



## IRATA SAFETY BULLETIN SB17

# Abseil incident – operator error

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Status	Report following an operating member's report

### 1 The incident

- 1.1 At the end of the working day, the injured person (IP), an IRATA Level 2 with four years experience, descended 2m without any problems to carry out work. On completing this work, he unlocked his Petzl I'D descender and the working line came out of the descender.
- 1.2 The Petzl Shunt back-up device did not engage on the safety line. It is thought that the IP failed to release the cord and towed it to the ground from a height of more than 7 m.
- 1.3 The fall resulted in a fracture of the heel and a compressed fracture to vertebrae, along with friction burns to the fingers. The IP was hospitalised for three days and was unable to work for several months
- 1.4 The company was in the process of changing to Petzl I'D descenders from Petzl Stop descenders. The IP had been issued with the I'D descender about a month before the incident. It should be noted that the safety catch is of a similar type on both descenders.

### 2 Incident analysis

- 2.1 It is likely that the side plate of the descender was not closed properly when installed on the rope in the first instance. The IP unweighted or otherwise manoeuvred the descender at the worksite 2 m down, allowing the rope to come out of the descender when unlocked and beginning the second part of the descent.

There are a number of factors which may have influenced this:

- pre-descent check of equipment, including the catch on the side plate of the descender, not carried out properly;
- level of concentration;
- fatigue;
- operative training;
- level of supervision
- familiarity with equipment;
- environmental factors such as noise or light levels.

#### 2.2 Secondary cause: back-up system did not operate to prevent the fall

There are a number of factors which may have influenced the secondary cause. See IRATA ICOP section 2.7.1 and 2.7.7, and below:

- method of use/ operation;
- most of the points listed under 2.1, factors which may have influenced failure of primary system;
- selection of equipment;
- type of back-up device;
- length and type of device lanyard (cow's tail) and point of attachment to the harness.

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### 3 Suggested additional control measures to protect against this type of incident occurring again

3.1 As part of a pre-descent check of the complete system, all descenders should have a visual and audible check to ensure that they are installed correctly on the rope and are functioning correctly.

3.2 All users of Shunts should be made aware during training of methods of use and possible misuse, including:

- a) type and configuration of Shunt cord;
- b) length/type of device lanyard (cow's tail) and attachment to harness;
- c) chosen method of operation.

*NOTE The chosen method of operation should not impede the functioning of the back-up device in case of any working line problem.*

3.3 Failure to let go of the Shunt cord when necessary is foreseeable misuse. IRATA Code of Practice section 2.7.7 prompts users to assess likelihood of foreseeable misuse and put in suitable control measures.

3.4 Reference should be made to the manufacturer's website and equipment user information.

*NOTE This information does not reflect the use of a Petzl Shunt as a back-up device in rope access. In May 2009, a Petzl specialist statement for the Shunt (on IRATA website) states that this use falls outside the general instructions issued. Petzl say "Responsibility for use of a product outside the recommendations of the manufacturer remains with the user and employer".*

### 4 Further considerations

4.1 The Petzl website has a warning of potential for accidental opening of the side-plate on Stop or I'D descenders when the device is not fully loaded.

"It is possible for other elements of the user's system (e.g. rope, CROLL or maillon rapide) to be positioned in such a way as to push on the safety catch and open the side plate. Always take care to prevent elements of your system and other objects from coming into contact with the safety catch."

4.2 Alternate operation of the Shunt and descender probably would have prevented this incident occurring. This practice may be appropriate for regular work depending on the type of job, although some companies may regard it as impracticable for all situations.

4.3 An assessment should be carried out before each job to select the most appropriate equipment to be used; in this case a back-up device. (see ICOP 2.7.1 & 2.7.7).

The IRATA website has both a specialist statement on use of the Shunt in rope access from Petzl and a safety notice on Shunt Guidance from IRATA (see IRATA website 'Technical Information' and 'Safety Notices'). [http://www.irata.org/safety\\_notices.htm](http://www.irata.org/safety_notices.htm)

### 5 Summary of standard operational checks before descent

*NOTE Where practicable, the operational checks before descent should be part of a buddy / supervisor check. Although specific to this incident, the following controls apply to the majority of rope access systems.*

5.1 Carry out a 'pre-use check' of equipment: visual/ tactile/ functional (see manufacturer's instructions).

5.2 For the initial descent, where possible attach an anchor lanyard (cow's tail) to an anchor during a 'function test'/'mini abseil' see (5.5) below.

5.3 Attach the back-up device to the safety line and maintain it in a high 'hands off' position until all the checks described below have been completed:

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- a) check the back-up device attachment karabiner is correctly closed;
- b) check for correct attachment and orientation of the back-up device on the safety line (i.e. not upside down), by pulling on the device lanyard (cow's tail).

### 5.4 Attach the descender to the working line. Check that:

- a) the descender karabiner is correctly closed, with the opening towards the user and pointing downwards;
- b) the working line is threaded into the descender as illustrated on the descender and/ or as the information supplied by manufacturer;
- c) the catch on descender side plate is fully closed, if one is present. Otherwise, check the instructions for the correct installation of the device to the harness or anchor.

### 5.5 Carry out a function test /descent test /mini abseil as follows:

- a) With either the back-up device in a high 'hands off position' or an anchor lanyard attached, unlock the descender with a secure grip on the control rope and do a 150-200mm descent, until the descender is functioning correctly and a controlled descent can be made. If an anchor lanyard is used for protection it should then be removed.
- b) At any time before recommencing a descent, particularly if the descender may have been unweighted at a worksite, carry out the 'function test /mini abseil' (i.e. do a 150-200mm descent with the back-up device in a high position).