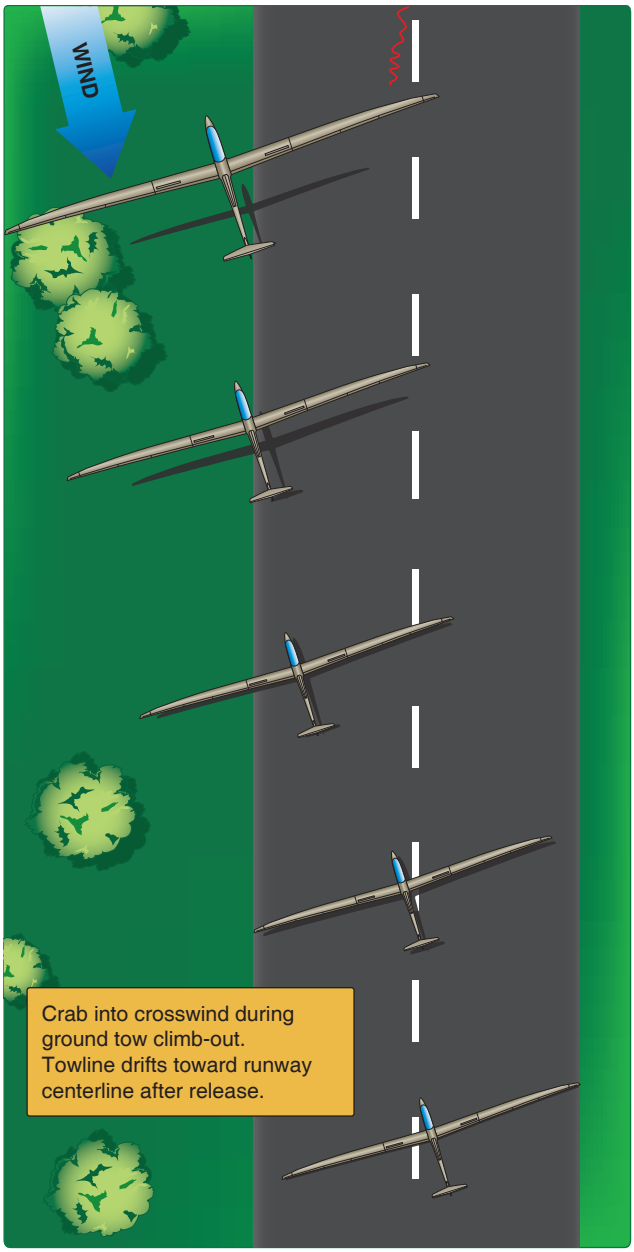

Figure 7-20. *Ground launch crosswind drift correction.*

moving forward as the long towline is tautened. Elasticity in the towline causes the glider to creep forward as the towline is tightened. For this reason, the towline is left with a small amount of slack prior to beginning the launch. It is important for the pilot to be prepared for the launch prior to giving the launch signal. If the launch is begun before the pilot gives the launch signal, the glider pilot should pull the towline release handle promptly. In the first several seconds of the launch, the glider pilot should hold the stick forward to avoid kiting. During the launch, the glider pilot should track the runway centerline and monitor the airspeed. *[Figure 7-21, position A]*

When the glider accelerates and attains lift-off speed, the glider pilot eases the glider off the ground. The time interval from standing start to lift-off may be as short as 3 to 5 seconds. After the initial lift-off, the pilot should smoothly raise the nose to the proper pitch attitude, watching for an increase in airspeed. If the nose is raised too soon or too steeply, the pitch attitude is excessive while the glider is still at low altitude. If the towline breaks or the launching mechanism loses power, recovery from such a high pitch attitude may be difficult or impossible. Conversely, if the nose is raised too slowly, the glider may gain excessive airspeed and may exceed the maximum ground launch tow speed. The shallow climb may result in the glider not attaining planned release altitude. If this situation occurs, the pilot should pull the release and land straight ahead, avoiding any obstacles and equipment.

As the launch progresses, the pilot should ease the nose up gradually *[Figure 7-21, position B]* while monitoring the airspeed to ensure that it is adequate for launch but does not exceed the maximum permitted ground launch tow airspeed. When optimum pitch attitude for climb is attained, *[Figure 7-21, position C]* the glider should be approximately 200 feet AGL. The pilot must monitor the airspeed during this phase of the climb-out to ensure the airspeed is adequate to provide a safe margin above stall speed but below the maximum ground launch airspeed. If the towline breaks, or if the launching mechanism loses power at or above this altitude, the pilot has sufficient altitude to release the towline and lower the nose from the climb attitude to the approach attitude that provides an appropriate airspeed for landing straight ahead.

As the glider nears its maximum altitude *[Figure 7-21, position D]*, it begins to level off above the launch winch or tow vehicle to reduce the rate of climb. In this final phase of the ground launch, the towline is pulling steeply down on the glider. The pilot should gently lower the nose of the glider to reduce tension on the towline and then pull the towline release two to three times to ensure the towline releases. The pilot feels the release of the towline as it departs the glider. The pilot should enter a turn to visually confirm the fall of the towline. If only a portion of the towline is seen falling to the ground, it is possible that the towline is broken and a portion of the towline is still attached to the glider.

If pulling the tow release handle fails to release the towline, the back release mechanism of the towhook should automatically release the towline as the glider overtakes and passes the launch vehicle or winch.

Climb-Out and Release Procedures

The pitch attitude/airspeed relationship during ground launch is a unique flight experience. During the launch, pulling back on the stick tends to increase airspeed, and pushing forward tends to reduce airspeed. This is opposite of the