

# EWG Maintenance/Operation

## Transporting the EWG Trailer

1. The EWG trailer uses a 2" ball hitch.
2. Connect brake lights and attach chains to vehicle for safety.
3. Check for any loose objects on trailer, including plate, spare tire, etc.
4. Make sure the pin is installed through the hammer with a cotter-pin lock. You do not want the hammer to release while driving (trust me).
5. The trailer appears very stable on the highway, but drive with caution on rough roads.
6. The State of Idaho does not require a license for this trailer.

## Engine/Hydraulic Maintenance/Operation

1. The EWG engine (5.5 HP Honda) is serviced each spring by BSU fleet maintenance (contact Larry Stolworthy), so unless the system has seen many days of field operation, the engine should run fine (plugs, filter, etc.).
2. Check all fluid levels prior to each day's operation. Fluids include gasoline, engine oil, and hydraulic fluid. The engine will shut down if oil level is low. The hydraulics will not work properly without lubrication.
3. Check for hydraulic hose leaks. If the engine/hydraulic pan accumulates fluid, it is likely from a leaky hose. Replace or repair hose as needed.
4. During normal operation, gasoline reservoir will need to be filled after ~4-5 hours.
5. Know how to use a choke when cold starting the engine.
6. During normal operation, throttle the engine to max for best performance.
7. Wear ear protection when operating EWG.

## EWG Maintenance/Operation

1. Prior to each day's operation, grease hydraulic arm hook, trigger wheel, hammer pin. Add grease regularly during the day to ensure parts do not fail.
2. A rubber band accelerates the hammer, but the rubber band eventually fails (~\$100 each @ Western Rubber & Supply, Inc., 925-960-8700). Double over the 14' rubber band to maximize hammer acceleration. The hammer should be lowered to the ground prior to installation and removal. Install band on the inside of the frame. Don't be afraid to really crank down on the rubber band tension. Steel pins in the mechanical toolbox should be used to crank down or release the tension. **Care should be taken when removing the rubber band, arms and fingers could be lost!** Rubber band tension (wraps) should be equally wound on both sides to reduce the risk of self unwind. Once loaded, do not stand within a few feet of the rubber band.
3. Grease rubber band sides and top to minimize friction with the EWG frame. Failure to grease sides and top will decrease the band life. Rubber bands will last 1-3 field days. Replace if large tears appear in the rubber. Rubber degrades in the sun, so store out of light.
4. Be careful when lowering the hydraulic arm not to hit the rubber band, as this may penetrate the rubber and decrease the band's life.
5. If the ground below the plate is significantly lower than the wheels, the hydraulic arm cannot pick up the hammer. Try bouncing on the rear of the trailer (2-3 bodies), a car jack, or crane.
6. 12V battery controls the hydraulic operation. Charge each night of operation.
7. Hydraulic arm loosens with operation (rotates). Tighten as needed. Lock tight™ will work if problems persist.