEL FLANGE
- IF THE TREADLE ARM IS OPERATED MANUALLY
- IF THE TRIGGER UNIT IS DISENGAGED FROM THE RAIL
- IF THE CABLE IS DISCONNECTED AT ANY POSITION
- IF THE CABLE IS CUT
- IF THE BATTERY LEVEL FALLS (INDICATED BY THE RED LED LIGHTS)

Alarm Condition

WHEN THE ALARM IS ACTIVATED ALL
PERSONEL SHOULD MOVE IMMEDIATELY TO
A POSITION OF SAFETY

Equipment Recovery

- DISCONNECT THE CABLE FROM THE ALARM UNIT
- WALK TO THE TRIGGER UNIT AND DISCONNECT THE FLY LEAD
- STEP INTO THE 4 FOOT AND REMOVE THE BRACING STRUT
- REMOVE THE TRIGGER UNIT AND STEP OUT OF THE 4 FOOT
- REWIND THE CABLES WHILST WALKING BACK TO THE WORKSITE
- COLLECT THE ALARM UNIT
- OPEN TOP COVER OF THE ALARM UNIT AND SWITCH OF THE POWER

Maintenance

Battery Charging

- MAINS CHARGER
- VEHICLE CHARGER
- CHARGER SOCKET INSIDE TOP COVER
- CHARGING TIME 4 HOURS
- CHARGE EVERY 6 MONTHS WHEN IN STORAGE
- TOTAL BATTERY LIFE WHEN ARMED 48 HRS.

Storage

- CHECK REELS AND TIGHTEN BRAKE PAD
- ENSURE CABLES ARE REELED CORRECTLY AND SECURE CABLE ENDS
- OPEN TOP COVER AND ENSURE IS POWER OFF
- ENSURE FREE FROM MOISTURE
- STOW TRIGGER UNIT INSIDE ALARM BOX
- CLOSE AND SECURE TOP COVER **USING PADLOCK**



VORTOK REARGUARD

SECONDARY WARNING SYSTEM