



Title	ROPE ACCESS RESCUES'S MANUAL	Revision	00
Code Number	MAN-CIGAB-MTSC.006 EN	Creation date	22/03/2020

ROPE ACCESS RESCUE'S MANUAL

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1. SCOPE OF APPLICATION

The purpose of this document is to present, define, and specify through detailed procedures, the technical means available to trainers, rope access supervisors from the company CI.DES to allow the rescue of any operator at height whose condition comes to request it.

It constitutes a response to the regulatory and good practice obligation stipulating that any intervention at height executed by means of access and positioning systems by ropes must be programmed, organized and supervised so that help can be brought immediately (See Decree 2004-924 of September 1, 2004).

The dissemination of these technical procedures is intended:

- ☑ QHSE management for integration into the document management system in force in the company;
- ☑ trainers, and help rope access trainers, to assist them in their tasks of developing the relevant operating procedures, essential for the proper organization of operations;
- ☑ to the company's client and institutional partners, in order to provide a guarantee of our level of control of the risks associated with our professional activities.

It is part of the company's QHSE continuous improvement approach, and as such is doomed to evolve, based on feedback from operational teams, and the evolution of known techniques.



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2. GENERAL TABLE OF RESCUE PROCEDURES

	Rescue situation	Technique	Interne Reference	Staff and skill levels required	Specific equipment required
Evacuation of the victim down	Casualty on descender, evacuation without obstacle to cross	IRATA RESCUE FROM DESCENT MODE	CIFRAPSA01	L1 x 1	Ø
	Casualty on blockers, evacuation without obstacle to cross	IRATA RESCUE FROM ASCENT MODE	CIFRAPSA02	L2 x 1	Ø
	Need to cross a simple deviation with Casualty	IRATA SINGLE-ANCHOR DEVIATION RESCUE	CIFRAPSA03	L2 x 1	Ø
	Need to cross a double deviation with Casualty	IRATA DOUBLE-ANCHOR DEVIATION RESCUE	CIFRAPSA04	L3 x 1	Ø
	Need to change rope to rope with Casualty	IRATA ROPE-TO-ROPE TRANSFER WITH A CASUALTY	CIFRAPSA05	L2 x 1	Ø
	Casualty while changing rope	IRATA MID-TRANSFER RESCUE	CIFRAPSA06	L3 x 1	Ø
	Need to cross a small re-anchor with casualty	IRATA SMALL RE-ANCHOR RESCUE	CIFRAPSA07	L2 x 1	Ø
	Need to cross a large re-anchor with Casualty	IRATA LARGE RE-ANCHOR RESCUE	CIFRAPSA08	L3 x 1	Ø
	Need to pass mid rope knots with Casualty	IRATA PASSING MID-ROPE KNOTS RESCUE	CIFRAPSA09	L3 x 1	Ø
	Casualty while ascent on tension line	IRATA TENSIONNED ROPES RESCUE ASCENT MODE	CIFRAPSA10	L3 x 1	Ø
	Casualty while descent on tension line	IRATA TENSIONNED ROPES RESCUE DESCENT MODE	CIFRAPSA11	L3 x 1	Ø
	Casualty hanging on his lanyards	IRATA RESCUE FROM AID-CLIMB	CIFRAPSA12	L2 x 1	Kit Rescue x 1
	Casualty suspended on short link	IRATA RESCUE FROM AID-CLIMB SHORT CONNEXION	CIFRAPSA13	L3 x 1	Kit Rescue x 1
	Victim suspended on fall arrest system	IRATA RESCUE FROM FALL-ARREST EQUIPMENT	CIFRAPSA14	L2 x 1	Kit Rescue x 1
Impossible evacuation of the victim down	Need to hoist the Casualty, possibility of evacuating him to his balance	IRATA HAULING RESCUE	CIFRAPSA15	L2 x 1	Kit Levage x 1
	Need to hoist the Casualty and move it horizontally, only one transfer phase	IRATA CROSS HAUL RESCUE	CIFRAPSA16	L2 x 2	Kit Rigging x 1 Kit Rescue x 1
	Need to hoist the Casualty and move him / her horizontally, several phases of transfer, including the use of a tension line	IRATA COMPLEX RESCUE SYSTEM (TEAM RESCUE)	CIFRAPSA17	L3 x 1 L2 x 1 L1 x 1	Kit Rigging x2 Kit Rescue x 1 Kit Tension line x1



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3. TITLES COLUMNS'S DEFINITION IN THE GENERAL TABLE OF RESCUE PROCEDURES

Rescue situation: technical context requiring the implementation of one or more rescue methods, in order to assist an operator in distress, unable to escape himself from his position of suspension.

Technique to be implemented: referenced rescue method. The terms used are extracted from the IRATA training and certification system, and their wording in English will be subject to a translation into French in part 6. Techniques to be implemented - Detailed procedures.

Internal reference: internal codification to the company of classification of referenced rescue methods.

Staff and skill levels required: number of operators and respective certification levels (established on the basis of the IRATA training and certification system) necessary for the proper implementation of the referenced rescue methods. The number of operators required is expressed as a minimum, and may be greater than the values indicated depending on the specific circumstances related to the intervention. These specific circumstances will be highlighted by the risk assessment attached to each intervention.

Specific equipment required: specific equipment to be provided for the proper implementation of certain referenced rescue methods. These materials are grouped into kits, the composition of which is detailed in the following part. In the same way as the staff required, the quantification of the kits is here expressed at a minimum. The kits will be provided in a number adapted to the specific circumstances of the intervention.

4. COMPOSITION OF « SPECIFIC MATERIAL » KITS

4.1. RESCUE KIT

- Two anchors devices of type EN 795 B;
- Two EN 362 type connectors;
- Two EN 1891-A type ropes, lengths adapted to the height of intervention on site. These two ropes will be wrapped in a bag provided for this purpose.
- Two ropes protectors

Note: the anchors devices, connectors and ends of knotted ropes will be assembled in advance in IRATA-compliant moorings, making the ropes usable immediately if necessary.

4.2. RIGGING KIT

- Two anchors devices of type EN 795 B;
- Four EN 362 type connectors;
- An EN 12841-C self-locking descender, fitted with its appropriate connector;
- A mobile fall arrester of type EN 12841-A, connected to an EN 355 lanyard fitted with its appropriate connector;
- A blocker of type EN 12841-B;
- Two pulleys of type EN 12278, each provided with their appropriate connector;
- An EN 12278 + EN 567 type pulley-blocker, fitted with its appropriate connector;
- Two EN 1891-A type ropes, lengths adapted to the height of intervention on site. These two strings will be wrapped in a bag provided for this purpose.

4.3. TENSION LINE KIT

- Four anchor devices of type EN 795 B;
- Four EN 362 type connectors;
- Two self-locking descenders of type EN 12841-C, fitted with their appropriate connectors;
- A blocker of type EN 12841-B;
- A pulley of type EN 12278;

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- Two ropes of type EN 1891-A, of lengths adapted to the expected range of the zip line.

Note: the blocker and pulley required to tension the ropes may be those of the operator.

5. TECHNIQUES OF ACCESS TO THE CASUALTY

5.1. ACCESS FROM DIFFERENT ROPES TO THE CASUALTY (CIFRAACSA01)

The most simple, comfortable and effective method for the rescuer. It gives the latter a certain distance from the victim, providing him with ease and mobility favoring the proper execution of rescue maneuvers.

The choice of this method of access to the victim is to be preferred when developing operating procedures.

This separate set of strings can either be already installed, part of the systems in place, or be a Rescue Kit.

OBJECTIVE: to be positioned on the descender, at a level slightly higher than that of the victim, on a separate set of ropes.

- 1) Play on the separate set of ropes on ascent or descent according to the respective initial positions of the victim and the rescuer;
- 2) Stop at a level slightly higher than that of the victim;
- 3) Lock the mobile fall arrester in a favorable position;
- 4) Lock the descender (switch to descender beforehand if the blockers had been used to move towards the victim).

RESULT: the rescuer is then ready to proceed to the occult clearance maneuver.

5.2. ACCESS FROM THE BOTTOM ON THE SAME ROPES AS THE CASUALTY (CIFRAACSA02)

NOTE CONCERNING 5.2. AND 5.3. : In certain circumstances, it may be more judicious and pragmatic to reach the victim by his own set of strings.

OBJECTIVE: to be positioned on a descender, slightly above the victim, on the same set of ropes.

- 1) Clean up the ropes (neutralize, as much as possible, any tangles between the rescuer and the victim);
- 2) Invert the ropes (place the rescue / positioning device on the victim's safety rope, and their mobile fall arrester on the victim's working rope);
- 3) Evolve on the climb towards the victim;
- 4) When the rescuer's mobile fall arrester is found almost at the stop under the victim's support / positioning device (descender or ventral blocker depending on the circumstances), block it then pass it over the support / positioning device from the victim, exactly as when crossing a knot when climbing a safety rope;
- 5) Continue the ascent on the victim safety rope;
- 6) Stop when the rescue / positioning device is almost at the stop of the victim's mobile fall arrester. Do not cross the mobile fall arrester;
- 7) Lock the descender (switch to descender beforehand if the blockers had been used to move towards the victim);
- 8) Lock the rescuer's mobile fall arrester in a favorable position.

RESULT: the rescuer is then ready to proceed to the occult clearance maneuver.

5.3. ACCESS FROM THE TOP ON THE SAME ROPES AS THE CASUALTY (CIFRAACSA03)

OBJECTIVE: to be positioned on a descender, slightly above the victim, on the same set of ropes.

- 1) Clean up the ropes (neutralize, as much as possible, any tangles between the rescuer and the victim);
- 2) Invert the ropes (place the rescue / positioning device on the victim's safety rope, and their mobile fall arrester on the victim's working rope);

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Note: the rescuer will prioritize the use of the descender as a support / positioning device. However, in the case of a victim in tension shared between his support / positioning device and his mobile fall arrester, his safety rope will not have the slack necessary for his engagement in the rescuer's descender. The latter will then descend on ascenders ("parrot descent").

- 3) Evolve on the descent towards the victim;
- 4) When the rescue / positioning device is found almost in abutment on the victim's mobile fall arrester, pass it below the victim's mobile fall arrester, exactly as when crossing a knot when descending on a working rope;
- 5) Lock the descender (then positioned just under the victim's mobile fall arrester);
- 6) Lock the rescuer's mobile fall arrester in a favorable position.

RESULT: the rescuer is then ready to proceed to the clearance maneuver.

5.4. ACCESS TO THE CASUALTY WITH AID CLIMBING TECHNIQUES (CIFRAACSA04)

OBJECTIVE: to be positioned suspended on at least two lanyards, in the immediate vicinity of the victim.

- 1) Make sure you have, if the particular circumstances require it, the specific equipment necessary for the execution of the incidental rescue techniques (Rescue Kit and / or Lifting Kit);
- 2) Engage in the mooring support leading to the victim (place at least two anchoring devices, or take advantage of those in place, if applicable);
- 3) Evolve in the direction of the victim, applying Aid-climbing techniques (constantly have at least two attachment points);
- 4) Stop in the immediate vicinity of the victim (place the short lifesaver lanyard on the last anchor point before the one hosting the victim's short lanyard).

RESULT: the rescuer is then ready to proceed to the clearance maneuver.

These victim access techniques will constitute the prerequisite for all the rescue techniques described in the following part: 6.
Techniques to be implemented - Detailed procedures.

5.5. SUMMARY TABLE OF CASUALTY ACCESS TECHNIQUES

Victim Rope Access Techniques	Internal Reference
ACCESS FROM DIFFERENT ROPES TO THE VICTIM	CIFRAACSA01
ACCESS FROM THE BOTTOM ON THE SAME ROPES AS THE VICTIM	CIFRAACSA02
ACCESS FROM THE TOP ON THE SAME ROPES AS THE VICTIM	CIFRAACSA03
ACCESS TO THE VICTIM WITH AID CLIMBING TECHNIQUES	CIFRAACSA04

6. TECHNIQUES TO IMPLEMENT - DETAILED PROCEDURES

6.1. RESCUE OF A CASUALTY POSITIONED ON A DESCENDER (CIFRAPSA01)

OBJECTIVE: to remove a victim from his state of inert suspension on a descender, and proceed with his evacuation.

Note: example of procedure established on the basis of access to the victim by a separate set of cords (CIFRAACSA01).

- 1) Refine the positioning of the rescuer in relation to the victim;

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2) Establish two connections between the victim and the rescuer (lanyard from ventral point to ventral point, "flexible connection" + chain of two connectors, suitably positioned and locked, from the victim's sternal point to the rescuer's descending connector, "hard connection");

Note: it is imperative to avoid establishing the two links on either side of one or both ropes (do not "trap" the rope).

- 3) Unlock the victim's mobile fall arrester if necessary;
- 4) Slacken the victim's descender, remove the descender from its working rope;

Note: at this stage, the victim is suspended from the victim's descender connector, and the lanyard connecting him to the rescuer must not be in tension, without however presenting too much slack.

- 5) Disengage the victim's safety rope from their mobile fall arrester;
- 6) Engage the rescuer's working rope in a correctly locked return carabiner placed on the right lateral point of the rescuer;
- 7) Unlock the rescuer's mobile fall arrester;
- 8) Trigger the descent by controlling with particular attention the fleeing strand of the descender (use in relative overload).

RESULT: Evacuation of the victim can then be undertaken.

6.2. RESCUE OF A CASUALTY POSITIONED ON A LOCKER (CIFRAPSA02)

OBJECTIVE: to remove a victim from his state of inert suspension on blockers, and proceed with his evacuation.

Note: example of procedure established on the basis of access to the victim by the same set of strings (CIFRAACSA02 or CIFRAACSA03).

- 1) Refine the positioning of the rescuer in relation to the victim;
- 2) Establish two connections between the victim and the rescuer (lanyard from ventral point to ventral point, "flexible connection" + chain of two connectors, suitably positioned and locked, from the victim's sternal point to the descender connector of the rescuer, "hard connection");

Note: it is imperative to avoid establishing the two connections on either side of one or both cords (do not "trap" the cords).

- 3) Disengage the victim's safety rope from their mobile fall arrester;
- 4) Tighten the hard connection as much as possible, climbing as far as possible on the victim's safety rope;
- 5) Place a blocker slightly above the rescuer's mobile fall arrester;

Note: when using the victim's fist blocker, make sure to disconnect his large lanyard from his fist blocker.

- 6) Connect a pulley to this blocker (if there is no pulley, only one connector may be suitable);
- 7) Connect a pedal (previously deployed to its maximum length) to the delta link of the victim's ventral blocker, engage the pedal in the pulley connected to the blocker;

Note: steps 5, 6, and 7 may be performed in a different order, at the discretion of the rescuer.

- 8) Position yourself on the side of the victim, if it was not already the case, in any case do not remain facing it;
- 9) Take a footrest on the pedal;
- 10) Keep the supporting leg strictly stretched, without any bending;
- 11) Firmly grasp with one hand a secure grip at the waist of the victim's harness, under his chest blocker;
- 12) Then exert a slight pulling force with the corresponding arm, keeping the support leg always strictly stretched;





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Note: this is a counterweight phenomenon which will allow the rescuer to relieve the victim of his ventral blocker, and in no case an effort to extend the supporting leg. Such an effort would prove completely unproductive in the event of a weight ratio to the disadvantage of the rescuer, and constitutes a potential source of muscle injury.

- 1) Take advantage of the sliding of the victim's ventral blocker upwards to fully open the trigger and disengage their working rope;
- 2) Keep the footrest on the pedal;
- 3) Control the loosening of the counterweight device by bending the supporting leg and retaining the slight descent of the victim until his recovery on the descender connector of the rescuer;

Note: at this stage, the victim is suspended from the victim's descender connector, and the lanyard connecting him to the rescuer must not be in tension, without however presenting too much slack.

- 4) Engage the rescuer's working rope in a correctly locked return carabiner placed on the right lateral point of the rescuer;
- 5) Unlock the rescuer's mobile fall arrester;
- 6) Trigger the descent by controlling in particular the fleeing strand of the descender, at the exit of the karabiner.

RESULT: Evacuation of the victim can then be undertaken.

These two techniques form the basis of almost all of the rescue operations involving a victim suspended in ropes, described below. The counterweight shedding technique described in 6.2. may also apply to rescue maneuvers involving a victim in an Aid-climbing situation.

6.3. RESCUE WITH SINGLE DEVIATION CROSSING (CIFRAPSA03)

OBJECTIVE: to cross a simple deviation in the context of the evacuation of a victim.

- 1) Stop the descent when the ventral point of the rescuer is slightly below the level of the mooring of the deviation;
- 2) Lock the rescuer's descender and block his mobile fall arrester;
- 3) Exert a slight pulling force on the strings to get closer to the deviation;

Note: the opportunity to exercise this traction should have been integrated and applied to the installation of the systems beforehand.

- 4) Establish a connection between the rescuer and the anchor point of the diversion, using one of his large lanyards;

Note: the slope described by the connection to the rescuer must be almost zero, barely below the horizontal.

- 5) Remove the deflection connector from the string set;
- 6) Descend very slightly so as to be able to comfortably replace the deflection connector above the descender and the mobile fall arrester of the rescuer;

Note: the slope described by the connection towards the rescuer must at this stage always be very low; absolutely avoid being suspended with the victim at the mooring of the diversion.

- 7) Replace the deflection connector above the descender and the rescuer's mobile fall arrester;
- 8) Remove the connection between the rescuer and the mooring of the diversion;
- 9) Unlock the rescuer's mobile fall arrester;
- 10) Trigger the descent, in particular by checking the fleeing side of the descender, at the exit of the return carabiner.

RESULT: The evacuation of the victim can then continue.





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6.4. RESCUE WITH DOUBLE DEVIATION CROSSING (CIFRAPSA04)

OBJECTIVE: to cross a double deviation as part of the evacuation of a victim.

- 1) Stop the descent when the ventral point of the rescuer is slightly below the level of the mooring of the deviation;
- 2) Lock the rescuer's descender and block his mobile fall arrester;
- 3) Exert a slight pulling force on the strings to get closer to the deviation;
- 4) Establish a connection between the rescuer and one of the two anchor points for the diversion, using one of his large lanyards;

Note: if possible, go along with the long lanyard in the two anchor points of the deviation simultaneously.

- 5) Remove the deviation connector corresponding to the anchor point with which the connection is established;
- 6) Descend very slightly so as to be able to comfortably replace the deflection connector above the descender and the mobile fall arrester of the rescuer;
- 7) Replace the deflection connector above the descender and the rescuer's mobile fall arrester;
- 8) Perform the same operation with the second deviation connector;

Note: the advantage of being longer with the long lanyard in the two anchor points of the deviation simultaneously lies in the fact that this link will replace each of the two deviations alternately. In any case, always respect and apply the fundamental principle of two separate attachment points.

- 1) Remove the connection between the rescuer and the mooring of the diversion;
- 2) Unlock the rescuer's mobile fall arrester;
- 3) Trigger the descent by controlling in particular the fleeing strand of the descender, at the exit of the karabiner.

RESULT: The evacuation of the victim can then continue.

6.5. VARIANT APPLICABLE TO CIFRAPSA03 AND CIFRAPSA04 (CIFRAPSA04VAR)

OBJECTIVE: to cross a simple or double diversion in the context of the evacuation of a victim, without opening the diversion connectors, with use by the rescuer of the mobile fall arrester and the victim's descender.

- 1) Stop the descent when the ventral point of the rescuer is slightly below the level of the mooring of the deviation;
- 2) Lock the rescuer's descender;
- 3) Block the rescuer's mobile fall arrester;
- 4) Place the victim's descender on the ventral point of the rescuer;
- 5) Place the mobile fall arrester of the victim on the sternal point of the rescuer;

Note: these two devices will be used later.

- 6) Exert a slight pulling force on the strings to get closer to the deviation;
- 7) Grasp the two ropes under the deflection, return to the balance of the initial mooring;
- 8) Engage the part of the initial safety rope after the deviation in the victim's descender;
- 9) Exert a pull on the fleeing strand of the victim's descender, until coming into contact with the deviation, downstream;
- 10) Engage the part of the initial working rope after the deviation in the victim's mobile fall arrester. Above all, do not block this mobile fall arrester, stick to keeping it up to the sternal point of the rescuer;
- 11) Remove the mobile lifeline from the rescuer, then on the initial lifeline upstream of the diversion, and place it on the initial working rope, upstream from the rescuer's descender;
- 12) Release the tension in the rescuer's descender;

Note: a load transfer then takes place between the two descenders.





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13) Disengage the initial working rope from the rescuer's descender;

14) Circulate the length of slack created during the previous step in the victim's mobile fall arrester downstream of the deviation, and block this mobile fall arrester;

Note : l'utilité de l'antichute mobile du sauveteur, placé en étape 10 au-dessus de son descendeur, était de gérer cette création, inévitable, de mou en amont de l'antichute mobile de la victime.

Note: the utility of the rescuer's mobile fall arrester, placed in step 10 above his descender, was to manage this inevitable creation of slack upstream of the victim's mobile fall arrester.

15) Remove the mobile fall arrester from the rescuer, then the last element present upstream of the deviation;

16) Unlock the rescuer's mobile fall arrester;

17) Trigger the descent by controlling in particular the fleeing strand of the descender, at the exit of the karabiner.

RESULT: the diversion was crossed without opening or replacing the diversion connector, the evacuation of the victim can then continue.

6.6. ROPE TO ROPE TRANSFERT WITH A CASUALTY (CIFRAPSA05)

OBJECTIVE: to move from one set of ropes to another, in the context of the evacuation of a victim, with the rescue worker's use of the mobile fall arrester and the victim's descender.

1) Anticipate the change of strings, stop the descent at the right time (in some cases it should not even be started);

2) Lock the rescuer's descender;

3) Block the rescuer's mobile fall arrester;

4) Place the victim's descender on the ventral point of the rescuer;

5) Place the mobile fall arrester of the victim on the sternal point of the rescuer;

6) Engage the destination working rope in the victim's descender;

7) Exert a slight traction on the fleeing strand of the victim's descender for prior tensioning, without shifting from the plumb of the initial mooring;

8) Lock the descender;

9) Engage the destination lifeline in the victim's mobile fall arrester;

10) Do not block this mobile fall arrester, stick to keeping it up to the sternal point of the rescuer;

11) Unlock the rescuer's mobile fall arrester;

12) Trigger the descent on the side of the initial set of ropes (rescuer of the rescuer) by controlling in particular the fleeing strand of the descender, at the exit of the karabiner.

13) Continue until the arrival level with the destination mooring;

14) Lock the victim's mobile fall arrester on the destination lifeline;

15) Disengage the initial working rope from the rescuer's descender;

16) Disengage the initial lifeline from the rescuer's mobile fall arrester.

17) Engage the fleeing strand of the victim's descender in a correctly locked karabiner, placed on the right lateral point of the rescuer;

18) Unlock the victim's mobile fall arrester;

19) Trigger the descent by controlling in particular the fleeing strand of the descender, at the exit of the return carabiner.

RESULT: The evacuation of the victim can then continue.

6.7. RESCUE OF A CASUALTY WHILE CHANGING ROPES (CIFRAPSA06)

OBJECTIVE: to evacuate a victim while changing ropes.

1) From the bottom, access, by means of the blockers, by the set of rope hosting the blockers and the mobile fall arrester (PETZL Shunt type) of the victim (not the one hosting his descender and his mobile fall arrester type PETZL ASAP);

2) Block the victim's mobile fall arrester, and check that his descender is locked;

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- 3) Establish a connection between the victim's ventral point and the rescuer's ventral point, using a short lanyard;
- 4) Once this connection established, remove the mobile fall arrester from the rescuer;
- 5) Stay positioned on blockers;
- 6) Place the rescuer's descender on the victim's ventral point;
- 7) Engage the downstream part of the working rope that hosts the victim's chest blocker in the rescuer's descender. The descender should ideally be in contact with the ventral blocker;
- 8) Remove the victim's long lanyard from their fist blocker, keep this fist blocker engaged on the working rope;
- 9) Take off from the victim (Cf 6.2. Rescue from ascent mode - CLZRES02) using the blocker remaining on the working rope as a point of reference;

Note: the victim's working line being in this oblique context, the effort required to offload the victim will be very modest. However, care must be taken to exert the counterweight phenomenon by keeping the pedal used parallel to the working rope.

- 10) Control the slight descent of the victim until his recovery by the descender previously installed;
- 11) Disassemble the load shedding device;

Note: at this stage, the victim is suspended in triangulation on two descenders, which will make it possible to evacuate from either side.

- 12) Establish a second very short link (chain of pilot lights or three connectors, at the convenience of the rescuer) between the ventral point of the victim and the ventral point of the rescuer;
- 13) Remove the blockers from the rescuer, to find themselves suspended at the ventral point of the victim by the very short link;

Note: during the implementation of this technique, the rescuer will be positioned under the victim, unlike all other maneuvers. It is therefore important that it is not suspended too low under the victim, to be able to comfortably direct the following steps.

- 14) Replace the victim's mobile fall arrester with the rescuer's mobile fall arrester (such as PETZL ASAP). Do not block this mobile fall arrester, stick to keeping it up to the victim's sternal point;
- 15) Choose the side most favorable to the victim's evacuation;
- 16) Engage the fleeing strand of the corresponding descender in a correctly locked return carabiner placed on one of the lateral points of the rescuer;
- 17) Ensure that the non-operated descender is locked;
- 18) Ensure that mobile fall arresters are not blocked, but kept in a good position (place their lanyards on the victim's shoulders for this);
- 19) Trigger the descent, in particular by checking the fleeing strand of the maneuvered descender, at the exit of the return carabiner.
- 20) Continue until the arrival level with the destination mooring;
- 21) Lock the mobile fall arrester placed on the destination lifeline;
- 22) Disengage the initial working rope from the corresponding descender;
- 23) Disengage the initial lifeline from the corresponding mobile fall arrester;
- 24) Engage the leaking strand of the descender stored in a correctly locked return carabiner, placed on one of the lateral points of the rescuer;
- 25) Unlock the retained mobile fall arrester;
- 26) Trigger the descent, in particular by controlling the fleeing strand of the descender, at the exit of the return carabiner.

RESULT: Evacuation of the victim can then be undertaken.

6.8. RESCUE WITH CROSSING SMALL RE-ANCHORS (CIFRAPSA07)

OBJECTIVE: to cross a small fractionation within the framework of the evacuation of a victim.

- 1) Stop the descent when the ventral point of the rescuer is at the level of the splitting mooring;

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- 2) Lock the rescuer's descender;
- 3) Block the rescuer's mobile fall arrester;
- 4) Disengage the fleeing strand of the descender from its return carabiner, to clarify the situation;
- 5) Clean up the ropes (the initial set of ropes on one side of the rescuer, the set of ropes from the split on the other);

Note: cleanliness in the ropes at this stage is an absolute condition for the success of this maneuver.

- 6) Place the victim's descender on the ventral point of the rescuer;
- 7) Place the mobile fall arrester of the victim on the sternal point of the rescuer;
- 8) Engage one of the two ropes from the fractionation in the victim's descender;
- 9) Exert a pull on the fleeing strand of the victim's descender, until coming as close as possible to the splitting;
- 10) Engage the second rope from the splitting in the victim's mobile fall arrester;
- 11) Engage the fleeing strand of the rescuer's descender in a correctly locked return carabiner, exceptionally placed in the rescuer's down connector (subtly aimed at avoiding ending up with the swan neck stretched in the return carabiner);
- 12) Unlock the rescuer's mobile fall arrester;
- 13) Release the tension in the rescuer's descender;

Note: a load transfer then takes place between the two descenders.

- 14) Continue until the total load is taken over directly below the fractionation;
- 15) Lock the victim's mobile fall arrester on the safety rope resulting from the splitting;
- 16) Disengage the initial working rope from the rescuer's descender;
- 17) Disengage the initial lifeline from the rescuer's mobile fall arrester;
- 18) Engage the fleeing strand of the victim's descender in a correctly locked return carabiner placed on the right lateral point of the rescuer;
- 19) Unlock the victim's mobile fall arrester;
- 20) Trigger the descent by controlling in particular the fleeing strand of the descender, at the exit of the return carabiner.

RESULT: the evacuation of the victim can then continue.

6.9. RESCUE WITH CROSSING LARGE RE-ANCHORS (CIFRAPSA08)

OBJECTIVE: to evacuate a victim while crossing a large fractionation.

- 1) From the top, access, by means of a separate set of ropes, by the side of the large fractionation accommodating the blockers and the mobile auxiliary fall arrester (of the PETZL Shunt type) of the victim (not the one welcoming his descender and his mobile fall arrester);
- 2) Use the fractionation portion between the mooring and the victim as a zip line, guide the descent by being connected twice to the zip line (a sternal connector encompassing the two ropes, and another ventral connector also encompassing the two ropes);
- 3) Stop the descent slightly upstream of the victim, remain independent, establish no connection;
- 4) Connect a pulley to the victim's fist blocker (in the absence of a pulley, only one connector may be suitable);

Note: do not remove the long lanyard from the victim's fist blocker.

- 5) Connect a pedal (previously deployed to its maximum length) to the delta link of the victim's ventral blocker, engage the pedal in the pulley connected to the blocker;
- 6) Take a footrest on the pedal;
- 7) Keep the supporting leg strictly stretched, without any bending;
- 8) Firmly grasp with one hand a secure grip at the level of the victim's harness belt, under its ventral blocker;
- 9) Then exert a slight pulling force with the corresponding arm, keeping the support leg always strictly stretched;

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- 10) Advance the victim upward by this means to the level of the rescuer;
- 11) Advance upwards, slightly upstream from the victim;
- 12) Repeat steps 6, 7, 8, 9 and 10;

Note: after a few repetitions of the victim's hoisting maneuver described in steps 6, 7, 8, 9 and 10, the rescuer will irreversibly feel strong opposition. The victim will simply be retained by the opposite portion of the large splitting, particularly by the working rope engaged in his descender, therefore:

- 13) Ensure that the victim's mobile fall arrester, on the opposite side of the large fractionation, is properly unlocked;
- 14) Release the tension in the victim's descender, on the opposite side of the large fractionation;
- 15) Resume the execution of steps 6, 7, 8, 9, 10 and 11 until the victim and the rescuer find themselves plumb with the starting mooring of the rescuer;
- 16) Remove the two guide connectors on oblique ropes from the rescuer (installed in step 2);

Note: at this stage, the configuration corresponds exactly to the rescue of a victim positioned on blockers (see 6.2.), With access to the victim from a separate set of ropes (see 5.1.), Therefore:

- 17) Execute procedure 6.2. RESCUE FROM ASCENT MODE - CIFRAPSA02, described in 6.2.

RESULT: Evacuation of the victim can then be undertaken.

6.10. RESCUE WITH PASSING KNOTS ON BOTH ROPES (CIFRAPSA09)

OBJECTIVE: to cross knots as part of the evacuation of a victim.

CONFIGURATION: presence of a knot on each of the two cords; the knot on the working rope is at a level greater than or equal to that of the knot on the lifeline. The reverse or the presence of a knot on only one of the two cords would make the maneuver easier.

- 1) Stop the descent at least 60 cm upstream from the knot on the working rope;
- 2) Lock the rescuer's descender;
- 3) Block the rescuer's mobile fall arrester;
- 4) Make a bow tie on the safety rope, including the existing knot, just under the mobile lifesaver

Note: the knot on the safety rope has therefore gone from a lower level than that on the working rope, to a higher level. The rescuer / victim pair is therefore left with a lifeline no longer presenting an obstacle.

- 5) Place the victim's descender on the ventral point of the rescuer;
- 6) Place the mobile fall arrester of the victim on the sternal point of the rescuer;
- 7) Engage the portion of safety rope downstream of the bow tie made in step 4 in the victim's descender;
- 8) Exert traction on the fleeing strand of the victim's descender, until the slack dissipates upstream of this descender, without the need to go until the load is taken up;
- 9) Remove the mobile fall arrester from the rescuer, then upstream of the bow tie made in step 4;

Note: at this stage, the pair is no longer subject to any mobile fall arrester, but does indeed have two separate attachment points: the two descenders, each placed on an independent rope, in strict balance with their mooring.

- 10) Place the rescuer's mobile fall arrester on the working line, upstream of the rescuer's descender. Do not block this mobile fall arrester;
- 11) Release the tension in the rescuer's descender;

Note: a load transfer then takes place between the two descenders.





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- 12) Engage the fleeing strand of the victim's descender in a correctly locked return carabiner placed on the right lateral point of the rescuer;
- 13) Stop the descent when the rescuer's mobile fall arrester comes almost to the end of the knot on the initial work rope;
- 14) Lock the victim's descender;
- 15) Engage the initial working rope portion downstream of the knot in the victim's mobile fall arrester;
- 16) Block this mobile fall arrester;
- 17) Remove the rescuer's mobile fall arrester;
- 18) Unlock the victim's mobile fall arrester;
- 19) Trigger the descent by controlling in particular the fleeing strand of the descender, at the exit of the return carabiner.

RESULT: The evacuation of the victim can then continue.

6.11. RESCUE OF A CASUALTY IN THE COURSE OF AN ASCENSION ON A TENSION LINE (CIFRAPSA10)

OBJECTIVE: to evacuate a victim in the process of climbing a tension line.

Note: example of procedure applicable to a critical configuration, not allowing the disengagement of the oblique ropes constituting the tension line. This option of declutching the oblique ropes is also to be preferred, because it allows the execution of a much simpler rescue:

Rescue from ascent mode - Rescue of a victim positioned on blockers (CIFRAPSA02), with access to the rescuer by a game separate from that of the victim (CIFRAACSA01).

- 1) From the upstream mooring of the tension line, move in the direction of the casualty, by means of the set of descent ropes, being connected twice to the tension line (a connector in sternal encompassing the two ropes, and another connector in ventral also encompassing the two strings);
- 2) Use the fractionation portion between the mooring and the victim as a tension line, guide the descent;
- 3) Stop the descent slightly upstream of the casualty, remain independent, establish no connection;
- 4) Lock the rescuer's descender;
- 5) Block the rescuer's mobile fall arrester;
- 6) Block the casualty's mobile fall arrester;
- 7) Place the mobile rescuer PETZL Shunt of the rescuer on one of the two ropes of the tension line, very slightly upstream of the rescuer, the top of the device oriented downstream;
- 8) Place the casualty's additional PETZL Shunt type fall arrester on the other tension line, at the same level as the first, the top of the device facing downstream;
- 9) Place a connector in each of the mobile fall arresters, do not lock them;
- 10) Engage the two lifesaver down ropes in the two connectors, upstream of his mobile fall arrester and his descender;
- 11) Position the two connectors properly, lock them;
- 12) Remove the two guide connectors on oblique ropes from the rescuer (installed in step 1);

Note: the rescuer is then positioned under a double diversion, in the immediate vicinity of the casualty, just upstream.

- 13) Go back up as high as possible, in contact with the double deflection;
- 14) Establish two connections between the victim and the rescuer (lanyard from ventral point to ventral point, "flexible connection" + chain of two connectors from the sternal point of the victim to the descender connector of the rescuer, "hard connection");
- 15) Remove the victim's mobile fall arrester;
- 16) Place a constriction, between the victim's sternal attachment point and the two cords of the zip line, a ring of cord of \varnothing 7 mm (or flat strap of \varnothing 8 mm) of about 120 cm;

Note: for this purpose use a ring of cord or flat strap ideally made of ultra-high tenacity polyethylene (PUHT), Dynema for example, whose very low melting point guaranteed not to affect the integrity of the strings ziplining (made of polyamide) during this step, where the friction used will create heat to take into account.





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17) Take a footrest on the bottom of the ring;

Note: the constriction phenomenon caused by strangulation will easily bring the sternal attachment point closer to the two cords of the zip line, releasing the guide connector from its tension.

18) Remove the sternal guide connector from the victim;

19) Place in a constriction, this time between the victim's ventral attachment point and the two ropes of the zip line, the ring of cord or flat strap;

20) Take a footrest on the bottom of the ring;

21) Remove the ventral guide connector from the victim;

22) Do not completely release the throttle, maintain it by keeping the footrest or by making a mule knot in abutment;

23) Disconnect the victim's long lanyard from his fist blocker, do not remove the blocker from the rope;

24) Connect a pulley to this blocker (if there is no pulley, only one connector may be suitable);

25) Connect a pedal (previously deployed to its maximum length) to the delta link of the victim's ventral blocker, engage the pedal in the pulley connected to the blocker;

Note: Steps 19 and 20 may be performed in a different order, at the discretion of the rescuer.

26) Take a footrest on the pedal;

27) Keep the supporting leg strictly stretched, without any bending;

28) Firmly grasp with one hand a secure grip at the waist of the victim's harness, under his chest blocker;

29) Then exert a slight pulling force with the corresponding arm, keeping the support leg always strictly stretched;

30) Take advantage of the sliding of the victim's ventral blocker upwards to fully open the trigger and disengage the corresponding oblique cord;

31) Keep the footrest on the pedal;

32) Control the loosening of the counterweight device by bending the supporting leg and retaining the slight descent of the victim until his recovery on the rescuer connector;

Note: at this stage, the victim's load is shared between the victim's descender connector and the oblique cord hosting his open ventral blocker.

33) Force the oblique rope to come out of its housing in the open ventral blocker;

Note: a slight fall of the victim will then occur, quickly stopped by the ring of cord or flat strap by strangulation.

34) Release the tension in the throat of the cord or flat strap ring;

35) Clean up the ropes and equipment of the victim and the rescuer;

36) Engage the fleeing strand of the victim's descender in a correctly locked return carabiner placed on the right lateral point of the rescuer;

37) Unlock the victim's mobile fall arrester;

38) Trigger the descent, paying particular attention to the fleeing side of the descender, at the exit of the return carabiner.

RESULT: Evacuation of the victim can then be undertaken.

6.12. RESCUE OF A CASUALTY IN THE COURSE OF A DESCENT ON A TENSION LINE (CIFRAPSA11)

OBJECTIVE: to evacuate a victim during the course of the tension line descent.

Note: example of procedure applicable to a favorable configuration, allowing the disengagement of the oblique ropes constituting the zip line. This option of declutching the oblique ropes is to be preferred, because allowing the execution of a very simple rescue: Rescue from descent mode - Rescue of a victim positioned on descender (CIFRAPSA01), with access to the rescuer by a separate set of ropes that of the victim (CIFRAACSA01).

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This procedure involves the participation of two rescuers of basic skill level (IRATA L1). Only one would be able to proceed alone, but the simultaneous intervention of a pair will be more likely to remove a victim from his position of suspension within a period guaranteeing the safeguard of his physical integrity.

- 1) Access in the upper part, in the area of the moorings for the zip line and the set of guide ropes, used by the victim (RESCUE 1);
- 2) Simultaneously disengage the oblique ropes constituting the zip line (SAVIOR 2);
- 3) Control the fleeing strands of the two descenders constituting the downstream mooring of the zip line, at the exit of two return carabiners, until the arrival of the victim directly above the upstream moorings;

Note: at this stage, the victim's load is fully retained by its two downhill ropes on a zip line. The two ropes constituting the zip line beforehand are free of any tension, only engaged in the two guide connectors, placed in the sternal and ventral points of the victim.

- 4) Disengage the two ropes previously constituting the zip line of the two descenders;
- 5) Make sure there are Capuchin knots at each end of the rope;
- 6) Let the two ropes constituting the zip line reach vertically above the upstream moorings, if necessary guide them;
- 7) Engage these two ropes in the mobile fall arrester and the rescuer descender present in the upper part (RESCUE 1);
- 8) Follow the descent until you reach the immediate vicinity of the victim, slightly upstream;
- 9) Stop the descent when the rescuer descender reaches almost the stop of the guide connector at the victim's sternal point;
- 10) Lock the rescuer's descender;
- 11) Block the rescuer's mobile fall arrester;
- 12) Remove the guide connector at the victim's sternal point;
- 13) Remove the guide connector at the victim's ventral point;

Note: at this stage, the rescuer is in a position to execute the basic rescue maneuver Rescue from descent mode - Rescue of a victim positioned on the descender (CLZRES01), with access to the rescuer by a set of ropes separate from that of the victim (CLZPRERES01).

- 14) Proceed as described in 6.1.

RESULT: Evacuation of the victim can then be undertaken.

6.13. RESCUE OF A CASUALTY IN AN AID CLIMBING (CIFRAPSTA12)

OBJECTIVE: to evacuate a victim during the evolution in artificial climbing technique, horizontally or vertically.

- 1) Moor the Rescue Kit between the victim and the rescuer;
- 2) Place the lifeguard descender on one of the two ropes of the Rescue Kit, block the descender;
- 3) Place the rescuer's mobile fall arrester on the other rope of the Rescue Kit, lock the mobile fall arrester;
- 4) Remove the two aid-climbing attachment points from the rescuer;
- 5) Establish two connections between the victim and the rescuer (lanyard from ventral point to ventral point, "flexible connection" + chain of two connectors from the sternal point of the victim to the descender connector of the rescuer, "hard connection");
- 6) Remove the long link (s) from the victim;

Note: at this stage, the victim is linked twice to the rescuer, and his load is no longer retained than at his short long link.

- 7) Connect a pulley to the anchor point connected to the victim's short lanyard, to its plumb (in the absence of a pulley, a single connector may be suitable);
- 8) Connect a pedal (previously deployed to its maximum length) at the ventral point of the victim, engage the pedal in the pulley connected to the blocker;

Note: Steps 7 and 8 may be performed in a different order, at the discretion of the rescuer.

- 9) Take a footrest on the pedal;
- 10) Keep the supporting leg strictly stretched, without any bending;

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- 11) Firmly grasp with one hand a secure grip at the waist of the victim's harness, under his ventral point;
- 12) Then exert a slight pulling force with the corresponding arm, keeping the support leg always strictly stretched;
- 13) Take advantage of the hoisting of the victim to remove his short lanyard;
- 14) Keep the footrest on the pedal;
- 15) Control the loosening of the counterweight device by bending the support leg and retaining the slight descent of the victim until his recovery on the descender connector of the rescuer;
- 16) Clean up the victim's equipment;
- 17) Engage the fleeing strand of the rescuer's descender in a correctly locked karabiner, placed on the right lateral point of the rescuer;
- 18) Unlock the rescuer's mobile fall arrester;
- 19) Trigger the descent by controlling in particular the fleeing strand of the descender, at the exit of the return carabiner.

RESULT: Evacuation of the victim can then be undertaken.

6.14. RESCUE OF A CASUALTY IN AN AID CLIMBING SITUATION - SHORT LINK (CIFRAPSA13)

OBJECTIVE: to evacuate a victim in the course of evolution in artificial climbing technique, exactly as in the previous procedure CIFRAPSA12, with the difference that in this case the link retaining the load of the victim is very short, a single connector between the victim's ventral point and the anchor point.

- 1) Moor the Rescue Kit between the victim and the rescuer;
- 2) Place the lifeguard descender on one of the two ropes of the Rescue Kit, block the descender;
- 3) Place the rescuer's mobile fall arrester on the other rope of the Rescue Kit, lock the mobile fall arrester;
- 4) Remove the two aid-climbing attachment points from the rescuer;
- 5) Establish two connections between the victim and the rescuer (lanyard from ventral point to ventral point, "flexible connection" + chain of two connectors from the sternal point of the victim to the descender connector of the rescuer, "hard connection");
- 6) Remove the long link (s) from the victim;

Note: at this stage, the victim is linked twice to the rescuer, and his load is no longer retained than at his very short connection.

- 7) Place in a constriction, on the ventral point of the victim, a ring of cord of \varnothing 7 mm (or flat strap of \varnothing 8 mm) of about 120 cm;
- 8) Engage this ring of cord or flat strap in the anchor point at the origin of the very short link;

Note: do not use a pulley here, the size of the device would affect the already very limited clearance of the counterweight device.

- 9) Take a footrest on the bottom of the ring;
- 10) Keep the supporting leg strictly stretched, without any bending;
- 11) Firmly grasp with one hand a secure grip at the waist of the victim's harness, under his ventral point;
- 12) Then exert a slight pulling force with the corresponding arm, keeping the support leg always strictly stretched;
- 13) Take advantage of the hoisting of the victim to remove his very short bond;
- 14) Keep the footrest on the pedal;
- 15) Control the loosening of the counterweight device by bending the support leg and retaining the slight descent of the victim until his recovery on the descender connector of the rescuer;
- 16) Clean up the victim's equipment;
- 17) Engage the fleeing strand of the rescuer's descender in a correctly locked karabiner, placed on the right lateral point of the rescuer;
- 18) Unlock the rescuer's mobile fall arrester;
- 19) Trigger the descent by controlling in particular the fleeing strand of the descender, at the exit of the return carabiner.

RESULT: Evacuation of the victim can then be undertaken.

6.15. RESCUE OF A CASUALTY SUSPENDED FROM HIS FALL ARREST DEVICE (CIFRAPSA14)

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OBJECTIVE: to remove a victim from his state of suspension on a fall arrest device (of types EN 12841-A; EN 353-2; EN 355 or EN 360 for example), and proceed to his evacuation.

- 1) Moor the Rescue Kit in the upper part, slightly offset from the victim's plumb;
- 2) Place the lifeguard descender on one of the two ropes of the Rescue Kit, block the descender;
- 3) Place the rescuer's mobile fall arrester on the other rope of the Rescue Kit;
- 4) Evolve on the descent towards the victim;
- 5) Stop the descent slightly above the victim, in its immediate vicinity;
- 6) Block the rescuer's descender;
- 7) Lock the rescuer's mobile fall arrester;
- 8) Establish a long link from the ventral point of the rescuer to the ventral point of the victim;
- 9) Place the rescuer's descender on his sternal point;
- 10) Engage the part of the rescuer's safety rope downstream of his mobile fall arrester in the victim's descender;
- 11) Place a blocker on the lifesaver safety rope, upstream of the rescuer's mobile fall arrester;
- 12) Connect a pulley to this blocker;
- 13) Engage the fleeing strand of the victim's descender in this pulley (in the absence of a pulley, a single connector may be suitable);

Note: an autoblocking muffling device offering a theoretical reduction of 2 to 1 is then installed.

- 14) Place a second blocker on the fleeing strand of the victim's descender, at the exit of the pulley;
- 15) Connect a pedal to this blocker;
- 16) Adjust the length of the pedal and the position of the ascender to the ergonomics of the rescuer;
- 17) Take a footrest on the pedal;
- 18) Keep the supporting leg strictly stretched, without any bending;
- 19) Firmly grasp with one hand a secure grip at the shoulder straps of the victim's harness, below his sternal point;
- 20) Then exert a slight pulling force with the corresponding arm, keeping the support leg always strictly stretched;

Note: the hoisting of the victim will lead to the gradual relaxation of the tension in the fall arrest device for the victim. Several repetitions of steps 17, 18, 19 and 20 may be necessary to fully release the tension.

- 21) Lock the victim's descender;
- 22) Remove the fall arrest device from the victim, remove the device in place on the structure;
- 23) Establish a connection consisting of two connectors, suitably positioned and locked, between the sternal point of the victim and the descender connector of the rescuer;
- 24) Release the tension in the victim's descender, disengage the lifeline from the descender's rescuer;
- 25) Disassemble the blow molding device;
- 26) Clean up lifeguard equipment and ropes;
- 27) Engage the fleeing strand of the rescuer's descender in a correctly locked karabiner, placed on the right lateral point of the rescuer;
- 28) Unlock the rescuer's mobile fall arrester;
- 29) Trigger the descent, in particular by checking the fleeing side of the descender, at the exit of the return carabiner.

RESULT: Evacuation of the victim can then be undertaken.

6.16. HAULING RESCUE(CIFRAPSA15)

OBJECTIVE: to evacuate from the top a victim suspended on his ropes, using the Lifting Kit.

- 1) Position yourself in the upper part, plumb with the victim, ideally in a secure area on one level;
- 2) Connect the end of one of the two ropes from the Lifting Kit to the mooring of the victim's set of strings;
- 3) Install a pulley-blocker facing downwards, on a separate mooring, slightly offset from the mooring of the victim's set of strings;

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Note: in the absence of a blocking pulley, a descender may be suitable, but will offer a much reduced real reduction during the implementation of the muffling device.

- 4) Place a blocker on the victim's working line, with the top of the device facing down (towards the victim);
- 5) Connect a pulley to this blocker;
- 6) Engage the rope installed in step 2 in the pulley;
- 7) Keep the strand of rope at the exit of the pulley, and let the blocker slide along the victim's working rope, as far as possible (it will ideally come into contact with the victim);

Note: ballasting the blocker by styling it with a steel connector may contribute to optimal sliding.

- 8) Engage the strand of rope kept in the block-pulley installed in step 3;

Note: an autoblocking muffling device offering a theoretical reduction of 2 to 1 is then installed.

- 9) Place a second blocker on the portion of rope entering the blocker pulley, the top of the device facing down (towards the victim);
- 10) Connect a second pulley to this blocker;
- 11) Engage the leaking strand of the blocker pulley installed in step 3 in the pulley;
- 12) Keep the strand of rope at the outlet of the second pulley, and let the blocker slide along the victim's working rope, as far as possible (it will ideally come into contact with the first blocker installed in step 4);

Note: an autoblocking muffling device offering a theoretical reduction of 6 to 1 is then installed.

- 13) Engage the last strand of rope kept in a deflection pulley installed near the blocking pulley;
- 14) Install a downward-oriented descender on the victim's set of ropes;

Note: this device then remains on standby, it will serve to punctually punctuate the slack created in the victim's working line by the hoisting.

- 15) Install a mobile fall arrester, fitted with its lanyard, facing downwards on the victim's set of ropes;
- 16) Engage the victim's safety rope in the downward mobile fall arrester, installed in step 15;
- 17) Block this mobile fall arrester;
- 18) Engage the portion of the victim's safety rope between its mooring and the mobile fall arrester in a guide carabiner, which will be useful for the correct positioning of the device when slack is created during the hoisting;

Note: the self-locking blow molding device is at this stage ready to be used.

- 19) Exert a pulling force on the strand leaving the deflection pulley installed in step 13;

Note: the hoisting of the victim begins at this stage.

- 20) Continue the traction efforts resulting in the hoisting of the victim;
- 21) Regularly swallow through the mobile fall arrester installed in step 15 the slack created in the victim's safety rope by the hoisting;
- 22) Regularly block this mobile fall arrester;
- 23) Regularly swallow the slack created in the victim's working line by the hoisting in the descender installed in step 14;
- 24) Continue until the victim arrives in the immediate vicinity of the secure area on one level, upstream;

Note: in the event that the blockers installed in step 4 and 9 did not initially come into contact with the victim, the travel offered by the muffling device will not allow the victim to reach their destination before arriving at the end of the blockers. It will then be enough to "recharge" the device, replace the blockers as far as possible. This reloading can be easily carried out at any time, the load of the victim being fully retained by the blocking pulley throughout the hoisting.





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- 25) Pre-tension the victim's working rope in the descender installed in step 14, lock it;
- 26) Engage the leaking strand of the descender in a return carabiner, placed on the descender connector;
- 27) Unlock the mobile fall arrester installed in step 15;
- 28) Disengage the blocking pulley;
- 29) Disassemble the blowing device;
- 30) Clean up the ropes;
- 31) Trigger the descent of the victim, in particular by controlling the fleeing strand of the descender, at the exit of the karabiner, until he arrives in a secure area on one level.

RESULT: the evacuation of the victim is then carried out.

6.17. CROSS HAUL RESCUE (CIFRAPSA16)

OBJECTIVE: to evacuate a victim, including hoisting, translating and towing, with the intervention of two rescuers and the use of two Lift Kits.

- 1) Place a connector in the victim's sternal point;
- 2) Place a connector in the ventral point of the victim;
- 3) Consider these two points as anchor points, make two type Y moorings (use of two Bunny knots) with the respective ends of the two ropes of the first Lifting Kit;
- 4) Engage the loops of the knots made up in the connectors placed on the victim;
- 5) Adjust the two ears of each node asymmetrically (the loop connected to the sternal point shorter than that connected to the ventral point, so as to keep the victim in an upright position during the hoisting, the translation, and the winching);
- 6) Install two anchoring devices upstream of the victim, above him;
- 7) Place a descender and a mobile fall arrester fitted with its lanyard in the anchoring devices, the two devices facing down;
- 8) Engage the two cords whose respective ends were connected to the victim in step 4 each in a device, indifferently;
- 9) Pre-tension the rope engaged in the descender;
- 10) Engage the rope inserted in the mobile fall arrester in a guide carabiner (which will be useful for the correct positioning of the device when slack is created, during hoisting), placed between the device and its mooring;
- 11) Place a blocker on the portion of rope entering the descender, the top of the device facing down (towards the victim);
- 12) Connect a pulley to this blocker;
- 13) Engage the fleeing strand of the descender in the pulley;
- 14) Keep the strand of rope at the exit of this pulley, and engage it in a return pulley installed near the descender;
- 15) Ensure that there are knots at the free ends of the two cords;

Note: an autoblocking muffling device offering a theoretical reduction of 3 to 1, connected to the victim and saved by a safety rope is then installed. This device will be operated by RESCUE 1, and called "starting device".

- 16) Install two anchoring devices directly above the planned evacuation area;
- 17) Place a descender and a mobile fall arrester fitted with its lanyard in the anchoring devices, the two devices facing down;
- 18) Use these two devices to carry out with the elements of the second Lifting Kit exactly the same installation as described in steps 1 to 15;

Note: a second self-locking hauling device also offering a theoretical reduction of 3 to 1, connected to the victim and saved by a safety rope is then installed. This device will be operated by RESCUE 2, will be called "destination device", and will be identical in all respects to the starting device.

Note: the two departure and destination devices for the victim will, of course, ideally have been installed simultaneously by the two rescuers.

- 19) Begin hoisting the victim from the side of the starting device, making sure to swallow the slack created in the rope engaged in the corresponding mobile fall arrester;
- 20) At the same time, start taking care of the victim on the side of the destination device;

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RCCM : RG/POG2013B1349 NIF : 733 955 W
BP.3062 Port-Gentil (Rép. Gabonaise), Tél. : + 241 077638448





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- 21) Continue hoisting on the side of the starting device, high enough to escape any obstacles on the victim's planned route;
- 22) In parallel, continue taking care of the victim on the side of the destination device;
- 23) Stop the hoisting on the side of the starting device at the appropriate time;
- 24) Block the corresponding mobile fall arrester;
- 25) Disassemble the corresponding blow molding device (blocker and pulleys), keep only the descender;
- 26) Engage the leaking strand of the corresponding descender in a return carabiner, placed on the descender connector;
- 27) Clean up the ropes;
- 28) Unlock the corresponding mobile fall arrester;

Note: RESCUER 1 is at this stage ready to start the descent of the load, descent which in this case will take on a form of translation, because associated with the hoisting carried out on the side of the destination device.

- 29) Release the tension in the descender of the starting device, paying particular attention to the leaky strand of the descender, at the exit of the return carabiner.
- 30) In parallel, implement the hoisting on the side of the destination device;

Note: communication between the two rescuers will be preponderant during the maneuver. They will in particular take care to synchronize their actions so that the traction cords of each device meet at the level of the victim by forming an angle not exceeding 120 °.

- 31) Continue the maneuver until the victim is plumb with the anchoring of the destination device;
- 32) Block the corresponding fall arrester;
- 33) Disassemble the corresponding muffling device (blocker and pulleys), keep only the descender;
- 34) Engage the leaking strand of the corresponding descender in a return carabiner, placed on the descender connector;
- 35) Clean up the ropes;

Note: if the victim is at this stage in the immediate vicinity of RESCUER 2, completely disassemble the connection points on the victim from the starting device. Otherwise, fully release the tension in the starting device.

- 36) Unlock the corresponding mobile fall arrester;
- 37) Trigger the final descent on the side of the destination device, in particular controlling the leaking strand of the descender, at the exit of the return carabiner.

RESULT: the evacuation of the victim can then be carried out.

6.18. RESCUE TEAM (CIFRAPSA17)

OBJECTIVE: to organize and carry out the complex evacuation (rescue team) of a casualty, including its hoisting, its translation and its winching, with the intervention of several rescuers of various skill levels and use of the different kits (Rescue Kit, Lifting Kit, Tension Line Kit).

Organizing such a maneuver requires in-depth knowledge of all the procedures described and defined in this document, and is the prerogative of an IRATA L3 supervisor.

Such a maneuver cannot by definition be subject to a standard procedure, but its proper execution is based on the following points:

- *Planning: preparation and easy access of specific materials to be used potentially, in-depth knowledge of the various techniques to be implemented;*
- *Organization: definition of the positions and responsibilities of each potential stakeholder, taking into account their respective skill levels;*
- *Communication: relevant passing of the instructions and instructions given to each operator involved in the maneuver, with assurance of their good understanding, before and during the maneuver;*
- *Supervision: permanent and tight monitoring of the proper execution of the successive phases of the maneuver;*

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- *Anticipation: such an operation requires a certain latency to be implemented, and vagaries are highly likely to occur during its execution.*

Basically, it will be remembered that such a maneuver should be considered as the last option, and the supervisors in charge of establishing operating procedures and specific rescue procedures will systematically try to plan and organize the work so as to avoid such situations. .

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