



Reference material Issue 4 30 June 2022

Issue 4 add DI check list, RW contents list, RW pre-first launch checklist

This material has been prepared as an aid to winch driver training.

It should be regarded mostly as an aid to memory, though the throttle guide and checklists should be used as a matter of routine.

There is a set of documents that may be useful day-to-day. They are available via the club website.

Winch cab:

- Throttle guide
- Pre first launch checklist
- This document
- Radio manual extract

MT office:

- The documents above plus:
 - Guillotine testing
 - Maintenance record
 - Training record
 - Full radio manual

Other:

- Fluids and pressures poster
- Weak link poster
- End of day checklist
- Main winch tow vehicle contents list

Displayed:

- MT cage
- RW windscreens
- Near main light switches
- MW tow vehicles rear

G M Dailey 30/6/22

Daily inspection checklist



- Check DI books and guillotine dates
- Chargers off
- Tyres, handbrakes, tow hitch, jockey leg
- Fuel level, open tank valves on MW
- Battery on, ign on, charge warning light on, beacons on, stop lights ok, radios on, ign off
- RW additional: Check signal light repeater and radio buzzer
- MW Documents in cab: Throttle guide, this document.
- Engine compartment general - anything loose etc
- Belt tension, water level, engine oil, transmission oil (different levels static/running), brake fluid
- RW clutch checked - lever up, thrust bearing free and operating linkage not overloaded, lever down, drum rotation does not rotate clutch body
- Drum free, cable sufficient (use gauge), cable even, RW interlock switch free, MW pay-on rollers free, cable channel clear, guillotine linkage ok and guillotine set, rollers free, MW cable loop OK, RW renew cable loop.
- MW tow vehicle contents as list, RW tray contents as list
- Vehicles: Tyres, fuel, engine oil, coolant, belts, battery terminals, front hubs in 2WD, radio on.
- Warm up kit
- **Sign DI book**
- Shut doors (sheep)



Pre-first launch checklist

- DI , Guillotine check dates, **DI book signed**
- Water, food, sunglasses, throttle guide in winch.
- Alignment and sight lines checked.
- Main winch chocks, brake, jockey leg, guillotine unlocked.
- Retrieve winch visited, Setup checked, brake pumped.
- Field gate shut, additional signs in place (if needed)
- Lights and radio checked.
- Engine temperature within range (see gauge labels)
- Oil pressure 40-60 psig (see gauge labels)
- Charge voltage above 14V.



End of day checklist

- All vehicles gassed.
- Main winch gas tank taps off.
- Notes of what can't be fixed left in office for next man and copied to Geoff and David if appropriate.
- Status board up to date.
- Major items e.g. cable changes logged on office chart.
- All fixed radios switched off, handheld radios on charge.
- Keys out of vehicle ignition and on dashboard or on hooks by fire exit.
- Vehicle windows closed if outside.
- Chargers connected where appropriate
- Nothing except chargers left switched on.
- Side door and main doors locked
- Key returned to office if appropriate.

Tow vehicle minimum contents checklist



- Parachute and trace. Parachute weak links
- Main cable press Retrieve cable press
- Red box
 - 4 tubs of Ferrules Large and small, aluminium and copper
 - Grease
 - Jack oil
- Tin box
 - Spanner for shackles Spanner for main rollers
 - Press handles
 - Bow shackle Parachute swivel
- Paper towel
- Wire cutters
- Cable hook
- Screw jack
- Fire extinguisher



Retrieve winch tray contents checklist

- Cable Hook
- Spanner/pliers for shackles
- Jack
- Cone and spacer rope
- 2 of each strop (plus minimum 2 spare strops and 2 spare traces on MT office wall)
- Tie down kits (lashings, pegs, hammer)
- Glider weights

Retrieve winch Pre-first launch checklist



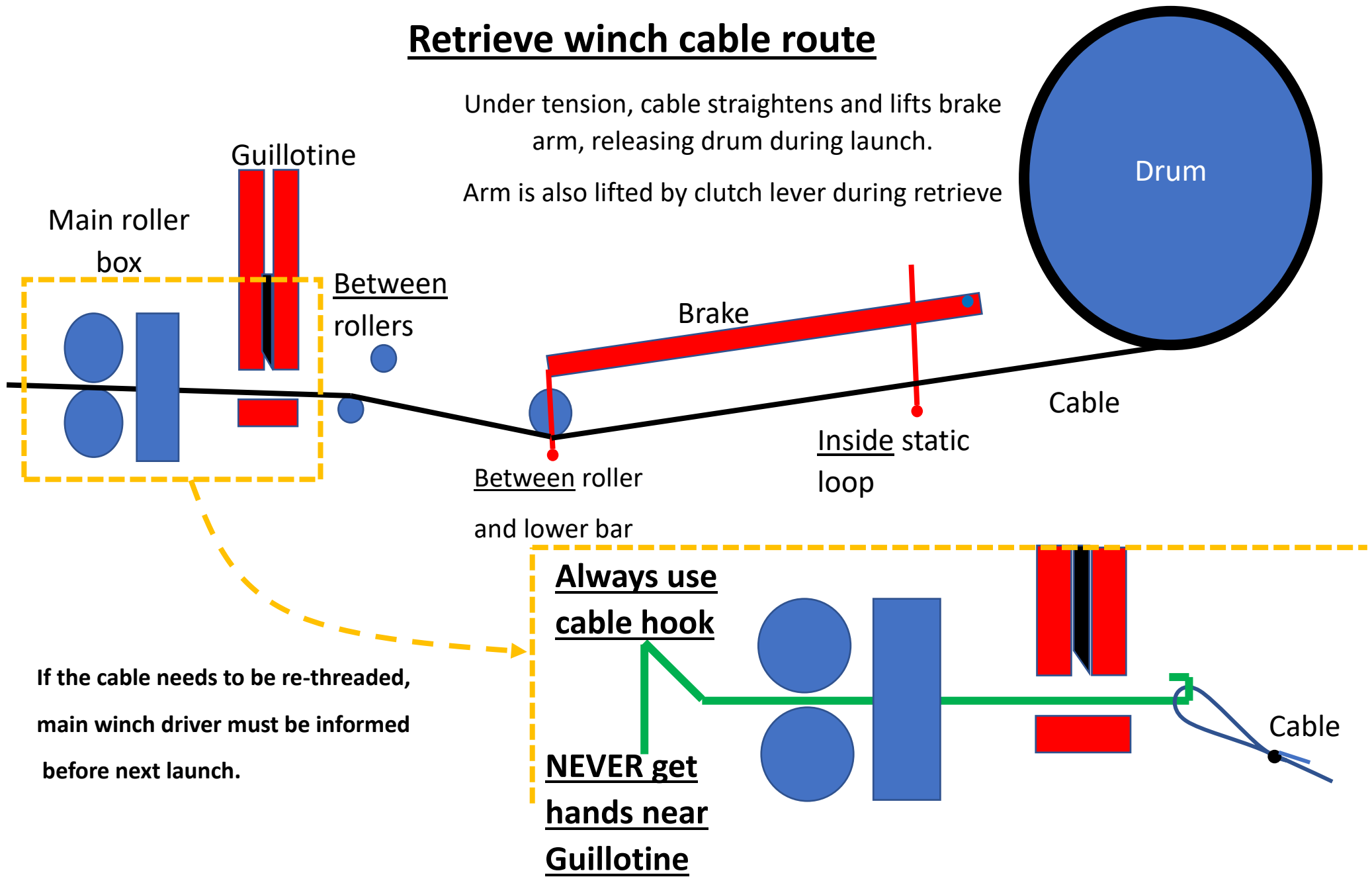
These checks may be carried out by an instructor, launch director or off-duty main winch driver, subject to main winch driver prior agreement. Completion must be reported to the main winch driver .

- Position as agreed by No 1 and main winch driver.
- Winch pointing in direction from which cable will return, i.e. downwind of main winch.
- Barrier square to retrieve winch, as close as possible, winch rollers centred in barrier aperture, barrier base resting on grass or gap blocked solidly, wings secured open.
- Cone on downwind side, on or forward of plane of barrier, distance set by positioning rope.
- Strops ready and checked (general condition, weak link colour as strop marker, hole circular)
- Parachute and trace no tangles, swivel connection to retrieve cable tight.
- Wheel chocks on barrier side of wheels (Swinging chock and inter-wheel chock on drum side, one on other side). Jacks front and rear. Brake on if fitted.
- Both jacks down
- Wire route through rollers as diagram, **guillotine handle unlocked**.
- Barrier signal light plugged in (either cable) and sight tube aligned with main winch.
- Radio and lights checked with main winch. Use stop light for testing, tone stops after a few seconds and allows radio to be used normally.
- Engine warm
- Main airfield gate shut

Retrieve winch cable route

Under tension, cable straightens and lifts brake arm, releasing drum during launch.

Arm is also lifted by clutch lever during retrieve



If the cable needs to be re-threaded, main winch driver must be informed before next launch.

Always use cable hook
NEVER get hands near Guillotine



Aide-memoire

- Guillotine checks Every 28 working days or every 2 months elapsed, whichever is sooner. See notice board.
- SIGN DI BOOKS
- Radios Ch 12 ground, 129.980 airband.
- Gas vehicles at lunch if busy day. **Gas everything at end of day.**
- Easterly stop launching at about 10kt cross-wind launching to S, 15Kt launching to N. Chop (safely) those not laying off enough. Discuss possibility with No 1 at start of day in case of first solos.
- MW aligned with glider launch point, RW with expected cable return direction.
- Chocks, brake, jockey leg first when setting up.
- Get helper to tow out MW cable.
- Use parachute weak link on tow-out. Engine running, cover brake. Watch for walkers etc. **Use opportunity to inspect main cable.**
- Field gate shut and extra signs when needed.
- Don't launch if engine temp below labelled range or oil press below 40 psig. See gauge labels for latest values.
- **Check again, carefully, for walkers, etc and for airborne hazards, just before engaging gear to launch .**
- Horses with riders who are safe but might be startled – stop launching (see local rules on website).
- Public or gliders on gravel track may be OK in Westerly, but not in unstable still air (in case of thermal sucking to West) or any easterly.
- Lights failure – stop launching if no stop light
- Oil pressure 40-60 psig typical, but see labels beside gauges.
- Water temp min, see gauge labelling.
- Manual fan only with engine running due battery drain. Don't keep engine running to keep water circulating, retrieve period is normally enough.
- Voltage 14V min with engine running.



- The cable must never be moved, nor drum opened without main winch driver permission. Insist on this – it's very important
- When touching cable or opening drum either end:
 - Stop lights on, radio your intentions, keys out and watcher stays by radio. Take extra precautions if untangling main winch (see later).
- Cable break: As above, then typically:
 - Check MW drum.
 - Tell them to send vehicle to find their end. **DON'T** move it, just stay by it as a marker.
 - Once vehicle stationary, you may then authorize their drum open.
 - You take MW keys and pull your end to theirs (watch for walkers)
 - Repair cable
 - Main Al-Cu-Al 200mm overlap.
 - Retrieve 3xAl, or Al-Cu-Al, 150mm overlap.
 - Visit retrieve, check drum and cable routing.
 - Check MW drum, then proceed for slack cable (below)
- Whenever cable may be slack: **Check cable and drum clear, drum shut**, both winches. Draw in cable at tickover until they report that their drum is turning. Instruct retrieve to start at throttle position 2.
- After simulated/real cable break, keep cable dead until glider landed or departed, and clear of cable then as for slack cable (above). There may be time to take slack out of cable, but don't start retrieve,
- **Failure to release:**
 - Guillotine main cable
 - Instruct retrieve to guillotine
 - **STAY IN CAB**, warn retrieve about trailing cable danger.



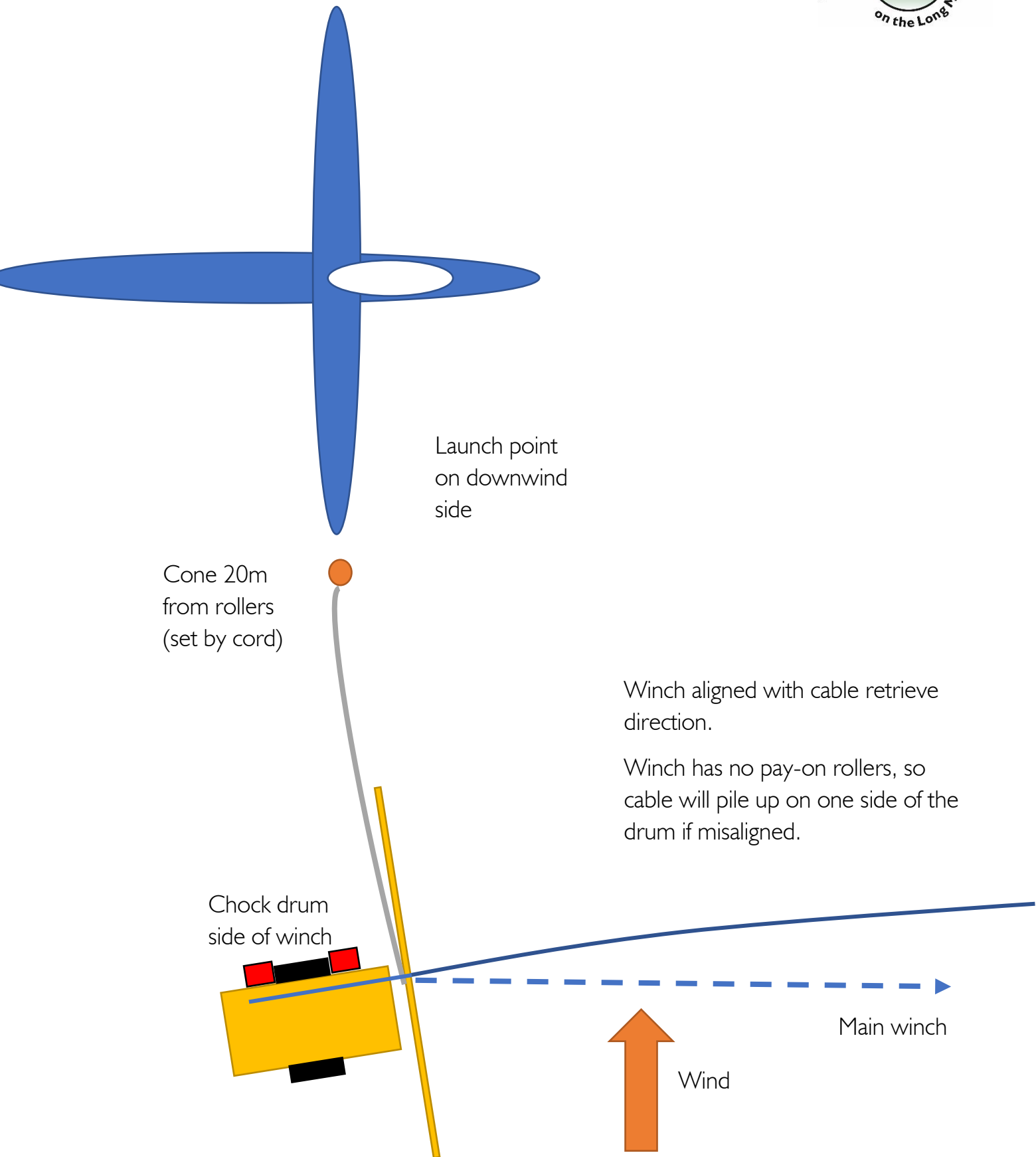
A reminder of basic MW safety:

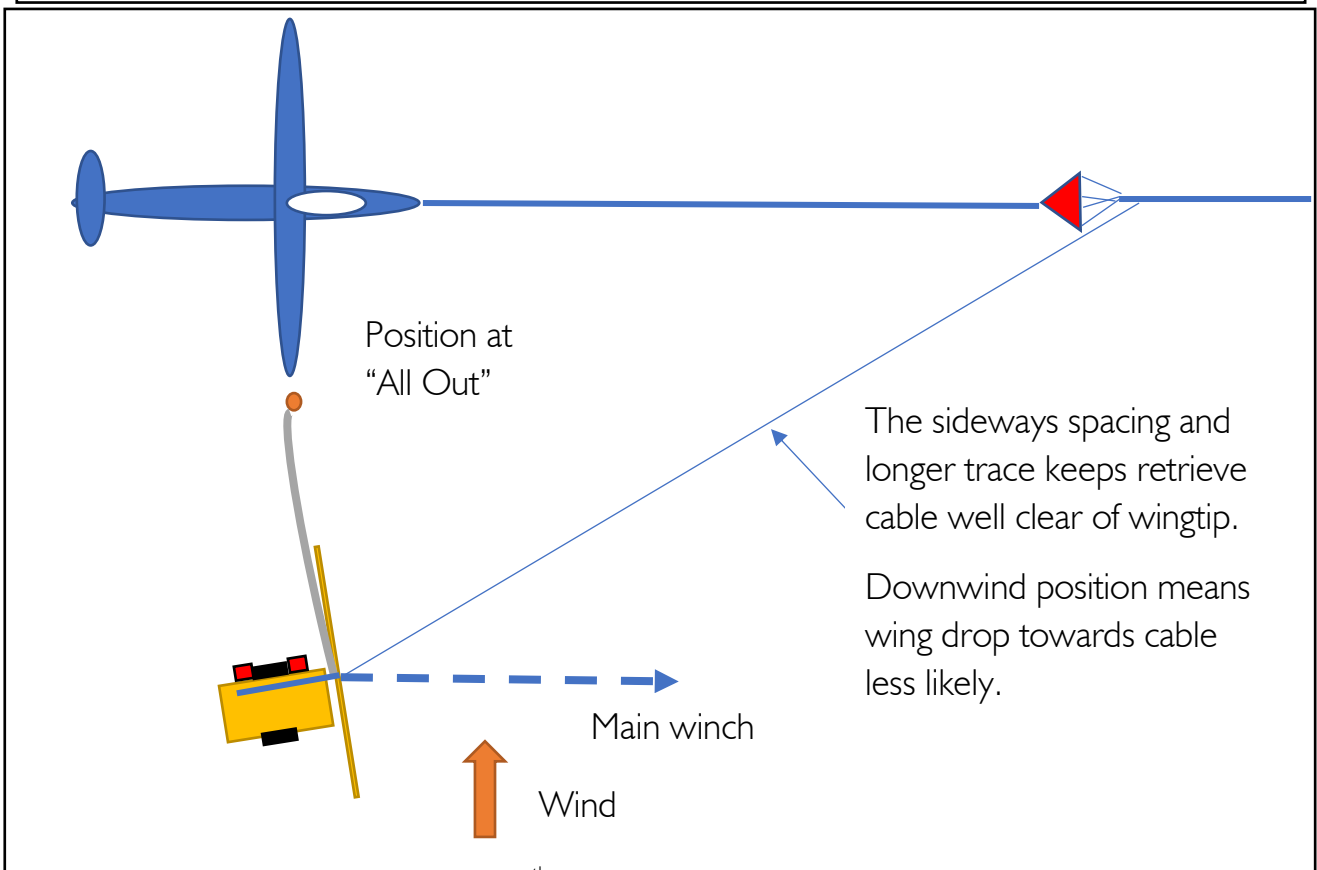
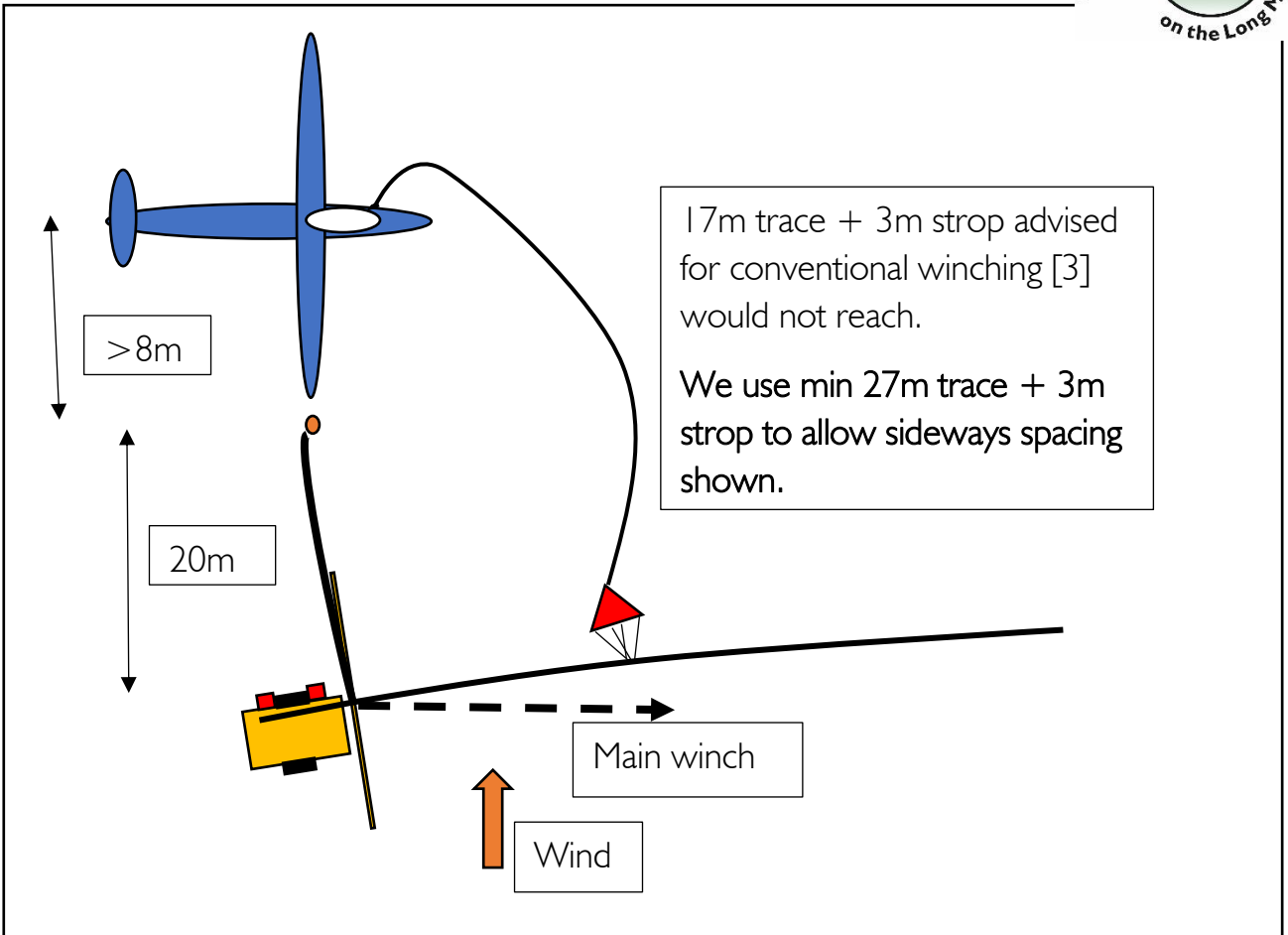
1. Before you open the drum or get near the cable:
 - a. Stop light on.
 - b. Tell retrieve winch to take keys out and not move the cable (even by hand) and stay by the radio to warn you if cable may move uncontrollably eg glider or car is about to cross the cable.
 - c. Make sure they acknowledge
2. The engine and drum covers are our primary guards. When you have to work beyond them, make sure nothing is moving and nothing **can** move.
3. The main fans are engine-driven but there are also automatic fans that come on unpredictably. Don't work near them with electric power on, even with the engine stopped.
4. If you need to untangle the main drum, first tie a loop of cable around the roller box strut.
5. If it's a serious tangle, get someone else to stand with you. You may not be able to radio for help if you get into trouble. **You are the only judge of what's serious and delay is irrelevant.** If anyone makes a fuss, please report it to No1 or to me.
6. Always use the cable hook to thread the cable through the guillotine and roller box.
7. The main launch and retrieve cables are braided steel cables which may have sharp strands exposed which can cut and may carry infections and diseases.
8. Don't change wheels/tyres on the field if possible, and certainly not alone.

There are other ways to hurt yourself and others, and no reasonable list can be comprehensive. Your brain is the most important piece of safety equipment.



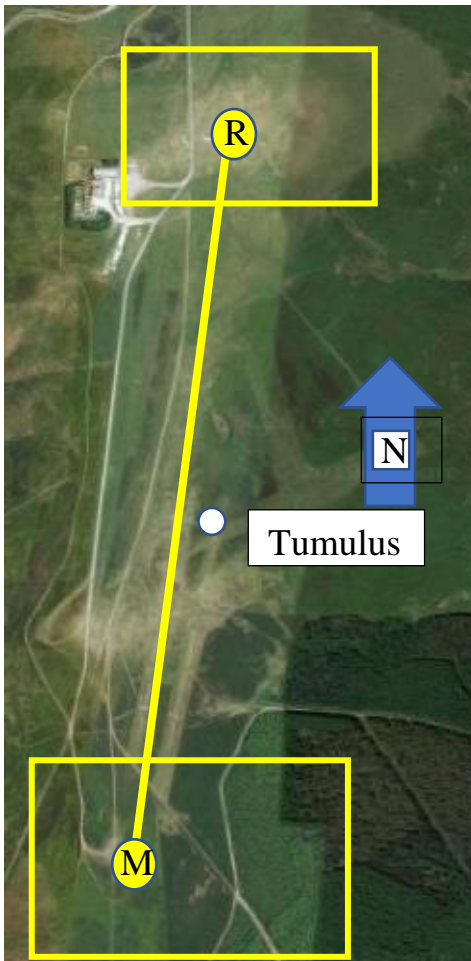
Retrieve winch setup





Long South

Southerly plus Light Easterly/Westerly Often some tailwind accepted



Tumulus limits possible launch positions East/West.
 Usually about here, sometimes closer to road if clearance for landing / MG take-off not required.
 Can be further North if Westerly landing run not required.

Can move MW on shelf to suit wind, but visibility limits amount of shelf usable.
 Too far back lose sight of gate A and people on nearer path, East lose post, West lose gate B. Forward too steep. Slabs mark approximate limits E/W.
 Don't launch with anyone on gravel track in Easterly.



Post

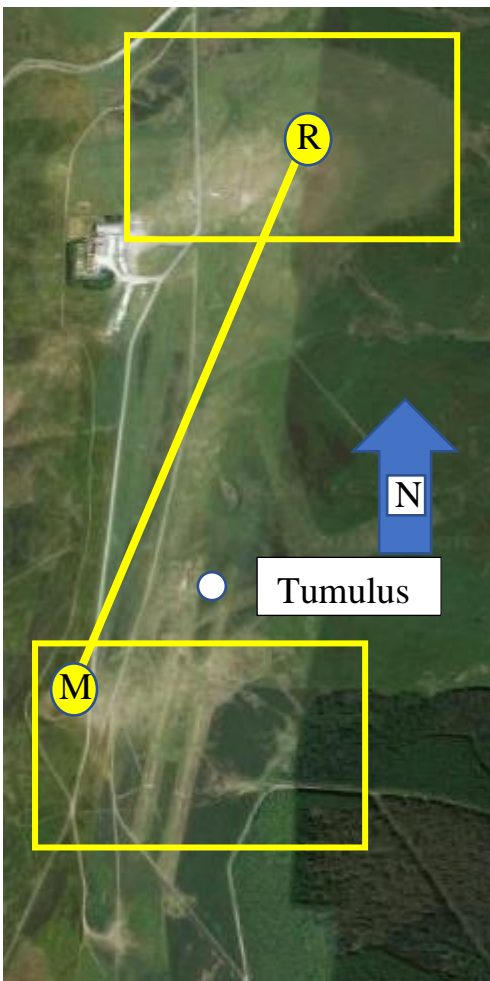
Dip. Can't see track, but should see people unless vegetation gets tall. **Check**

Drive through heather when top corner soft

Image © 2019 Getmapping plc
 © 2018 Google

The Knoll

Moderate Westerly, strong south Westerly



Clear of Tumulus. No 1 can choose a wide range of launch positions depending on the landing runs he wants to use.

Launch 210deg approx. Tailwind if N of 300deg.

NB Easterly launch positions tend to be in wind shadow, and need extra throttle early on.

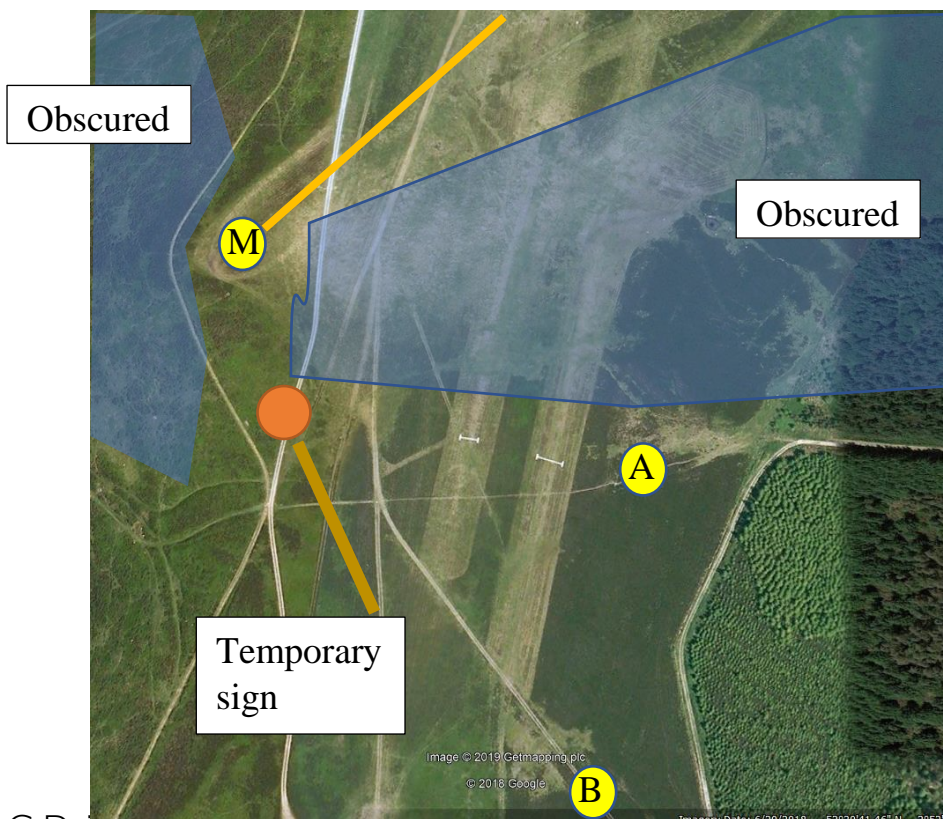
Little choice of main winch position.

Check view of gate A

Cable across road and limited view. Suggest temporary sign to slow cyclists

Stbd way W of winch and gravel track E of winch: Tracks are obscured, but users visible. Can't monitor approach along gravel track from S during launch, hence proposed temporary sign.

Don't launch when cyclists can be seen approaching along the southern or south-eastern tracks.



Short West – New (in fact reversion to an older method)



Concrete pads



Temporary sign
Warning cyclists



Position main winch to give view along starboard way. Little margin to shift and still see into dips (red). Can be close East or West of track. Allow for emergency landing area (discuss with No 1).
Positioned so that launch crew can monitor road both ways. Retrieve cable not used.
Watcher in vehicle not needed.
Winch driver can see glider much earlier.

Put winch as far N as possible to increase emergency landing area, but without losing sight of Southern dip.

Winch wire crosses Starboard way close to winch, so it is lifted up. Trip Hazard. If available, use signs to get walkers etc to pass behind, or at least pull out some cable so that it lies flat.

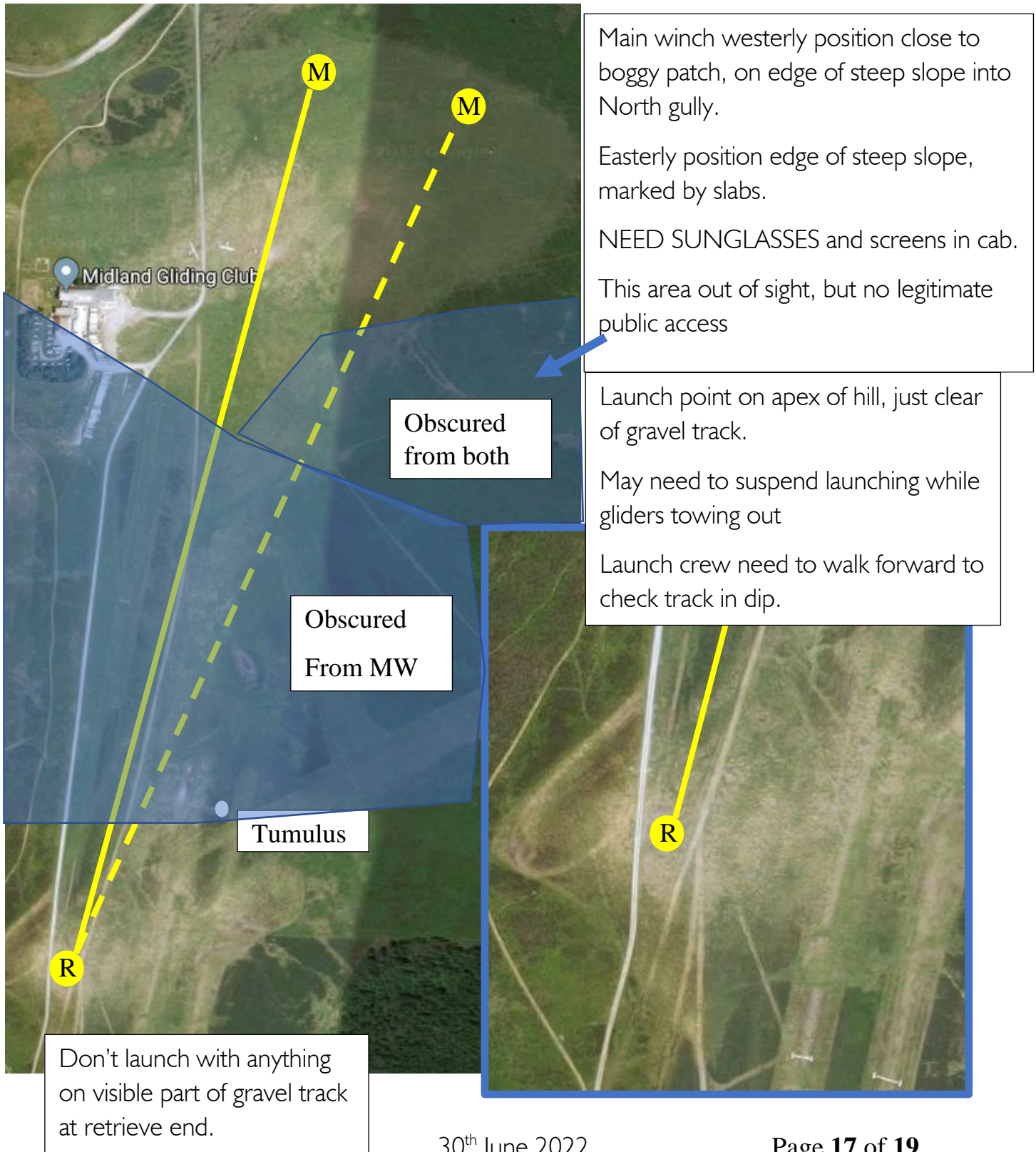
Retrieve cable not used.

Retrieve winch used as signalling station only, therefore barrier optional. May use barrier lights to signal or use other light. The tall light pole is no longer essential, but may be used.

North end



Launch point near the Knoll, so cable clear of tumulus. Hence freedom to move main winch East/West. Shorter run, so position as far North as possible. No specific points for MW to watch for walkers. Can see road when cable will pass close to it. Gully below Howard's way out of sight, but no legitimate public access. Launch point can see the access gates at the South end. Launch will normally have a bit more wind than you do.



Top of Howard's Way (rarely used)



Allows flying to continue in Easterly. Not much launch height and c/b options poor, so need good conditions to get more than a circuit.



Retrieve cable not used.

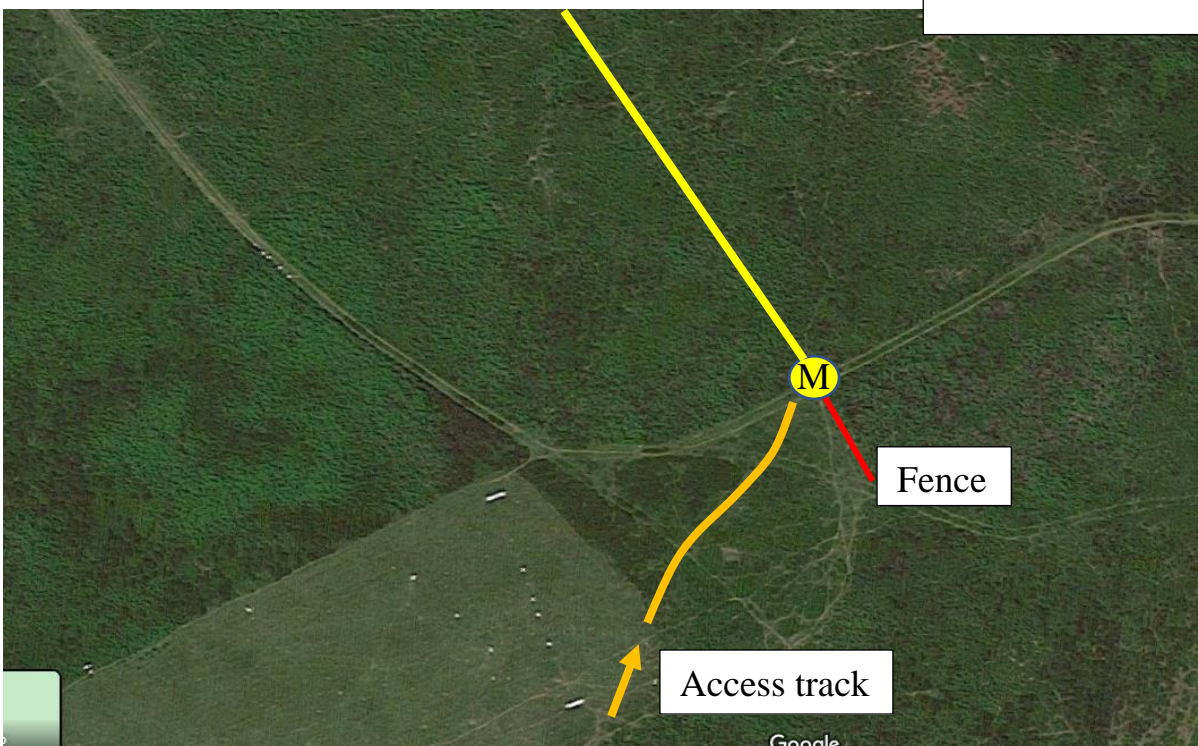
Glider launched from Carter's meadow.

Retrieve used as signal station. Positioned to check road clear.

Main winch driver can't see into gully just ahead.

Need Vehicle to watch (either of positions shown).

Cable towed out by vehicle. Can't use track – puts too much bow in cable. Vehicle has to descend steep slope.



South Westerly from Howard's way (rarely used)

Rarely used.

Allows heavier gliders to launch in Short West conditions while bungee is in operation (info from David Brown) Winch East or West of gravel track, but probably further North than shown, to suit the wind. Consult No 1.

Launch from near bottom of Howard's way, and at edge.

Landing probably on Howard's way.

