

1750-G30 Petersen Bottom Grab Instructions

Warranty and Parts:

We replace all missing or defective parts free of charge. For replacement parts, we accept Mastercard, Visa, American Express, checks, and institutional P.O.'s. All products guaranteed free from defect for 90 days. This guarantee does not include accident, misuse, or normal wear and tear.

Introduction:

The Petersen Grab is a time-tested device that has been referenced in the literature since 1930. It is designed to take samples in firm clay bottoms free from vegetation but with intermixtures of smaller pebbles and other coarse debris. It works well in clear, firm, clay bottoms to the depth of its scoops, or, if the clay is very hard, as deep as most aquatic invertebrates dig. Because of its weight, always use a winch when sampling.

This grab is most commonly used where Petersen sampling data exists from 1930 or before. For obvious reasons, new comparative data should be collected in the same fashion as the old.

The Petersen's clamshell hinge design, with no side plates or underlip, distorts the soil sample. This is characteristic of this grab and is one reason why it must be used for historical comparison.

Constructed of zinc plated steel to prevent corrosion, this grab features a large sampling area, tapered scoop edges and a safety pin lock.

Safety:

Safety is always a concern in field sampling.

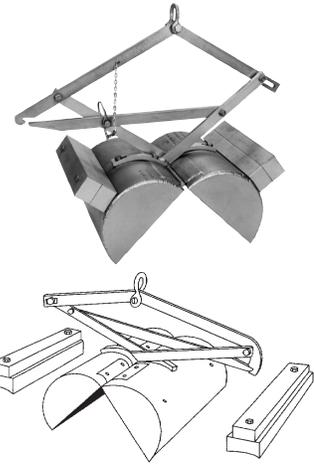
1. Be sure you are able to keep the boat in proper balance at all times. The Petersen is heavy. Lowering, raising, dumping and washing contents may require leaning over the side of the boat. Keep your balance. Use a winch.
2. Accidental movement of the levers and scoops can result in severe pinching of hands and fingers. Be careful handling the Petersen Grab when the safety pin is not fully latched in its safety position.
3. Use a winch! The Petersen Grab weighs about 34 kg (75 lbs) when

empty, without auxiliary weights and without sample. We strongly recommend use of the **81-A10 Boat Crane** along with a boat 7' (22 m) or larger.

How To Use:

1. **Prepare the sampler.**
 - a. Attach strong line or **61-B14** stainless steel cable (recommended) by looping through the clevis top center of the lever arms. Secure the line with a strong knot - or secure the cable with thimble and clamp - to prevent losing the sampler.
 - b. Attach the other end of the cable to the winch. Make sure the winch mount or **81-A10** boat crane (recommended) is securely fastened to the boat.
2. Before lowering the Petersen into the water, be sure the bayonet arm is in position and the cable or line is taut. Now unlatch and remove the safety pin. As long as the line is taut, the bayonet arm will stay in place. When the line becomes the least bit slack, the bayonet arm tip will slide out of its notch in the top lever arm, allowing the scoops to close.
3. **Take the sample.** Lower the sampler to the desired sampling spot on the bottom. The settling of the grab on the bottom slackens the line, allowing the bayonet arm tip to slip out of its notch. Pull the line or cable up. This causes the lever arms to drive the scoops into the bottom sediments, closing the scoops, before lifting the grab off the bottom.
4. **Retrieve the sample.** After the scoops are closed, bring the grab to the surface by pulling up the line or cable.
5. **Remove the sample.** Dump the sample into a sieve (**188-E10** Wash Frame recommended) or other device to sift out contents. Rinse reasonably clean with water. If specimens are not counted or analyzed at once, they are often placed into a labeled plastic bag or jar for later analysis.

There are many other ways to process the sample, depending upon the reason for taking the sample.



Sampler maintenance

Daily cleaning:

After each sampling session, all the equipment should be rinsed thoroughly in fresh water to remove any dirt, salt and other debris, then allowed to air dry completely before storing. Some small amount of surface corrosion is normal.

Hard water scale:

When sampling in hard water, calcium carbonate and other insoluble particles may build up on the sampler and its parts. If this occurs, remove by soaking the entire sampler in a 3 N solution of nitric, sulfuric, or hydrochloric acid will remove the scale without damaging the metal or plastic parts. Soaking time should be limited to 30 minute sessions, with thorough rinsing and visual inspection. Repeat as necessary.

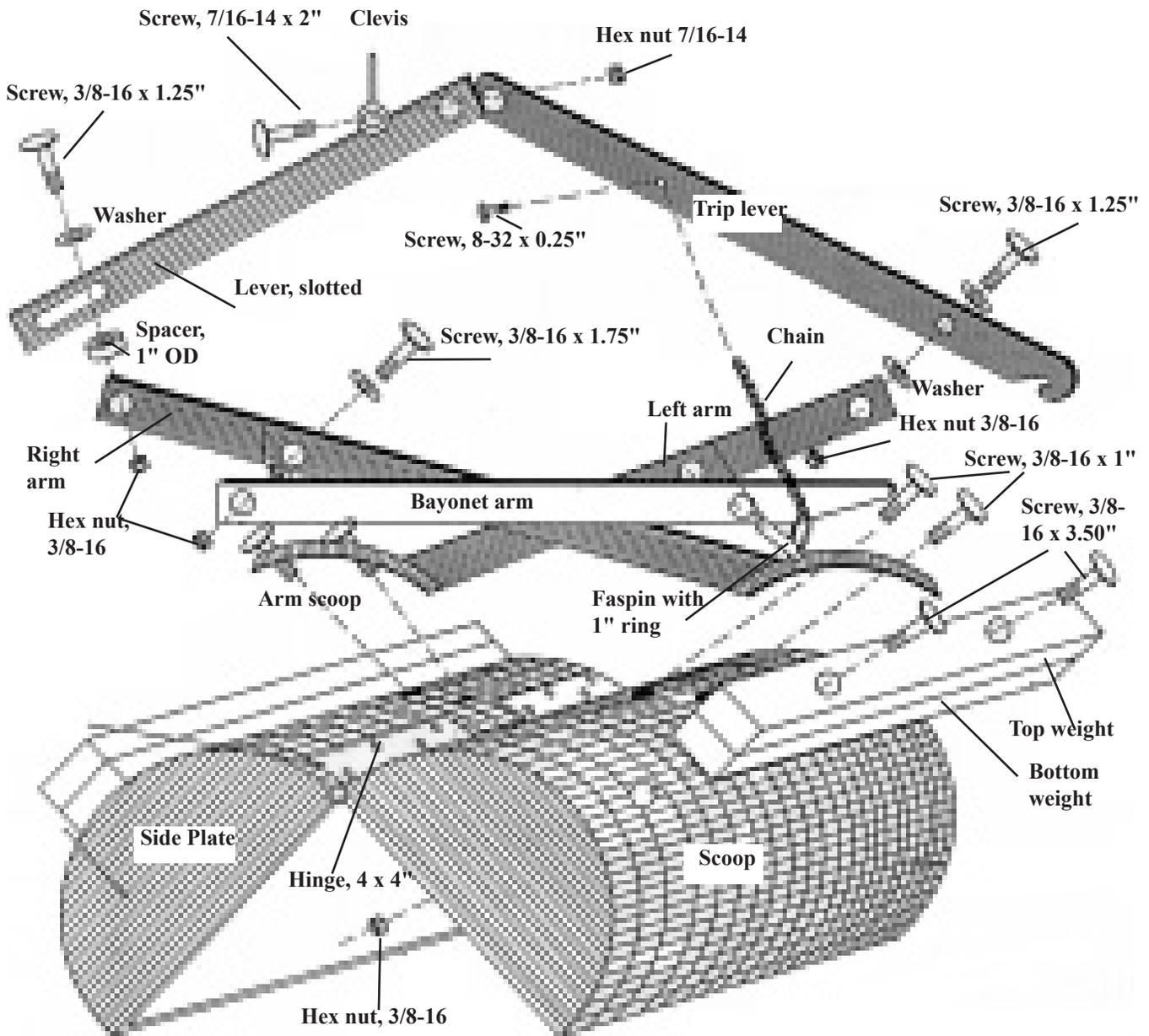
Additional equipment needed:

- **61-B14 Wildlife Supply®** stainless steel cable (100')
- **81-A10 Wildlife Supply®** Boat Crane
- 7' (22 m) boat or larger

This is the minimum equipment needed and only in low waves.

Accessories:

- | | |
|----------|-----------------------------------|
| 188-E50 | Wash frame for rinsing contents |
| 81-A10 | Utility boat crane |
| 61-B14 | Cable, stainless steel, 100 ft |
| 61-B52 | Cable, stainless steel, 100 m |
| 1751-G32 | Weights, two (2), stainless steel |



Since 1930 the Petersen grab has been used in fresh water for collecting macroscopic fauna in *sand, gravel, marl, clay* or clay combinations. If used in *salt water*, it must be painted for protection. Widely used over 6 decades, it's ideal for comparing data collected previously by a Petersen grab. Vent holes permit water to flow through while the grab is being lowered, minimizing diagonal movement as well as reducing the frontal shock wave generated by descent. Jaws close clamshell fashion. We include a safety-pin latch to prevent the scoops from closing to help prevent injury. The bayonet-style trip mechanism is designed to release only when the sampler is on the bottom and the cable is slack. This is a deliberately heavy device for biting deep into hard bottoms and can hold up to 8 removable weights for even more oomph. Operation requires winch and crane due to the working weight. *Ship wt: 115 lbs.*

- Materials: Zinc-plated heavy steel
- Weight and volume: 34 kg (75 lbs.) - 9890 mL volume
- With extra weights: 42 kg (93 lbs.), steel
- Sample area: 305 x 305 mm (12 x 12")

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