

RISK ASSESSMENT		MOTOR SPORTS		Ref No. A02	
Baseline <input checked="" type="checkbox"/>		Site Specific <input type="checkbox"/>		Vulnerable Person <input type="checkbox"/>	
Temporary <input type="checkbox"/>					
Activity Covered by this assessment:		Quads, Go-Karts		Hazard References: A02/01 – A02/04	
Assessors:	John Robson (Kingswood H&S Advisor)		Reviewers:		
References:	Motor Sports BRA, issued February 2011 (withdrawn)				
Date of issue:	27/02/2012		Planned review date:	End February 2013	

### HAZARDS

Hazard Ref.	Hazard description	Activities giving rise to risks	Control Measures	
			Static	Dynamic
A02/01	Motor Sports – General Participation	Loss of control due to high speed, driver/rider ability or condition of track causing minor grazes or bruises through to limb fractures and head injury	S001, S002, S003, S004	D001, D002, D003, D004, D005, D006, D008
		Collision between vehicle and instructor causing cuts, grazes or lower limb fractures	S007,	D007
		Collision between vehicle and spectator causing cuts, grazes or lower limb fractures	S008, S009,	D011
		Collision between vehicle and track barrier causing whiplash injuries, cuts, grazes or fractures	S008, S011,	D002, D006, D023, D009, D010, D013
		Collision between two vehicles on the same track causing whiplash injuries, cuts, grazes or fractures	S010, S011,	D001, D002, D009, D010, D013
		Long hair, loose clothing or fingers getting caught in moving engine parts causing cuts, abrasions, lacerations and/or amputation of fingers	S013,	D023, D024, D012
		Contact with hot engine parts causing burns to hands, knees or lower limbs	S013	D008, D023, D012
		Lifting/moving vehicles after barrier collisions or overturning, or for initial engine start		D015, D016
		Unsupervised access to vehicles		D017
A02/02	Track layout and design	Potholes, ruts or loose material on the track causing loss of stability or overturning	S004, S005, S006,	D006
		Track barrier fails to stop a vehicle leaving the track	S008,	D006
		Track barrier is too rigid to absorb impacts	S008,	D006
		Inadequate maintenance of track barrier provides a ramp on which a vehicle can overturn or loose materials that can fall on to drivers/riders	S008,	D006
A02/03	Vehicle design, checks and maintenance	Mechanical failure of safety critical parts such as brakes, steering, accelerator, etc causing loss of control/crash and multiple injuries	S012	D013, D014
		Long hair, loose clothing or fingers getting caught in rotating parts, such as drive shafts and/or chain-and-sprocket drives, causing severe lacerations and/or amputation of fingers	S013,	D022, D024, D012
		Vehicle fires due to ignition of petrol, such as leaking pipes or fractured tank following a collision, etc causing burns	S014	
A02/04	Fuelling	Handling and carrying '5-gallon Jerricans' creates potential manual handling risks, such as back strains	S016	
		Transferring fuel from large containers into smaller ones, or into fuel tanks risks spills onto skin or inhalation of fumes	S015, S017, S018	
		Accidental ignition of fuel or fuel vapours resulting in fire and/or explosion creates risks of burns	S014, S015, S019,	D018

### RISK ANALYSIS

Ref	Hazard	Who may be harmed	Likelihood	Severity	Risk
A02/01	Motor Sports – General Participation	Participants, Teachers, Instructors, Public	Medium	Serious	Marginal
A02/02	Track layout and design	Participants, Teachers, Instructors	Low	Serious	Acceptable
A02/03	Vehicle design, checks and maintenance	Participants, Teachers, Instructors, Public	Low	Serious	Acceptable
A02/04	Fuelling	Participants, Teachers, Instructors	Low	Serious	Acceptable

## RISK CONTROL

<b>Control Ref.</b>	<b>Static Risk – Operational Controls</b>
S001	Maximum speeds of quads and go-karts must be physically restricted on the vehicle by means of either engine choking or the fitting of a restrictor behind the accelerator pedal/lever.
S002	Explanation, demonstration and ongoing coaching are to be provided by an instructor trained in activity core skills and who is familiar with the quads/go-karts session plan. Each instructor can supervise up to 16 participants (15 student + 1 teacher), with an on-track ratio of 1:1 rider to instructor. An additional adult must be in attendance to help supervise those at the waiting area.
S003	Track layout should avoid long straights where significant speed can be built up, and sharp corners that are difficult to negotiate without contact with a perimeter barrier or the vehicle leaving the track.
S004	Tracks must be set out to avoid any unnecessary potholes, ruts or ramps that could cause a vehicle to lose control or overturn.
S005	Go-kart tracks should be free of debris and constructed of smooth concrete or tarmac.
S006	Quad tracks should be free of major debris and constructed of any non-solid surface such as grass, woodchip, gravel or earth.
S007	There must be a designated safe area from where the instructor can supervise the activity. This can either be a safe haven inside the perimeter barrier or an area outside the perimeter barrier.
S008	All tracks must have a perimeter barrier that prevents a vehicle leaving the track and coming into contact with spectators. This barrier must conform to defined standards and be inspected on a weekly basis.
S009	A participant waiting area must be provided outside the track area.
S010	Tracks that have more than one vehicle on them must be wide enough to allow vehicles to pass one another in the event that one comes to a halt and the other does not.
S011	Helmets, gloves and goggles are subject to weekly or 4 weekly inspection and are repaired or replaced as necessary.
S012	Vehicles are subject to daily and weekly inspection to check function of main controls and operation. Servicing must take place according to the manufacturer's specification.
S013	All hazardous components, such as hot pipes or drive chains must have suitable guards fitted.
S014	A fire extinguisher must be available at the track and anywhere where fuelling takes place.
S015	An area or areas should be designated for refuelling vehicles. This should be outside or in a well ventilated area away from other people.
S016	Fuel can be stored in large 'Jerrican' containers, but must be transferred to smaller (less than 5 litre) containers for fuelling vehicles.
S017	All fuel containers used for fuelling vehicles must be fitted with a spout to minimise spillages.
S018	Disposable gloves should be available for staff fuelling vehicles
S019	Fuel containers to be stored in a locked, ventilated and suitably marked store or 'Flam-Bin'. Potential sources of ignition to be removed.
<b>Control Ref.</b>	<b>Dynamic Risk – Instructor Controls</b>
D001	Brief the participants to keep speeds low and look out for warning flags (Green flag 'Go', Red flag 'Slow Down/Stop')
D002	Ensure that the go-kart seat is correctly adjusted and/or a seat insert is used so that the driver can reach the pedals.
D003	Confirm the main vehicle controls with every participant before they have their turn.
D004	Take the participants on a tour of the track to show where the hazardous areas are and describe safest approach
D005	Conduct a controlled brake test, before allowing each participant solo track time. For quads, complete a full lap while holding the engine kill-cord.
D006	Check the condition of the track and barrier at the start of the activity and continue to monitor throughout the session (ruts, ice, surface water, damage, etc.) Make repairs to the barrier/track surface as necessary during the session.
D007	Wear a high-vis vest when supervising the activity, and DO-NOT walk in front of moving vehicles during test laps or stand on the track during solo track-time. Stop vehicles before entering the track.
D008	Check that all participants are wearing low heeled or flat shoes.
D009	Where fitted, ensure participants wear the vehicle seat belt/restraining harness while seated.
D010	Ensure all participants are wearing correctly fitted helmet, (quads and go-karts), gloves (quads only) and goggles (quads only).
D011	Brief participants that they must remain inside the waiting area until they are called to the track.
D012	Supervise participants climbing into and out of vehicles to ensure they do not accidentally touch hot or moving engine parts or vehicle controls.
D013	Check the condition of activity area and equipment before you begin using it, and report defects that arise during the activity.
D014	Check that brakes, accelerator, steering and engine kill switches all work properly at the beginning of the activity.
D015	The rear wheels of go-karts should not be lifted off the ground to aid engine starting unless a lever/stand is used.
D016	Take care when moving vehicles that have collided with the barrier or overturned. Seek assistance to avoid back injury.
D017	Do not leave vehicles unattended with keys/kill switches in place and engines running where they can be accessed without supervision.
D018	Refuelling must only be done once the vehicle has been allowed to cool for 10 minutes, must take place in a well ventilated area and any fuel spills must be covered with dry sand.
D022	Check that all participants are wearing long sleeves and long trousers.
D024	Check that long hair is gathered up and tucked away, large or prominent jewellery and neckwear is removed and large pocket items are removed.