**AUSTRALASIAN ROAD RESCUE ORGANISATION INCORPORATED**

**(In Victoria)**

**Association No. A0042189P**



**ROAD RESCUE CHALLENGE RULES**

###### Contents

1. Definitions: 3

2. Team membership: 3

3. Injury: 3

4. Pit access: 4

5. Insurance: 4

6. Registration: 4

7. Assessors: 5

8. Assessment Sheets: 5

9. Appeals 5

10. Scenarios: 6

11. Scenario Aims and Class Objectives: 6

12. Prop positioning and relocation: 9

13. Tools and Equipment: 9

14. Equipment available in pits: 10

15. Team presentation at Challenge: 11

16. Breakdown of scenario: 11

17. Assessment of performance: 11

18. Debriefing: 12

19. Personal Protective Equipment: 12

20. Challenge safety: 12

21. Timing: 13

22. Casualties: 13

23. Non-attendance of team: 13

24. Information: 13

25. Chief Assessor Briefing: 13

26. Determination of Results: 13

27. Disqualification: 15

28. Participation in other Challenge activities: 15

Appendix 1 – Recommended Pit Rescue Equipment List: 16

Appendix 2 – Recommended Pit Medical Equipment List: 18

***Amendments to this issue:***

26 Determination of Results: **Count back procedure:**

Where two or more teams are tied for any place in any class, discipline or other grouping except overall champion, the following count back process will apply:

* The last score box in each of the five (5) categories on each relevant assessor’s score sheet will be summed. The winner will be the team or individual whose score is the highest.
* If the scores remain equal, the procedure will be determined with the next scorebox (working upwards) in each of the five (5) categories on the relevant score sheets and so on until a difference is found.

Appendix 1 – Recommended Pit Rescue Equipment List.

Added – Bolt Cutters & Drop-leg Stretcher Removed – Impact Driver

# Definitions

The term “Organisers” hereafter will mean the Australasian Road Rescue Organisation Inc. as the official organisers of the road rescue challenge. The term “Host” hereafter will mean the agency(s) or organisation(s) hosting any particular challenge.

# Team membership

Each team will consist of a maximum of six (6) members, one of whom must be designated team leader and one as medic/first aider. All personnel will be allowed to participate in all classes.

At the discretion of the Chief Assessor, a team may substitute a team member in the case of illness or injury, except during a scenario. If, during a scenario, a team member is injured and has to withdraw, the team, if able, may continue until they finish or ‘Time’ is called.

Team members may only participate if they can demonstrate competency in either:

* Road rescue by holding, as a minimum, the Australian Public Safety Training Package (APSTP) Unit of Competency PUASAR024A ‘Undertake Road Crash Rescue’, or equivalent; or
* Pre-hospital emergency care by holding, as a minimum, the APSTP Unit of Competency PUAEME002C ‘Manage injuries at emergency incident’, or equivalent.

In addition, in the case of the medical competency, it is desirable that team medics will be competent in the administration of oxygen to PUAEME003C ‘Administer oxygen in an emergency situation’, or equivalent.

The Medics will be assessed at the level to which they are trained. The team medics must declare their medical skill level to the Chief Assessor at the team briefing.

The winning team from any one year may return as ‘defending champions’ in the following year without having to change their team membership. Should that team win two years in a row, they would be required to change their membership before being eligible to participate in the third consecutive year. A team that has been Australasian Champions two years in a row may only enter in the third consecutive year if a minimum of two members of the team are changed and the team leader is rotated to another person. All other teams may enter from one year to the next without changing membership.

# Accident, Injury or Illness

If, during the challenge, an accident, injury or illness occurs to a team member, casualty, spectator or any person, which affects the running of the scenario, the injury will be advised to the Organisers as an authentic occurrence (i.e. ‘No duff’). The Chief Assessor, Assessor or Safety Officer will immediately instigate competent medical attention to the situation via the local provider or crew on standby at the site. The delay or ceasing of that scenario will be at the discretion of the Assessor Panel Leader in that pit. The Challenge Coordinator is to be advised immediately.

# Pit access

The pit area will be off limits to all persons unless authorised by the Organisers. Authorised persons will be admitted entry only by pass or other approved means.

# Insurance

Adequate Workers Compensation and or Injury Insurance for the participating teams will be the responsibility of that team’s Service, Agency or “Employing Organisation”. A letter and/or insurance certificate confirming adequate coverage of the team will be required with payment of the entry fee.

# Registration

Team application and registration for this challenge can only proceed on the official entry form supplied, accompanied by the prescribed fee which will be determined by the Organisers from year to year. As part of the process of registration teams must confirm that all members of the team comply with the requirements of rules 2 and 19 of this Challenge.

Should more teams register for the challenge than there are places in the program, preference will be given to applications on the following criteria:

* Agency members will be guaranteed one team entry (up to two teams, at the Organiser’s discretion, shall be entitled to enter at a member’s rate determined by the Organisers).
* Host agencies will be given preference for up to two teams over non-host agencies from year to year.

Preference will then be given in the following order:

* A team from an Agency that has never participated before.
* A team that is from an Agency that is not an Agency member.

Organisers will endeavour to give as many teams as practicable an opportunity to participate.

 Registration of arrival will take place prior to the challenge. (See timetable for further information).

 Teams that are unable to participate in the challenge must notify the Organisers in writing of their decision to withdraw, or they will be deemed to be a ‘No show’ and be disqualified. Teams that withdraw less than 45 days before the first official day of the challenge will forfeit their entry fee.

 As part of the registration fee, teams are expected to participate in the various extrication challenge classes described in these rules. In addition, teams are expected to enter one pair of members in the Trauma Challenge. Refer to separate ARRO Trauma Challenge rules. Additional pairs may be entered in the Trauma Challenge for an additional and separate registration fee.

# Assessors

A Chief Assessor will be appointed to co-ordinate the Assessor panels and resolve any disputes.

Challenge Assessor panels will comprise at least 3 persons assessing team performance in, command, technical and medical disciplines. All Assessors must be individual or temporary members of ARRO. Assessor Panel(s) will be formed for each challenge class with Assessor Panel Leaders(s) being selected at that time. Each Assessor panel will assess all teams attempting one class only so that each team demonstrates their skill before each Assessor panel.

In addition to the Assessors appointed to each class for a challenge, ARRO may also appoint an Assessor Mentor to each class. This person will be a senior (more experienced) Assessor whose role will be to monitor the standard of feedback provided to teams by the Assessor panel. The Assessor Mentor will give feedback where required to the Assessors, as well as provide training to Shadow (trainee) Assessors during the challenge. In the event that a member of an Assessor panel is unable to continue assessing, subject to approval of the Chief Assessor and a matching skill set of the mentor with the unavailable person, the Mentor will assume the role of the Assessor.

# Assessment Sheets

The assessment sheets will remain the property of the Organisers and will not be available for viewing or scrutiny by any unauthorised persons. Assessors will complete the assessment sheet during the scenario and confirm their scores in ink prior to the team debrief. No further amendments to the assessment sheets will then be made. Score sheet summaries for each team will be made available to that team after the conclusion of the challenge. Each Assessor will have a different mix of parameters to assess based on their expertise.

# Appeals

The team leader of any team that has a grievance or dispute must report it in writing to the Chief Assessor within one hour of completing the scenario concerned on the day. All appeals in respect of a technical performance and associated scoring will be heard by the Chief Assessor who will, where required, investigate or discuss the issue with any involved assessors and whose deliberation is final.

 All allegations of unfair assessment will be investigated thoroughly from all perspectives by the Chief Assessor who will present their findings to the ARRO Executive Committee for their deliberation.

# Scenarios

There will be a bank of scenarios controlled by the Organisers. The exact scenario delivered to each team in each class will remain confidential. Scenario duration will be:

* **Entrapped Rescue** class – 30 minutes.
* **Controlled Rescue** class – 30 minutes.
* **Time Critical Rescue** class – 30 minutes.
* **Trauma Challenge** – Refer to separate ARRO Trauma Challenge Rules.

The Organisers will determine the sequence in which the teams participate prior to the challenge in order to ensure each team has access to its preferred brand of hydraulic equipment and that there is reasonable time between classes.

# Scenario Aims and Class Objectives

The road rescue challenge is designed to meet the following outcomes:

* Replicate road rescue scenarios that emergency response crews may be called to attend.
* Create an environment where:
	+ Teams have the opportunity to demonstrate a range of techniques and options to extricate casualties.
	+ Team performance can be analysed over a series of extrication scenarios.
	+ Learning and education in all facets of vehicle extrication is promoted.
	+ Participants will leave being able to perform more competently at road rescue scenes, exercising current techniques in vehicle extrication and casualty treatment.
	+ Participants have an enjoyable experience.

As part of the process of demonstrating their skill, teams must implement at least one ARRO recognised technique in each class. Teams will be objectively assessed on the outcome of the application of their technique (e.g. final space made) as well as the efficiency and safety of its execution. Teams that do not implement recognised techniques will most likely receive an assessment in the basic range from command and technical assessors.

**Class Descriptors:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Class** | **Team Objective** | **Time** | **Complexity** |
| Entrapped Rescue | To demonstrate primary hydraulic rescue tool use for access, release and removal of a ***physically trapped casualty*** | 30 min | Live casualty or manikin (simulated live) – entrapped by vehicle/prop and/or injury.Some injuries treatable in vehicle.Entrapped vehicle plus props. |
| Controlled Rescue | To demonstrate the access, release and removal of a casualty/s trapped by ***injury entrapment and / or limb entrapment.*** | 30 min | Two casualties, either manikin and / or live, both treated as conscious and confined to vehicle or immediate impact area.Some injuries treatable at scene.Single or multiple vehicles plus props. |
| Time Critical Rescue | To demonstrate the access, release and removal of a casualty trapped by ***injury entrapment and / or limb entrapment and will have ‘time-critical’ injuries.***  | 30 min | Single casualty, either manikin or live, may be conscious or unconscious and confined to vehicle or immediate impact area. Some critical injuries or illnesses must be treated in a timely manner or the casualties’ condition will drastically deteriorate or the casualty may die. Single or multiple vehicles plus props. |

All classes will have access to a full set of hydraulic, air, electric and hand tools as provided by the hosts. Refer to rules below for more detail.

**Definition of phases of vehicle extrication rescue and effect on assessment:**

Extrication can be divided into three broad phases:

* Casualty access and space making
* Extrication options for release
* Casualty packaging and pathway

**Entrapped Rescue**

Sufficient space will need to be created for medical intervention and casualty release/packaging reflective to their mechanism of injury. To achieve success teams should work within the full three phases of vehicle extrication rescue to affect a thorough release and removal of the casualty. The phases being:

1. Casualty Access/Space creation
2. Physical extrication options/plan
3. Final casualty pathway

**Controlled Rescue:** Teams are expected to tirage the casualties and identify the medical priority for extrication. This should be recognised within the size up process. To achieve success teams will need to work efficiently and manage all the resources at their disposal to complete extrication of all casualties within the available time frame.

**Time Critical Rescue:** Teams are expected to recognise the time critical medical needs of the casualty(s). The casualty(s) will have one or more life threatening injuries or illnesses that **MUST** be treated in a timely manner or the casualty(s)’s condition will drastically deteriorate or the casualty(s) may die. To achieve success teams will need to demonstrate a balance between efficiency, safety and urgency to find and treat the casualty(s)’s life threating injuries as soon as it is safe to do so and complete extrication of the casualty(s) within the available time frame.

To achieve these outcomes in each class teams should demonstrate techniques consistent with the overall technique based philosophy.

**Overall Technique Based Philosophy:**

Side Removal Techniques – Full side (doors spread/removed, pillar cut and removed)

 Inverted full side (doors spread/removed, pillar cut and removed

 Side fold down

 Inverted side fold down

B pillar rip

Third door removal

Inverted third door removal

Roof Removal Techniques - Full or partial roof removal

 Roof flap (forward, rear side, partial)

 Tunnelling (cutting along roof rails and removal of roof section)

 Oystering

Internal Space Making - Cross ramming

 Steering wheel relocation

 Dash relocation (roll or lift)

 Rear access (thru boot, removing rear parcel shelf)

Vehicle Lifting - Airbags (with cribbing techniques)

 Hydraulics (with cribbing techniques)

 Hi-lift jacks (with cribbing techniques)

 Other (with cribbing techniques)

Vehicle Relocation - Cable winch (Tirfor type etc)

 Chain winch (Come along type etc)

 Other

# Prop positioning and relocation

Props may be positioned in pits to represent field objects, road furniture or other vehicles on the road. Every effort will be made by the organisers and hosts to ensure the realism of these props. This means that if the object is intended to be fixed and immovable, it will be placed in the scenario in such a way as to make it immoveable. If the ARRO Scenario Manager is unable to create an equitable scenario a simulated immovable object may be used. Clarification about the mobility of any prop can be sought from the Command Assessor at any stage during a scenario.

# Tools and Equipment

The Hosts will arrange to provide a range of makes and models of rescue tools which will ensure as much as possible of the equipment listed in the Organiser’s recommended pit equipment list (See Appendix 1) is provided at each pit. All Entrapped, Controlled and Time Critical Rescue pits will contain similar hydraulic, electric and air-operated equipment in accordance with the rules for those classes of challenge. Every effort will be made by the Hosts and the Organisers to ensure that the preferred make of hydraulic tools is available for each team, but this is not guaranteed.

 Teams are expected to supply their own consumables (e.g. PPE, tapes, sprays, etc). Hosts are asked to ensure they have sufficient stock to re-supply teams, but this should not be assumed by participating teams.

Teams may bring tools and / or equipment for use in any of the pits. All of these items, including personal equipment belts and their contents, must be scrutinised by Assessors at a time and place determined by the Organisers, prior to the commencement of the Challenge. Items that are supplied in the tool dump, which perform a similar function to equipment that teams introduce will be removed. This is to ensure that teams bringing additional equipment do not gain a quantity advantage.

 Engineering certification must be produced for any tool or piece of equipment brought by a team that is likely to bear load or be put under mechanical stress. The Assessors’ decision on tool and equipment suitability will be final.

 Teams may use radios to communicate between their members (e.g. Team leader and medic) during a scenario provided a minimum of one listening set on the same frequency is provided to the Assessor panel before the commencement of their scenario. Teams operating such systems outside their normal jurisdiction must also ensure they either arrange to operate on a frequency allocated to the host agency or they provide written approval from the Commonwealth Department of Communications, Spectrum Management Agency to operate on the particular frequency they will use.

 The following items of equipment are prohibited this year:

* Knives that that have disposable blades designed to snap off at predetermined points;
* Knives that have a retractable or folding blade without a locking mechanism when the blade is in the exposed position;
* Knives for which the blade is not sheathed or placed in a pouch when not in use;
* Hack saw blades that are not bi-metal construction (i.e. shatter proof); and

Teams may choose whether to leave their equipment in the tool dump for all teams to use or place the items out for their own scenario only.

N.B. All team members should make themselves familiar with any tool that they may use at the Challenge. The Organisers recommends that people competent in their operation should only use tools.

# Equipment available in pits

The Hosts, on advice from ARRO, will assemble a recommended set of basic equipment for each pit. This kit will be as close to identical in each pit as the Hosts can manage and will be based on the recommended list supplied by ARRO. In addition, a range of specialist hydraulic rescue equipment will be available in each of the pits as per the list below.

If during the scenario a team requires an anchor point for vehicle relocation or stabilisation, the team leader should approach the Command Assessor and request an anchor point location and direction.

Overview of hydraulic equipment types for each pit:

Hydraulic pump capable of operating a minimum of 2 tools;

Spreader;

 Cutter;

 Ram set (small, medium & large);

 Small cutter (pedal or mini) if available.

 Specifications will be reviewed annually by the ARRO Technical Committee.

# Team presentation at Challenge

Teams will present themselves to the Isolation Manager or at a location nominated by the Hosts, and specified during the Team briefing, well prior to the time indicated on the timetable for their equipment inspection. Teams may be directed to start earlier or later than indicated in the timetable to ensure the efficient and effective running of the event, at the discretion of the Chief Assessor. Once the team presents they are to remain there until they are escorted to the tool staging to commence their equipment inspection. The team will have a set time as detailed on the timetable to stage all of their tools and equipment. When the team has either completed equipment preparations or the time has expired, they will be taken to an isolation area out of sight of the pit to allow for the staging of their scenario. After the team leaves the pit equipment area no member of the team or their supporters shall be allowed to make any further adjustments to the pit equipment or supplement the cache with any additional items. Any items the team identifies as being missing or unserviceable are to be bought to the attention of the Pit Manager before the team leaves the pit area. The Pit Manager will be responsible for resolving the issue and communicating the outcome to the team while they are in isolation. The team will be escorted back to the challenge pit once their scenario has been staged.

While in isolation, the use of all electronic devices is prohibited by team members.

# Breakdown of scenario

At the conclusion of their scenario, each team must help in the breakdown of the tools and equipment and assist the pit team in reorganising items ready for the next scenario. This may be varied at the discretion of the Hosts subject to the number of personnel in the pit crew available to break the scenario down.

# Assessment of performance

A panel of qualified Assessors will assess each team’s performance. The parameters assessed are detailed in the Assessor’s Guidelines and on the Challenge Assessment Sheets. These are based on the ARRO Technical Committee’s opinion of better practice in the science of road rescue. To that end teams are encouraged to strive for the standard of excellence described in all areas, especially extrication techniques and casualty care and safety.

 Teams should note that Assessors are briefed to assess a team’s performance on what they see and hear, not what they expect to see and hear. With this in mind teams are urged not to ‘play up’ to the Assessors by giving a running commentary of what they might do under certain conditions, but to actually do what they would normally do if they encountered the same scenario on the road.

 To facilitate assessment, teams will be expected to comply with requirements of ARRO. This may include the use of technology as supplied by ARRO.

# Debriefing

Following each scenario in each class the Assessor panel managing that class will conduct a short debrief with each participating team. The debrief is designed to provide a learning opportunity for all involved. To that end teams are encouraged to have their manager or any other support person take notes or video the discussion. Subject to approval by both the team leader and the Assessor panel leader, observers are welcome in any debrief.

# Personal Protective Equipment

All competing team members will at all times during the challenge wear suitable clothing and personal protective equipment as approved by their agency. As a minimum, suitable turn out gear, coveralls, safety boots, eye protection (in the form of safety glasses), and where appropriate ear and/or respiratory protection is required. Teams representing agencies that require their personnel to wear and use helmets with visors (for facial protection) will be expected to wear and use them during the challenge.

 In keeping with occupational health and safety work practices, teams are required to supply and use their own latex gloves, dust masks and other consumable personal protective equipment supplies.

 N.B. Teams may only wear protective clothing that has been authorised by their Service or Agency. This personal protective equipment must meet with an approved standard, e.g. Australian Standards Association (ASA), New Zealand Standards Association, National Fire Protection Authority (NFPA), Occupational Health & Safety Authority (OHSA) or similar international organisations. If the protective clothing to be worn in the challenge is not the same as normally worn for operational turn outs by a team, then a letter confirming it is authorised for use is required from the head of the Agency or Service at the pre challenge team briefing.

# Challenge safety

Where the command “STILL” or “FREEZE” or where a whistle is blown, ALL members of the team will immediately stop their actions. This command indicates that a safety problem exists. Time will be stopped until the safety issue is rectified. Once addressed the Assessor Panel Leader will give the instruction for the team to continue and the clock will re-commence.

 If there are any other safety stoppages during the same evolution, the time will not stop and the team will have to rectify the situation while the clock continues to run.

 The above safety calls can be made by any of the Assessors or Safety Officers. If the problem can’t be rectified the Chief Assessor may disqualify the team or cancel the evolution.

# Timing

Assessors in each pit will be responsible for accurate timing of the scenario. The Command Assessor will call “time” when time has elapsed by a short whistle blast and calling ‘Time’. Alternatively, the team leader may call “time” before the available time has elapsed, when the casualty has been extricated and the Team Leader believes the team has completed the scenario.

# Casualties

Live people and manikins will be used in this Challenge.

Teams will be expected to assess the casualties for injury and provide treatment consistent with the injuries they find and their skills. Specific consideration should be given to maintaining the dignity of the casualties in this public training environment.

Manikins will be used to represent live or deceased persons. Deceased manikins will be clearly identified.

# Non-attendance of team

In the event of a ‘No Show’ by any registered team at their appointed time for equipment inspection, the Organisers may disqualify them from that class.

# Information

The Organisers reserve the right to use any and all information that may be obtained from the Challenge and its participants for educational purposes.

# Team Briefing by Chief Assessor

A briefing will be held at a time to be notified prior to the Challenge. It is mandatory for all team leaders and medics to attend. Team managers may also attend if a team has someone nominated to this role. Other team members are invited to attend the briefing, however; only team leaders and medics may ask questions.

Some or all members of the following groups may also attend the briefing:

* ARRO challenge management team.
* Representatives of the host agency.
* ARRO Executive.
* ARRO guests, including representatives of the host agency for the following year.
* Others at the discretion of the ARRO Event Coordinator.

# Determination of Results

The Organisers will determine the prizes to be awarded from year to year. Determination of results will be based on the following criteria:

* Each discipline being assessed (Command, Technical and Medical) will be worth the same number of points.
* Each class being assessed will be worth the same number of points.
* Points allocated by each assessor will be used to determine the ranking of that team relative to the other teams in the challenge for each assessor.
* All assessors will assess all teams once over the course of the challenge.
* Rankings will be allocated for each assessor in such a manner that the team that scores the highest score from an assessor will be given a ‘rank score’ equal to the number of teams in the challenge. The team that scores the next highest score from that assessor will be allocated a ‘rank score’ one less and so on. The team that scores the lowest from that assessor will be allocated a ‘rank score’ of 1.
* Rank scores for each team from the different assessors will be added together.

Winners of individual classes and categories will be determined as follows:

|  |  |
| --- | --- |
| **Individual class**  | The team with highest sum of the rank scores from each of assessors in that class.  |
| **Best Team Leader** | The team leader with the highest sum of rank scores of all command assessors.  |
| **Best Medical Team** | The medical team with the highest sum of rank scores of all medical assessors. |
| **Best Technical Team** | The technical team with the highest sum of rank scores of all technical assessors.  |
| **Overall Champions** | The team with the highest sum of rank scores from all assessors in all classes.  |

**Count back procedure**

Where two or more teams are tied for any place in any class, discipline or other grouping except overall champion, the following count back process will apply:

* The last score box in each of the five (5) categories on each relevant assessor’s score sheet will be summed. The winner will be the team or individual whose score is the highest.
* If the scores remain equal, the procedure will be determined with the next scorebox (working upwards) in each of the five (5) categories on the relevant score sheets and so on until a difference is found.
* If every single category on the relevant score sheets are the same, the category of award will be declared a dead heat and no prize at the next level down will be awarded (i.e. if a dead heat for winner, no 2nd prize).

**Count back for Overall Champion**

* If two teams have an equal rank score for 3rd place overall, 2nd place overall or overall champion the award will be given to the team that placed highest of the two in the entrapped class.
* If the entrapped class is a dead heat, then the award will be given to the team that placed highest of the two in the controlled class.
* If both entrapped and controlled are dead heats then the award will be given to the team that placed highest of the two in the time critical class.
* If all classes are dead heats the count back procedure above will be used starting with the entrapped, followed by controlled and then time critical classes.

**Spirit of the Challenge** will be determined by a popular vote of the team leaders. This award is presented to the team that best represents the spirit of learning and improvement in road rescue service delivery through in the Challenge and its activities.

# Disqualification

Any team or team member that does not adhere to these rules or brings disrepute upon the Challenge may be disqualified.

 Any matter concerning the possibility of a team disqualification or a matter bringing the Challenge into disrepute will be heard by a committee made up of the Chief Assessor and two other members from the organising body. Any decision made by this group will be final.

 Spectators or team supporters may barrack and encourage teams in the spirit of fair play; however any “coaching”, including calling time remaining, from the spectators or team supporters will result in a “Freeze” being called, but the clock will continue to run. The Assessor panel leader will give a warning to the offending person or persons. Any subsequent coaching call will result in time being called on the participating team.

# Participation in other Challenge activities

The intent of the Australasian Rescue Challenge is to explore, develop and promote best practice in the delivery of integrated road rescue services. To this end the challenge each year includes:

* A learning symposium the day before the challenge
* A practical workshop(s) pits during the challenge
* A Trauma Challenge

To ensure maximum learning opportunity by all participants, attendance at and participation in these activities is mandatory. Teams that fail to attend these activities may be disqualified from participating in the Challenge.

# Appendix 1 – Recommended Pit Rescue Equipment List:

Detailed below is ARRO’s recommended equipment list. It is expected that the host of the Road Rescue Challenge sanctioned by ARRO will provide this list of equipment on each pit subject to availability.

| **ITEM** | **QTY** |
| --- | --- |
| **General Equipment** |  |
| Broom, yard | 1 |
| Salvage sheet/large tarpaulin 4m x 4m | 2 |
| Shovel, wide mouth, long handled | 1 |
| Crow bar (2m) | 1 |
| Halligan tool with cutting tip | 1 |
| Wrecking bar  | 1 |
| Step ladder 1800mm | 1 |
| Ropes (12mm X 6m) | 4 |
| Extinguisher, Foam, 9 litre | 1 |
| Extinguisher, Dry Chemical 9kg | 1 |
| Torch | 1 |
| Electric reciprocating saw (mains or battery) | 2 |
| Power extension leads (20m) | 2 |
| Spill absorbent material | 1 packet |
| Duct tape | 1 roll |
| Debris sheet (tool staging) 3m x 2m | 1 |
| Debris sheet small 2m x 1m | 1 |
|  |
| **Hand Tools** |  |
| Socket set | 1 |
| Spanner set | Combined |
| Screwdriver set | Set |
| Rubber mallet | 1 |
| Pliers | 1 |
| Side cutters | 1 |
| Vice grips | 1 |
| Seat belt cutter | 1 |
| Glass cutting saw (hand operated) | 1 |
| Hacksaw | 1 |
| Bolt Cutters | 1 |
|  |
| **Casualty Protection Equipment** |  |
| Edge protection soft – protective cover 260 x 300mm (approx. dimensions) | 4 |
| Edge protection soft – protective blanket 600 x 600mm (approx. dimensions) | 4 |
| Edge protection soft – protective blanket 1500 x 600mm (approx. dimensions) | 2 |
| Edge protection rigid - PVC pipe 150mm diameter x 400mm | 2 |
| Edge protection rigid - PVC pipe 100mm diameter x 400mm | 4 |
| Glass catcher | 1 |
| Glass breaking tool | 1 |
|  |
| **Stabilisation Equipment** |  |
| Blocks, timber, step  | 4 |
|  |
| **Cribbing – Timber** |  |
| Blocks, timber approx. 100 x 50 x 500mm | 20 |
| Blocks, timber approx. 100 x 100 x 500mm | 20 |
| Wedges, timber 100 x 100 x 500mm | 12 |
| Wedges, timber 100 x 50 x 500mm | 12 |
| Wedges, step/blocks 500mm x 200mm | 4 |
| Wedges, timber assorted sizes (e.g. wheel chocks and shims) | 12 |
|  |
| **Cribbing – Timber Alternate** |  |
| Timber blocks 100x100x500 taped handle | 12 |
| Timber blocks 100x50x 300 taped handle | 6 |
| Timber wedge 100x100x 450 taped handle | 6 |
| Timber wedge 100x50x250 taped handle | 6 |
|  |
| **Cribbing – Plastic Recycled** |  |
| Step blocks, recycled plastic | 4 |
| Blocks, lockable, recycled plastic | 6 |
| Wedges, recycled plastic,75mm wide | 4 |
| Wedges, recycled plastic,150mm wide | 4 |
|  |
| **General** |  |
| Crates or boxes for transport of cribbing(e.g. milk crate style ) | 4 |
| Tension buttress kit for side stabilisation(e.g. Acro prop, shackles and straps; orStabfast or Holton Foot or SideStabiliser) | 2  |
| Ratchet straps, 25mm x 6m (min) withHooks | 2 |
| Ratchet straps, 50mmx 6m (min) withHooks | 2 |
|  |
| **High Pressure Airbag & Airline Equipment** |  |
| Air hoses (10m) | 2 |
|  |  |
|  |  |
| Air supply (cylinders only) | 2 |
| High pressure lifting air bag (min. 20t)with regulators, relief valves, hoses and controls to run 2 bags | 2  |
|  |
| **Winch Set Complete** |  |
| Cable wire winch (Tirfor type) rated 1.5T vertical / 2.5T horizontal | 1 |
|  |
| **Strop or Sling Kit** |  |
| Strop or sling kit 6m | 2 |
| Strop or sling kit 3m | 1 |
| 2.5m strop/sling (triple lined) optional  | 1 |
| D Shackles rated to above winch capacity | 6 |
|  |
| **Casualty Treatment Equipment** |  |
| Space/emergency blankets, patient care only (not wool or cotton) | 1 |
| Extrication device (e.g. KED or similar) | 1 |
|  |  |
| Oxygen therapy equipment | 1 |
| Patient protection, various sizes, hard | 1 set |
| Patient protection, various sizes, flexible | 1 set |
| Patient protection, various sizes, soft | 1 set |
| Stretcher, scoop style | 1 |
| Drop-leg Stretcher | 1 |
| Rescue board – full length (e.g. timber / plastic / fibreglass) | 1 |
| Rescue board – half length (e.g. timber / plastic / fibreglass) | 1 |
| Cervical collars (multi fit or full set of sizes) | 1 |
| Ear muffs for casualty hearingProtection | 1 |
| Safety glasses for casualty protection | 1 pair |
|  |

In addition to the above a stock of consumables needs to be available to replenish supplies of:

* Bi-metal hacksaw blades – 2 per team
* Reciprocating saw blades – 2 per team
* Air cylinders
* Medical oxygen cylinders (one per team) & therapy masks (two per team) plus spares
* Spill absorbent material (kitty litter)
* First aid supplies to include:
* 2 oxygen mask per team (e.g. 24 teams = 48 masks + 6 spares)
* Bandages and dressings per scenario
* One cervical collar per team (adjustable size or sets)
* Disposable cardboard splints – 1 small & 1 medium per team
* Duct tape

Powered double acting hydraulic tools will be added to each of the pits based on the class of scenario refer to rule 11 – ARRO Challenge Rules.

# Appendix 2 – Recommended Pit Medical Equipment List:

|  |  |  |  |
| --- | --- | --- | --- |
| **ITEM** | **SIZE** | **QUANTITY IN KIT** | **SPARES** |
| Bandages | 2.5 cm | 3 | 1 per team |
| 5 cm | 4 | 3 per team |
| Crepe bandages | 10 cm | 6 | 2 per team |
| 15 cm | 2 | 1 per team |
| All-purpose shears |  | 1 |  |
| Eye pads |  | 4 |  |
| Sodium Chloride | 30 ml | 6 |  |
| Leukofix |  | 1 |  |
| Sterile dressings | 6 cm x 8.5 cm | 2 |  |
| Safety pins |  | 10 |  |
| Dressings | 20 cm x 75 cm | 1 |  |
| 10 cm x 10 cm | 4 | 3 per team |
| 20 cm x 20 cm | 1 | 3 per team |
| Burn dressings | 10 cm x 10 cm | 2 |  |
| Triangular bandage |  | 4 | 1 per team |
| Emergency blanket |  | 1 |  |
| Stethoscope |  | 1 |  |
| Blood pressure cuff |  | 1 |  |
| Splint Set, Cardboard | Small & medium | 1 | 1 per team |