RETRIEVE DRIVING

Note:

Retrieve drivers should be <u>shown</u> how to retrieve the cables by an experienced operator. These notes are intended as a reminder of information that should be given during such a demonstration.

SAFETY

It is important to have safety in mind at all times when driving the retrieve vehicle. Remember:

You are operating on the glider landing strip
During cable pull-out your actions control the rotation of the winch drums
The cables behind the vehicle can present a hazard to others
The cable can fall on the retrieve vehicle if it is in the wrong place

With due attention retrieve driving need not be hazardous to you or to others.

DAILY INSPECTION

The first retrieve driver of each flying day must carry out the following inspection of the retrieve vehicle:

OIL	Check engine oil level, top-up to the HIGH mark
WATER	Check that radiator is full, top-up if required
TYRES	Correctly inflated (Land-Rover tyre pressure is 25 psi)
FUEL	Sufficient for the day. Normally refuel to give a full tank

PULLING OUT CABLES

The objectives of the pull-out are to

(α) achieve a straight pull to the launch point with no risk of the cables crossing, and
(β) drive steadily at a moderate speed so that there is no risk of the winch drums over-running and throwing turns of cable

Any curve in the cable can straighten unpredictably either during the pull out or during the launch. The two cables may behave differently because of the uneven surface of the field, consequently one could move on top of the other and get entangled.

Cables get crossed easily on a multiple pull-out. If the pull-out has not been straight, or if it suspected that the cables are close together, they should be separated before the start of the launch. (Refer to BGA RP 8)

1. **Wait in a safe area until launching is completed**

When at the launch point it is usual to wait behind the first glider to be launched and to return to the winch as the glider is launched (see below). When at the winch end the preferred waiting area is to the side and slightly upwind of the winch. You do not then have to cross the cables before pulling them out. During launches watch the glider in case of a cable or weak link break (see below)

2. **Position the retrieve vehicle centrally in front of the winch**
   Use the winch as a guide for positioning, not the place where the cables have come to rest. A straight pull-out cannot be achieved if the starting position is wrong.

3. **Attach the cables using the pull-out weak links**
   The correct link is a loop made from of a single strand of winch cable. Should a problem arise the link will fail before the launching cable is damaged.

4. **On signal TAKE UP SLACK from the winch driver**
   Move gently forward. Do not snatch the cables.
   The winch driver may use the drum brakes to tension the cables

5. **On signal ALL OUT, accelerate smoothly to retrieve speed**
   Do not move the cables if a STOP signal is given!
   The speed of the pull-out should be steady normally at about 20 mph. The winch driver should tell you if a slower speed is required.

6. **Drive steadily in a straight line to the launch point**
   Aim to between the traffic cones marking the gap between the two launch lines. If there is a single launch line or a single cable is being delivered to a specific glider then it should be delivered upwind of the glider.
   Pick aiming marks on the boundary beyond the gliders and on the skyline to assist in keeping straight. The skyline mark will be needed if the retrieve path goes in to the dip in the airfield.

7. **During the pull-out**
   Watch out for gliders approaching to land. Slow down gently to avoid any conflict with a landing glider – do NOT change direction. ***If necessary stop the vehicle – see next paragraph***. When the way is clear if you have not stopped accelerate gently back to normal speed.
   Watch out for signals from the winch and the launch caravan. If a STOP is given, stop the vehicle immediately, detach the cables, and return to the winch for instructions as soon as it is safe to do so.

8. **If you stop the pull-out before reaching the launch point**
   Stand beside the vehicle where the winch driver can see you. If you have stopped too quickly the winch driver may have to work on the cables before they can be moved again***. Do NOT resume the pull-out until the winch driver signals Take Up Slack.*** If you cannot see the winch or no signal is given, or the winch driver signals STOP then disconnect the cables and return to the winch for instructions.

9. **If a weak link breaks during the retrieve**
   Continue with the other cable to the launch point – BUT ONLY IF NO STOP LIGHT IS SHOWING. If towing the trailer it will slew slightly because of the unbalanced loading. Return to the winch for instructions regarding the dropped cable.

10. **When approaching the launch point**
    Slow down gently, aiming to come to rest at the launch point using only the drag of the cables to stop the vehicle. Avoid use of the brakes, this helps prevent the winch drums from over-running.

11. **Back up the retrieve vehicle to relieve tension in the cables**

12. If the cable run deviates from a straight line
    Inform the Duty Instructor and the Winch Driver before the next launch.
    It is important not to launch with a risk of crossed cables

RETURN TO THE WINCH

The retrieve vehicle should return to the winch with a minimum of delay while not holding up the launch. If it is not at the winch when the cables are ready to be pulled-out then flying is delayed. The return to the winch must not interfere with flying operations.

It is usually best to wait for the first launch to commence. When the glider is established in the climb check that the approach is clear before driving up the upwind side of the airfield, clear of the falling cable.

During the launch observe the glider and cable. Take care not to get below the cable as it falls! If there is a cable break observe where the parachute, or strop if separate, falls as you will have to collect it – see the “cable break” section below.

SINGLE CABLE OPERATION

If only a single cable is in use a simplified retrieve procedure may be used to expedite the launch rate. With only one cable a completely straight pull-out is not essential. If the cable is falling back down the launch strip the winch driver will not wind it in fully. The procedure recommended is:

(a) wait at the launch point until the glider launches
(b) follow the glider up the strip at a safe distance, noting that the parachute will fall closer to the launch point than usual
(c) stop beside the parachute with the vehicle pointing towards the launch point and attach the cable using the towing link
(d) **stand beside the vehicle and wait for the winch driver to signal Take Up Slack. Do not start the pull-out until the signal is given**
(e) on receipt of the All Out signal pull the cable back to the launch point in the usual way

CABLE BREAK PROCEDURE

Note: The winch driver is responsible for leading activities after a cable break. The retrieve driver's role is to assist the winch driver. The procedure below is a general strategy that the winch driver should modify if circumstances dictate.

During all launches, the retrieve driver should observe the glider. If there is a cable break the winch driver will stop the winch and allow the broken cable to fall on to the airfield. The retrieve driver should note where the remaining elements of the launch cable land. Depending on the nature of the failure the strop alone may fall free, the strop and parachute may fall separate from the cable, or a length of cable complete with parachute and strop may be involved. Subsequent actions depend on where the broken end falls and where the break has occurred.

If the cable appears to have fallen close to or across the public road:

(a) the winch driver and retrieve driver should both immediately go to the place where the cable has fallen. If the road is obstructed then signal any traffic to stop and clear the cable out of the way and on to the airfield
(b) carry out cable recovery and repair as described below

If the strop alone falls free:

(a) as soon as it is safe to do so the winch driver will wind in the cable, complete with parachute, to the winch
(b) the retrieve driver should collect the strop and take it to the winchthe link plate should be removed from the cable as soon as safely possible. A repair kit is kept in the launch caravan

Under all other circumstances:

(a) as soon as it is safe to do so the winch driver should collect a tyre and follow the cable from the winch to the break. He should then tie the tyre to the end of the cable
(b) at the same time the retrieve driver should go to the parachute. If the cable has fallen across a fence, hedge, trees, or other obstruction it should be carried or dragged back on to the airfield. Detach the parachute from the cable rather than drag it through heavy vegetation!
(c) the retrieve driver should then follow the cable to the break, secure the cable to the retrieve vehicle, and slowly tow the free length back to the winch
(d) the winch driver should meantime return to the winch and if safe to do so, wind in the length of cable still attached to the drum
(e) the cable is then repaired at the winch
(f) after repairs are complete the cable should be wound in fully, weighting the cable with a tyre to maintain cable tension. Refit parachute etc if they have been removed during the recovery.