

# **ATCL**®

# ***DROP DRUM™***

## ***AERIAL TRANSPORT CONTAINERS***



- **USER MANUAL**
- **MAINTENANCE MANUAL**
- **DRAWINGS & SPARE PARTS**

## GENERAL INFORMATION

### SCOPE:

This manual contains operating and maintenance instructions for Drop Drums™ manufactured by Aero Tec Laboratories, Inc.

### DESCRIPTION:

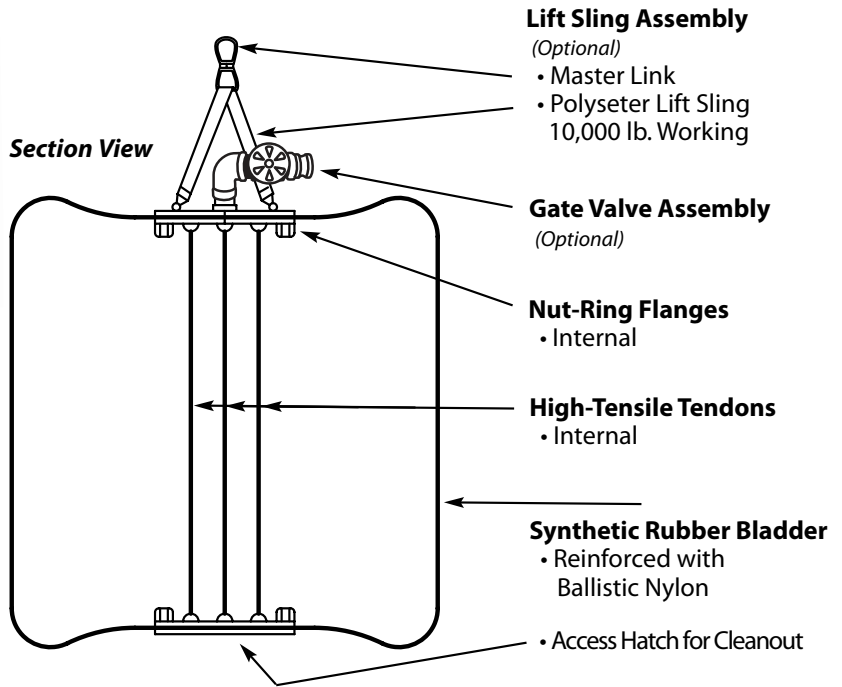
Drop Drums are cylindrical, flexible liquid storage devices intended for the storage and transport of fuel.

When empty, the Drop Drum™ is collapsed into a small package easily transported and stored.

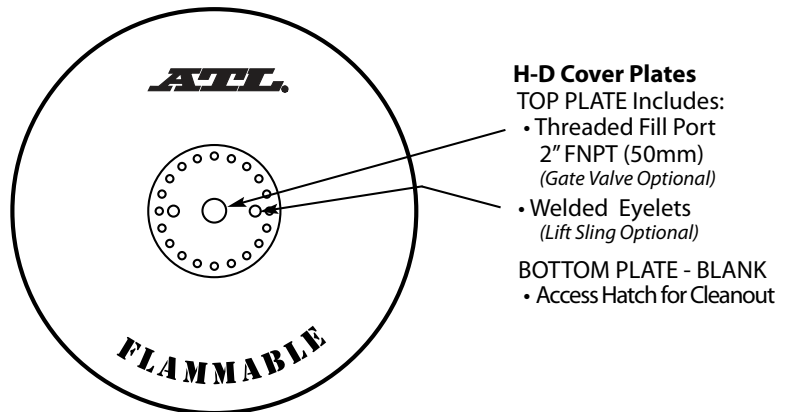
When filled, it is a convenient and stable cylindrical shape easily transported by helicopter, boat or truck.

Drop Drums 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.



**Plan View**



## ATL DROP DRUM SIZES AND SPECS

CAPACITY	PART NO.	DRY WEIGHT	DIMENSIONS	OPERATING PRESSURE
500 U.S. gal. (2000L)	108139	150 lbs. (68 kg)	51" diam. x 52"ht. (130cm x 132cm)	5 psi (34.5 Kpa)
250 U.S. gal (1000L)	108129	100 lbs. (45.4 kg)	39" diam. x 42" ht. (99cm x 107cm)	5 psi (34.5 Kpa)
55 U.S. gal (220L)	108106	60 lbs. (27 kg)	23" diam. x 35" ht. (58.5cm x 90cm)	5 psi (34.5 Kpa)

**FUEL COMPATIBILITY: Diesel, JP Fuels, MOGAS, AVGAS, Kerosene, Lube Oils**

## PRINCIPLES OF OPERATION

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The ATL Drop Drum™ is a non-vented collapsible container that is used for the storage, dispensing and transport of liquid fuel. The construction of the Drop Drum™ allows easy filling and draining at remote sites.

The Drop Drum™ is filled with fuel by gravity or pump to the operating pressure of 5 psi.

Once filled, the Drop Drum™ becomes a semi rigid cylinder capable of being transported by air, sea or ground vehicle and by helicopter sling.

## WARNINGS

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- A.** Secure the Drop Drum™ to avoid slipping or rolling during filling and draining operations.
- B.** Attach a grounding strap before filling/draining.
- C.** Fill only with hydrocarbon fuels (diesel, gasoline, AVGAS, jet fuel).
- D.** If spillage occurs, proper cleanup procedures must be instituted immediately.
- E.** Wear protective goggles and safety clothing during fill and defuel operations.
- F.** Avoid skin contact with fuel. If there is contact, wash immediately with hot soapy water.
- G.** Do not allow open flame or smoking within 100 feet of filling or draining operations.
- H.** Stand clear by 50'; while the Drop Drum™ is being lifted. The Drop Drum™ is very heavy when filled and normal precautions must be taken as with lifting any heavy object.
- I.** If the Drop Drum™ starts to roll, do not stand in its way.
- J.** Rough surfaces and sharp objects can seriously damage the Drop Drum™. Take precaution.
- K.** Drop Drums are not designed to be towed behind a vehicle.
- L.** Do not use the Drop Drum™ for drinking water transport.
- M.** Any leakage from the Drop Drum™ or fittings must be remedied immediately.
- N.** Do not operate the Drop Drum™ in extreme heat or cold. Protect the Drop Drum™ from direct sunlight when possible.



## OPERATING INSTRUCTIONS

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**A.** Insure that all connections and fittings are secure and liquid tight before using the Drop Drum.

**Note:** The bolt torque for all ¼-28 bolt fasteners is 100 **inch** lbs.

**Note:** The sealing washers used with the ¼-28 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.** Attach ground strap from metallic fitting to earth.

**C.** The Drop Drum™ must be fully collapsed before filling can be started. Because the Drop Drum is non-vented there is no path for air to escape during filling, hence the need to exhaust all of the air beforehand. Trapped air will limit the capacity of the filled drum.

**D.** The Drop Drum is easiest to fill if it is collapsed with the fill plate facing up like a pancake. (See Photo to Right.)

**E.** Insure that the collapsed Drop Drum is on a flat and level surface with no sharp or abrasive objects that can cause damage.

**F.** Connect the hose from the pump or filling source. Open the valve assembly and begin filling. The filling pressure must be regulated (max 5 psi) to insure the Drop Drum™ is not over pressurized causing leaks or failure.



**G.** As the Drop Drum™ fills, it will rise vertically into its cylindrical shape. Guiding the Drop Drum™ up as it fills may be necessary to keep it vertical. If it is more convenient, the Drop Drum™ can be filled on its side, but extra care must be taken to insure that the surface under the Drop Drum™ is not abrasive.

**H.** Once the Drop Drum™ is filled to the operating pressure, turn off the pump, close the valve, disconnect the fill hose and attach the dust-cap.

**I.** The Drop Drum™ is now ready for transport.

**J.** Do not drag the filled Drop Drum™ as this can cause abrasion.

**K.** To drain the Drop Drum™, 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 valve and begin draining. Guiding the Drop Drum™ 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.



## MAINTENANCE INSTRUCTIONS

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**A.** Inspect visually for the following before and after each filling or draining operation.

1. Loose fittings or bolts
2. Cuts or abrasions
3. Lift sling condition
4. Worn threads, valves, or couplings

**B.** Drop Drum™ Maintenance

1. Fittings and flanges can be retightened.
2. Drop Drum™ material is **not** field repairable; contact the factory for return procedures.

**C.** Any observed leakage must be repaired before further use.

**D.** Storage conditions

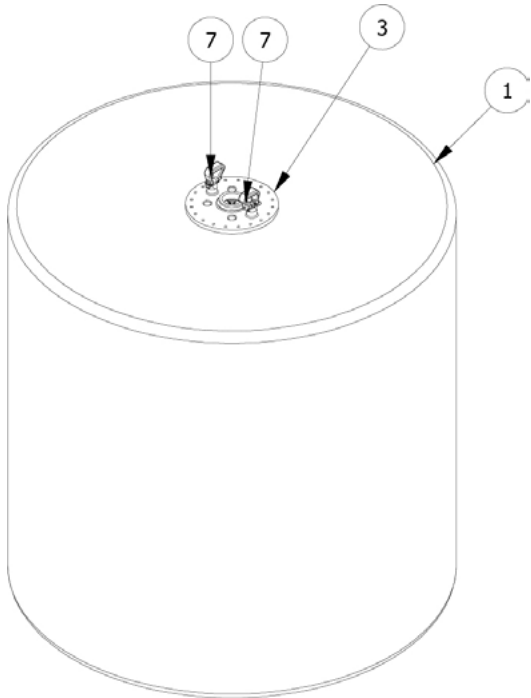
1. Drain the Drop Drum™ completely and insure that the Drop Drum™ is stored per the conditions listed below.

2. Conditions:

- i. Temperature: -20° to 80° F (-29° to 27° C)
- ii. Relative Humidity: 20 to 70%
- iii. Do not store in contact with water.
- iv. Store out of sunlight.

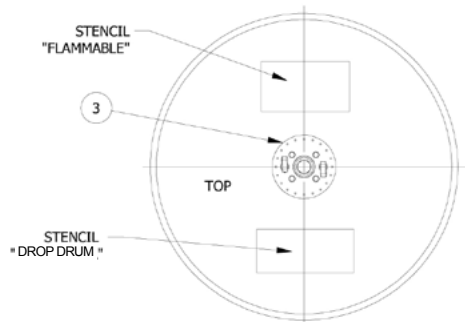
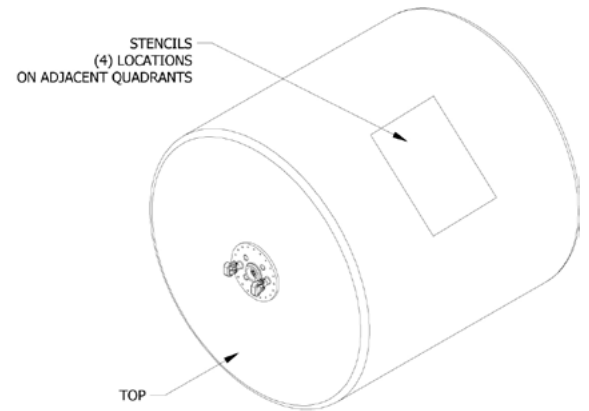
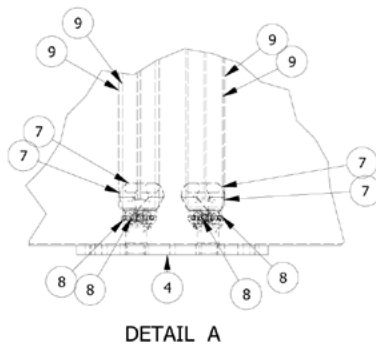
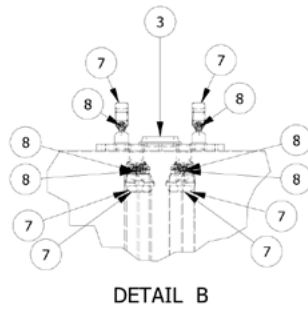
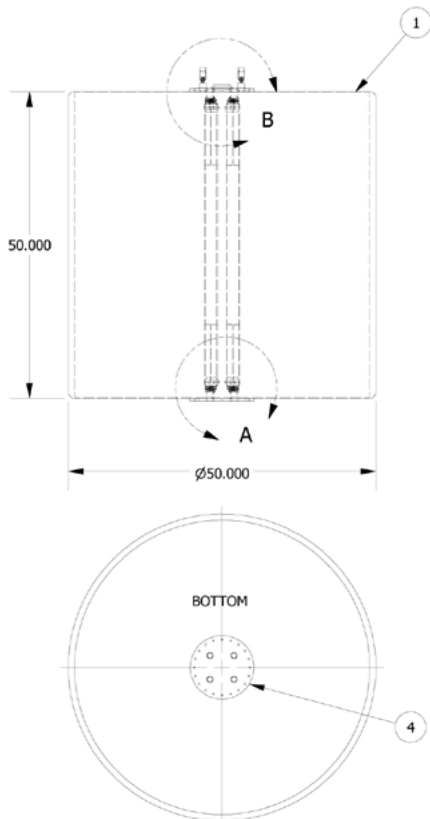


## DRAWINGS & SPARE PARTS



### 500 GAL. ATL DROP DRUM SPARE PARTS LIST

ITEM	DESCRIPTION	PART NUMBER	QTY
1	Bladder	6018-1	1
2	Coating	6018-2	1
3	TOP 20 Bolt Plate Assembly	3PLA192	1
4	BOTTOM 20 Bolt Plate Assembly	3PLA191	1
5	20 Bolt Plate Gasket	1GAS129	2
6	20 Bolt Nut-ring (Bonded In)	2MAC78	2
7	Round Sling Yoke	1HDW55	10
8	Yoke Pin	1HDW82	10
9	46 Inch Long Internal Strap	1HDW74	4
10	HCS 1/4-28 Bolts 1.5" Long, Grade 8	1FAS195	40
11	Sealing Washers	1GAS126	40





# ATL®



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