



IRATA SAFETY BULLETIN SB21.1

Rescue training incidents

Issue No.	SB21 part 1
Issue Date	28 July 2011
Issuer	IRATA Health & Safety Committee
Status	Collation of several rescue training incidents

There have been several incidents during two-person rescue training resulting from uncontrolled descents. These have involved a variety of circumstances including all levels of technicians.

There is no one single solution to all the issues raised. The following information includes a variety of control measures which need to be considered with reference to the whole document. The application of the possible control measures should be viewed in the context of the training environment; this includes considering the techniques and equipment used during training, as well as the facilities available for any particular venue.

In each case, the 'casualty' was suspended below the 'rescuer'. The syllabus defines a variety of two-person descents during rescue, which are practised by often inexperienced trainees using unfamiliar techniques. Controls noted may or may not be transferable to the work site with competent technicians, where alternatives to two-person loading of equipment such as releasable anchors or remote lowering or hauling may be possible.

1. The incidents

1.1 Uncontrolled descent using Petzl I'D and Shunt. As he started to pick up speed, the 'rescuer' lost control of the I'D descender and failed to release the cord on his Shunt resulting in both 'rescuer' and 'casualty' sustaining broken ankles on hitting the ground. The supervisor did not directly witness the incident.

Incident analysis

- Uncontrolled descent at low height / control line not held adequately / loss of control of descender.
- Shunt not released, which indicates an operator error.
- Trainer /supervisor not observing closely.

Possible additional control measures

- Closer supervision with intervention / bottom belay.
- Different use of equipment – alternate use of I'D and Shunt to prevent concurrent operator error of two devices.
- Selection of equipment – consider using a hands free back-up device instead of the Shunt.
- Use of impact absorbing mattresses below.

1.2 Uncontrolled descent using Petzl I'D and ISC Rocker. The 'rescuer' had his ropes on the opposite side than that taught. His back up device [Rocker] locked up on the ropes when he was around 2.5 m from the ground, with the casualty suspended below him. The rescuer locked his I'D descender in order to release his Rocker. When he recommenced descent, it seems that the 'rescuer' was controlling the handle of the I'D with his right hand instead of his left hand and then released his back-up device without holding the working line. They descended rapidly with the 'casualty' sustaining a broken leg. On reaching the ground, the 'rescuer' let go of the Rocker, which immediately engaged and had to be un-weighted to enable the 'casualty' to be released.

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Prior to the incident, the 'rescuer' told the trainer that he had suffered a right-sided shoulder injury but persuaded the trainer that this would not prevent him from performing the rescue.

Incident analysis

- Back-up device inadvertently locked up on safety line.
- Uncontrolled descent at low height / control line was not held and lost control of descender / awkward landing.
- Rocker back-up was disabled but engaged when released.
- Possible medical contra-indication.
- Trainer /supervisor not observing closely.

Possible additional control measures

- Closer supervision with intervention when instructed procedure not followed.
- Increased clearance height of rescue.
- Use of impact absorbing mattresses below.

1.3 Uncontrolled descent using Petzl Stop and Shunt. During an IRATA Level 2 assessment, the 'rescuer' had completed an aid climb rescue and when about to bring the 'casualty' to the ground had mistakenly placed the safety line instead of the working line through a braking karabiner. [The braking karabiner is required by the manufacturer to give extra friction when using a Petzl Stop descender for two people]. After unlocking the descender and pressing the handle, he had no control of the descent. The Shunt back-up device was at shoulder height; after falling approximately 5m they stopped just as the casualty's feet touched the ground. The 'rescuer' sustained a minor rope burn to his right hand and the 'casualty' was shaken, but had no injuries.

Incident analysis

- Uncontrolled descent / incorrect line was held & lost control of descender.
- Trainer / assessor did not observe incorrect rope in braking karabiner.
- Back-up device could not be placed above shoulder height and failure to do function test /mini-abseil before commencing main descent.
- Back-up engaged – rescuer let go of all equipment just in time.

Possible additional control measures

- Ensure function test /mini-abseil done before commencing main descent. See Safety Bulletin 12 and 17.
- Closer supervision with intervention when instructed procedure not followed.
- Different use of equipment – alternate use of Stop and Shunt to prevent concurrent operator error of two devices.
- Selection of equipment – consider using a hands free back-up device instead of Shunt.
- Use of impact absorbing mattresses below.

1.4 Uncontrolled descent using Petzl Stop and Shunt. During an IRATA Level 2 assessment, the 'rescuer' had completed an aid climb rescue and was asked to rig a 'pull through' to allow him to bring the 'casualty' to the ground and retrieve the ropes from the bottom. He mistakenly rigged the ropes such that the working line did not reach the ground. The 'rescuer' pressed the handle on his Stop descender without holding the working line and descended out of control, off the end of the short working line, resulting in a fall of approximately 3 m, before being held by the Shunt just 600mm from the ground. The casualty grabbed the ropes with his hand as he was falling, resulting in a serious rope burn to one hand.

Incident analysis

- A pull-through exercise is inappropriate during rescue as rope retrieval is unimportant.
- Uncontrolled descent, control line not held.

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- Failure to check ropes reached the ground / without knots in end of rope.
- Back-up device could not be placed above shoulder height in start position / failure to do function test /mini-abseil before commencing main descent.
- Back-up engaged – rescuer let go of all equipment just in time.
- Lack of intervention once error noticed by the assessor, fine detail obscured by rescuer.

Possible additional control measures

- Ensure function test /mini abseil done before commencing main descent. See Safety Bulletin 12 & 17.
- Closer supervision with intervention when instructed procedure not followed.
- Different use of equipment – alternate use of Stop and Shunt to prevent concurrent operator error of two devices.
- Selection of equipment – consider using a hands free back-up device instead of Shunt.
- Use of impact absorbing mattresses below.

1.5 Uncontrolled descent when passing a knot. During an IRATA Level 3 assessment, the 'rescuer' was bringing his 'casualty' past a knot. The knot was isolated using a re-anchor / re-belay attached to a Shunt. As this re-anchor Shunt took the load, the Shunt slipped, so the 'rescuer' placed an ascender below the Shunt to stop this, but couldn't remove the ascender afterwards. He then used a pulley system above the knot to raise himself and the casualty. As he started to lower the two of them, he lost control and they fell 400-500 mm. The 'casualty' suffered a back strain and the assessment was discontinued. The rescuer's Shunt and the re-anchor Shunt had both been shock loaded. It was later discovered that the back-up Shunt had been deformed due to the shock load.

Incident analysis

- Untrained technique used after initial Shunt slippage.
- Lost control after lifting without a mechanism to guarantee a gradual lower.
- No system to limit slipping distance.
- Numerous other manoeuvres possible to deal with this situation.

Possible additional control measures

- Intervention once problem occurred /need to approve method of dealing with problem before allowing to continue.