

Pro Barrel[®] by ARM-USA

Operating and Maintenance Instructions



Ideal for rescue and recovery operations



Long range research and exploration logistics



Transport to and from remote locations



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General Information

Scope:

This manual contains operating and maintenance instructions for the Pro Barrel® manufactured by Aircraft Rubber Manufacturing, Inc. (ARM-USA).

Description:

Pro Barrels are cylindrical, flexible liquid storage devices intended for the storage and transport of fuel. When empty, the Pro Barrel® is collapsed into a small package easily transported and stored. When filled, it is a convenient and stable cylindrical shape is easily transported by helicopter or truck.

Pro Barrels consist of a heavy-duty fuel resistant laminated construction that is extremely robust. An outer top coat provides an environmental barrier against weather and abrasion.

All flanges are industrial grade, heavy duty treated steel with welded lift attachments and threaded connections.

Operating Temp: 32° F to 90° F (0° C to 32° C)

Operating Pressure: 5 psi (34.5 Kpa)

Connection: 2" NPT female pipe thread

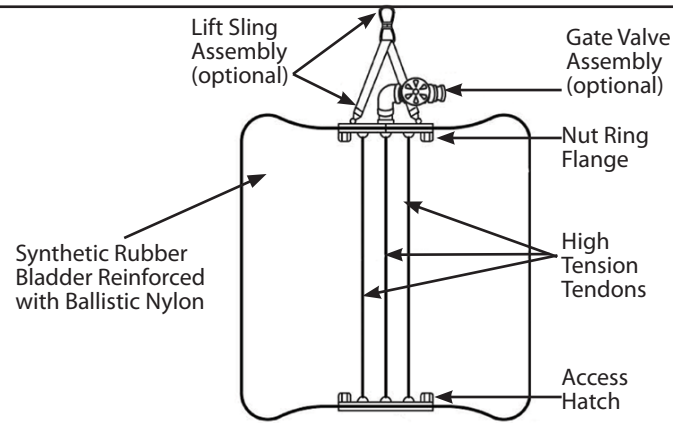


Figure 1. Section view of the Pro Barrel® with nut ring flange and access hatch closures, optional gate valve and lift sling assemblies.

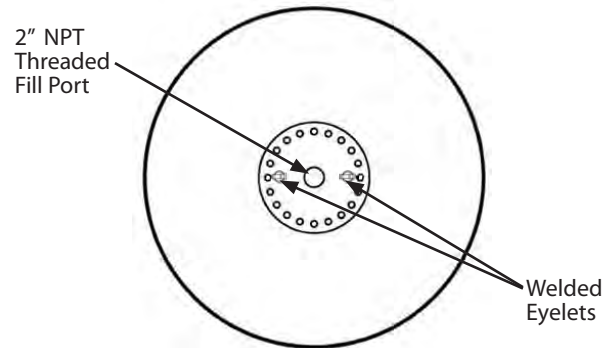


Figure 2. Plan view of the Pro Barrel® with heavy duty top cover plate. Bottom blank plate is the access hatch for cleanout.

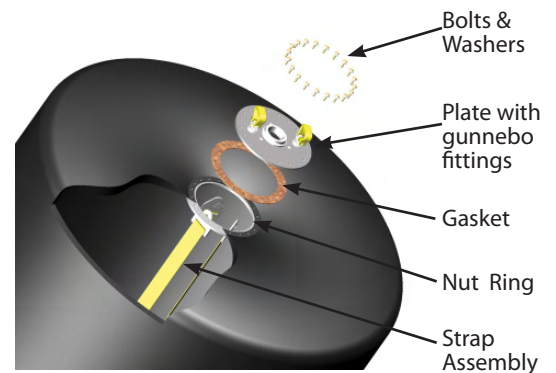


Figure 3. Internal view of Pro Barrel with expanded top plate

Pro Barrel® Sizes and specifications

Capacity	Part No.	Dry Weight	Dimensions
500 U.S. gal. (2000 l.)	PRO-B-500	130 lbs. (59 kg.)	50" dia. x 50" ht. (127 cm. x 127 cm.)
250 U.S. gal. (1000 l.)	PRO-B-250	100 lbs. (45 kg.)	39" dia. x 42" ht. (99 cm. x 90 cm.)
55 U.S. gal (220 l.)	PRO-B-050	60 lbs. (27 kg.)	23" dia. x 35" ht. (59 cm. x 90 cm.)

2 Principles of Operation

The Pro Barrel® is a non-vented collapsible container that is used for the storage and transport of liquid fuel. The construction of the Pro Barrel® allows easy filling and draining at remote sites.

The Pro Barrel® is filled with fuel by gravity or pump to the operating pressure of 5 psi.

Once filled, the Pro Barrel® becomes a semi rigid structure capable of being transported by air or ground vehicle and by slinging beneath a helicopter.



Figure 4. The Pro Barrel® arrives factory crated in a hardwood shipping container. Filling the barrel will cause it to rise and it will be self-supporting when full.

3 Warnings

- A. Secure the Pro Barrel® to avoid slipping or rolling during filling and draining operations.
- B. Fill only with hydrocarbon fuels (diesel, gasoline, AVGAS).
- C. If spillage occurs, proper cleanup procedures must be instituted immediately.
- D. Wear protective goggles and clothing when working around filling and draining operations.
- E. Avoid contact with the fuel. If there is contact, wash immediately with hot soapy water.
- F. Do not allow open flame or smoking within 100 feet of filling or draining operations.
- G. Stand clear; while the Pro Barrel® is being lifted do not stand within 50 feet. The Pro Barrel® is very heavy when filled and normal precautions must be taken as with any heavy object.
- H. If the Pro Barrel® starts to roll do not stand in its way.
- I. Rough surfaces and sharp objects can seriously damage the Pro Barrel®.
- J. Do not tow, this is not the type of barrel that can be towed.
- K. Do not use the Pro Barrel® for water storage.
- L. Any leakage from the Pro Barrel® or fittings must be remedied immediately.
- M. Do not operate the Pro Barrel® in extreme heat or cold. Protect the Pro Barrel® from direct sunlight.



Figure 5. Optional sling assembly is mounted to welded lift lugs on the top plate.

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Operating Instructions

- A. Insure that all connections and fittings are secure and liquid tight before using the Pro Barrel.
- Note: The bolt torque for the 1/4-28 bolt fasteners is 100 inch lbs.*
- Note: The sealing washers used with the 1/4-28 bolts must be replaced if the bolts are removed. While the bolt may be tightened without changing the sealing washers, if the bolts are removed the washers must be replaced.*
- B. The Pro Barrel® must be fully collapsed before filling can be started. Because the Pro Barrel is non-vented there is no path for air to escape during filling, hence the need to exhaust all of the air. Trapped air will limit the capacity of the filled barrel.
- C. The Pro Barrel is easiest to fill if it is collapsed with the fill plate facing up like a pancake. (See Figure 4 on Page 2.)
- D. Insure that the collapsed Pro Barrel is on a flat and level surface with no sharp or abrasive objects that can cause damage.
- E. Connect the hose from the pump or filling source. Open the gate valve and begin filling. The filling pressure must be regulated (max 5 psi) to insure the Pro Barrel® is not over pressurized causing catastrophic failure.
- F. As the Pro Barrel® fills it will rise vertically into its cylindrical shape, guiding the Pro Barrel® up as it fills may be necessary to keep it vertical. If it is more convenient the Pro Barrel® can be filled on its side but extra care must be taken to insure that the surface under the Pro Barrel® is abrasion free.
- G. Once the Pro Barrel® is filled to the operating pressure, turn off the pump, close the gate valve, disconnect the fill hose and cap the cam-loc coupling.
- H. The Pro Barrel® is now ready for transport.
- I. Do not drag the filled Pro Barrel® as this can cause severe abrasion.
- J. To drain the Pro Barrel® follow the instructions in item d above, connect the drain hose to the cam-loc coupler (make sure the other end of the hose is securely connected to prevent spillage), open the gate valve and begin draining. Guiding the Pro Barrel® down, so as to create a flat pancake, will help in refueling or packing. This also will help in insuring all of the contents are fully drained.



Figure 6. Pro Barrels are available in three standard sizes. Our 500 gallon barrel weights only 130 lbs. dry and collapses to 5% of its filled volume for easy transportation and storage.

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Maintenance Instructions

- A.** Inspect visually for the following before and after each filling or draining operation.
1. Loose fittings or bolts
 2. Cuts
 3. Abrasions
 4. Worn components
- B.** Repair of Pro Barrel® leaks.
1. Fittings and flanges can be retightened.
 2. Pro Barrel® material is not field repairable; contact the factory for return procedures.
- C.** Any observed leakage must be repaired before further use.
- D.** Storage conditions
1. Drain the Pro Barrel® completely and insure that the Pro Barrel® is stored per the conditions listed below.
 2. Conditions:
 - i. Temperature: 50 to 80° F (10 to 27° C)
 - ii. Relative Humidity: 20 to 70%
 - iii. Do not store in contact with water.
 - iv. Store out of sunlight.

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Optional Accessories



Lift Sling Assembly
Part No. PB-LSA



Top Fill Plate with Lift Sling Assembly Installed



Cam-loc Cap
Part No. CLDC-200



Cam-loc Coupler
Part No. CLA200-M



Lift Hook
Part No. PB-LH



2" Gate Valve Assembly
Part No. GVA200

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Aircraft Rubber Manufacturing, Inc. Profile



Pro Barrel®, a division of Aircraft Rubber Manufacturing, Inc., designs and manufactures collapsible drums and barrels for oil, fuel, and diesel products that are built for reliability and durability. Aircraft Rubber has manufactured quality aircraft liquid containment bladders for over 30 years providing fuel bladders, portable fuel tanks and accessories for everything from long distance boat fuel tanks to race car fuel bladders.

Pro Barrel® storage barrels are built utilizing only the highest quality materials available. Each barrel is designed with the most advanced ballistic materials which are fuel resistant. We make every effort to ensure that our products consistently offer you the highest levels of protection and performance available.



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