

Portable Fuel Storage: Choosing the Right Jerry Can

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General comments:

This Portable Fuel Storage: Choosing the Right Jerry Can paper has been written to educate people on the different types of jerry cans designed and built to store and dispense gasoline or diesel fuel. After reading this paper, it is hoped that the reader can then make an informed decision on which jerry can best fits his needs. Like anything else, there are very good jerry fuel cans, good jerry cans and not so good jerry cans. This paper will show which ones are which.

This paper is not going to discuss nor rate civilian type fuel cans that were not designed to meet military specifications for portable fuel storage containers. Generally, these cans come in all sizes and shapes and may or may not fit the standard military jerry can holder (discussed below) and do not have the pour spout/cap interface of a military jerry can. Their selection and use are beyond the scope of this FAQ.

The reason for selecting a military designed jerry can shape vs. non-military type cans is the fact that the jerry can shape is both timeless and very functional. The rectangular shape is easy and efficient to store. The three handles allow one person to hold two empty cans with one hand and allow handing off to another person without moving your hand. The jerry can is designed to have a small air pocket so it will float even when full. Furthermore, all come with a pouring vent allowing smooth fuel delivery without gurgling or pulsation. Buying a military designed jerry can ensures quality of materials and design and cheaper cans when bought as surplus.

The jerry fuel cans discussed in this FAQ all have the following general dimensions of 6.6" W x 13.9" L x 18.3" H and will fit the standard military style jerry can holder discussed below. All have three handles that were a part of the original German can design originating from before World War II. All have a capacity of 20 liters (5.2 gallons) of fuel except the 10 liter (2.5 gallon) fuel cans. For an interesting article on the history of the military jerry can, go to the Back Country trailer site at <http://www.backcountrytrailers.com/Trailers/BackCountry/off-road/gascan.htm>

Generally, jerry cans described herein are based on my experience and judgment. If you have a different experience, please e-mail me at aldolney@bellsouth.net.

This jerry can paper will discuss four different types of military jerry cans designed to store and dispense fuels:

- USGI plastic military fuel can (MFC)
- NATO style fuel can

- USGI steel military fuel can (aka "Blitz" cans)
- French fuel can

Each of the above four cans have different pour spouts and only one of these pour spouts is compatible with 2 jerry cans. Typically jerry cans will not safely and efficiently pour fuel without their corresponding pour spout, especially if you are refueling a vehicle that uses unleaded fuel. Therefore, it's important for you to know what kind of jerry can you are have or plan to buy so that you get the correct pour spouts and pour spout replacement gasket. This paper will detail each type of jerry can along with discussion on the type of pour spout required for each can.

California residents are no longer allowed to buy any of these jerry cans unless the corresponding spouts meet the new California Air Resources Board (CARB) spill-proof spouts. Although CARB spouts are available that fit some jerry cans, discussion of these CARB approved spouts is out of scope for this FAQ since these spouts are not a military standard.

In addition, there are 2 types of jerry can holders. The military designed holder will hold all types of jerry cans, both for fuel and water; the civilian version will only hold the Blitz style fuel can. More about this later.

USGI plastic Military Fuel Can (MFC):

The plastic MFC is the current US military fuel can and like its brother, the USGI plastic military water can (MWC), is very tough and very durable. It's much lighter than the steel jerry can and rust and corrosion are not a consideration with the plastic can. Another advantage of the USGI cans is that plastic is much less noisier than metal cans.

These cans are made by the same USGI water can manufacturer, Scepter of Canada. Current source for new cans is Brigade Quartermaster (BQ), Davidson Products and Generator Joe (see the appendix for sources and web sites). Cost new is \$39 each at BQ although I've seen combination sales of both the can and spout for about \$45. The main difference between the MFC and MWC is that the fuel can has three handles vs. water can's one and a different spout cap size and threads. Caps are not interchangeable between the 2 cans.

Used plastic MFC's can be purchased at Major Surplus for about \$10 each. Since these are used military MFC's, all of the ones I have are for diesel fuel. According to Scepter, the gasket material is different for diesel vs. gas. Although there are no MIL markings on them, they are made by Scepter and have the same dimensions, cap/spout interface etc. as the USGI MFC. I have several used MFC's from Major's and, except for minor surface scuffing and one can missing a gasket, they are in good shape and do not leak. I've always had good luck with Major's; however, your mileage may vary (YMMV).

The USGI MFC cans meet the US Federal specification A-A-59592, Can, Fuel, Military: 20-liter Capacity, dated August 28, 2000. This specification supersedes the previous Military specification MIL-C-53109, although new MFC cans that I've seen carry the MIL markings. Both of these specifications are in the public domain and should be available at any public library. See figure 1 for a drawing and dimensions of the USGI MFC.

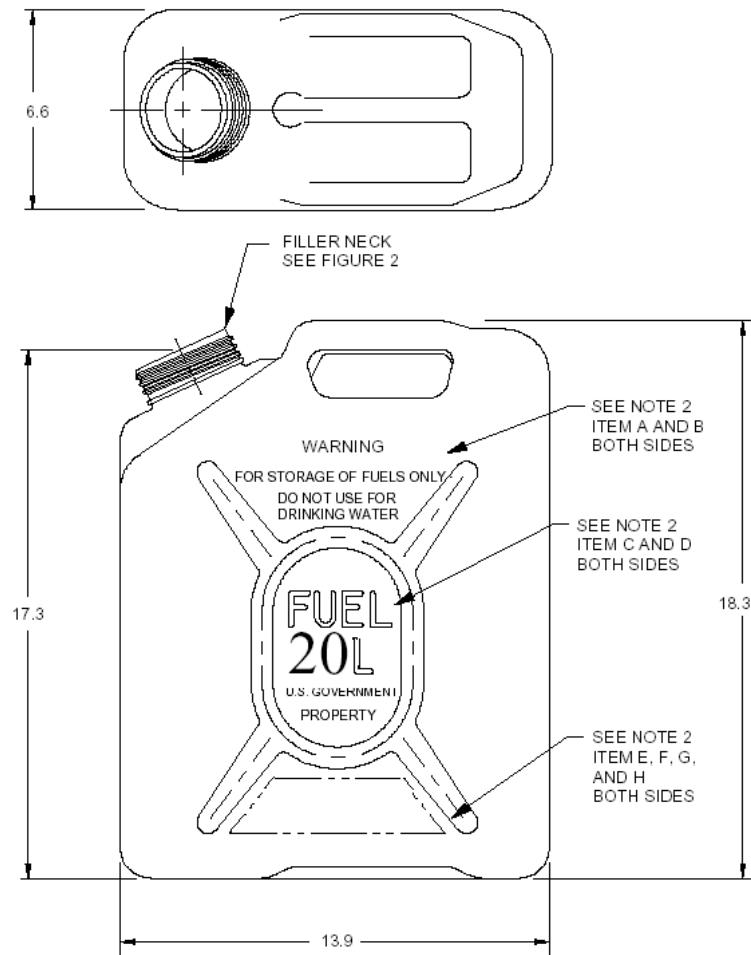


Figure 1 USGI MFC with dimensions (figure from A-A-59592)

This can has a 3.4" external (male) thread for the cap and designed to use a female threaded pour spout. This pour spout is not compatible with any other jerry can. The USGI MFC also has an internal female thread. This female thread pattern and size is compatible with the old "Blitz" style male threaded spouts. See figure 2 for the external thread and dimensions; note that the internal female threads are not shown on this figure.

Another advantage of the USGI MFC is that there are adapter cap assemblies available to turn the MFC into a spare fuel tank for your vehicle. These products are

available from Davidson Products. A complete adapter cap assembly with hoses etc. costs \$80, however you can get the adapter cap itself without hoses for about \$25.

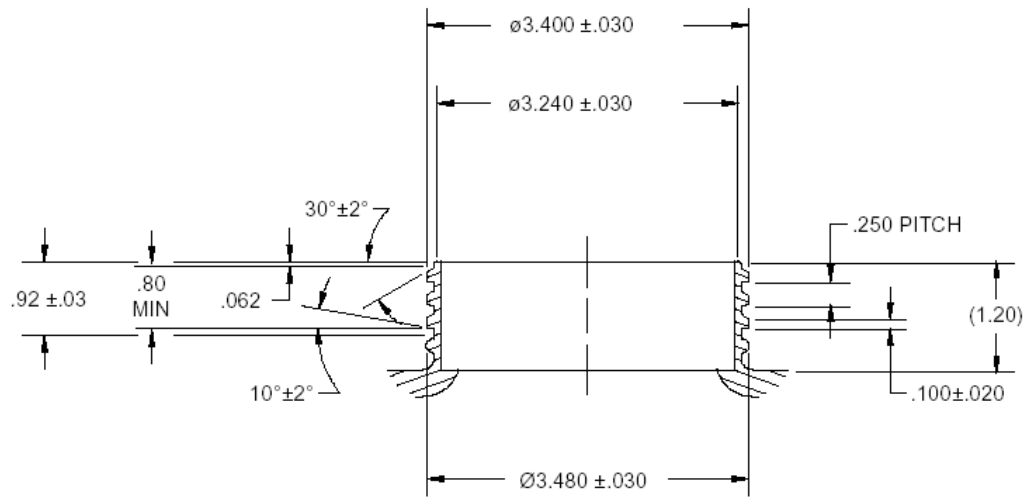


Figure 2 USGI MFC external pour spout thread and dimensions (from A-A-59592). The internal female threads are not shown. These internal threads are compatible with the male-threaded “Blitz” style pour spouts.

Figure 3 shows a picture of the USGI MFC and three pour spouts designed for them. Note that for unleaded gas powered vehicles in the US, you will need the smallest $\frac{3}{4}$ ” pour spout. Replacement gaskets are available directly from Scepter; gaskets for gasoline cans are about \$4.95 each with diesel gaskets are about \$1.95 each. The gaskets for gasoline cans are made of viton.



Figure 3, USGI MFC with 3 pour spouts. Note the female threads on the spout and cap. (photo courtesy of Scepter)

NATO Style Jerry Cans:

These steel cans are the current NATO spec cans used throughout NATO member nations in Europe. The NATO cans shape is similar to, but very slightly thinner, than the USGI MFC. The NATO cans will fit all military style jerry can holders.

This can is constructed of 2 sides welded together in the middle. The welded seam is leakproof unlike the early US steel jerry cans with their rolled seams. The design of this can has remained essentially unchanged since before WWII.

The main difference between these steel cans and USGI plastic cans, besides the material, is the pour spout. The NATO cans have a trapezoidal shaped locking cam cap and pour spout design. This design is very robust and leakproof, assuming the gasket is in good shape. The gasket for the NATO locking cap and the pour spout are the same. The NATO can gasket are different from the USGI MFC and the steel "Blitz" style can cap and spout gasket discussed below. See figure 4 for a picture of a typical NATO style can.



Figure 4 NATO Style Steel Jerry Cans. Note the trapezoidal can opening and locking cam mechanism. (photo courtesy of Major Surplus)

Used NATO cans are available on-line from several sources, notably Major Surplus and Cheaper than Dirt. Prices vary from \$10-\$15 each. CTD also has Israeli new cans for \$60 for four cans, a very good deal. One thing to watch for when buying used cans is that the internal coating may be flaking off the insides. If so, you'll either need to remove all of the flaking and replace it and/or take steps to not contaminate your fuel with the paint flakes when refueling. Major Surplus also have the pour spouts for about \$7 each plus the can cap and pour spout gaskets for \$.95 each.

Both the USGI MFC and NATO cans are available in 10 liter (2.5 gallon) size cans (see figure 5 for an example). These cans are the same dimensions for width and length but are not as tall. They will fit all military style can holders. They are useful for those that may have trouble moving or using the +40 lb. cans when full or don't need the full 20 liter capacity.

New NATO style steel fuel cans are available from Back Country Trailers and others. These cans are made by Wedco and they are very sturdy, very robust cans. Recent cost of these cans was \$41 each. These cans also will not leak when the gasket is in good shape. Back Country has the pour spouts for \$15 each and the gaskets for \$1.95 each, both are compatible with the NATO style cans. See figure 5 for a picture of the Back Country Trailer Wedco jerry cans. The Wedco cans have a gold colored anodized locking pin that ensures the cap stays locked. These locking pins are not on the NATO cans. The camming action of the cap doesn't necessitate this safety pin, but it does add confidence that your can won't inadvertently open under rough off-road conditions.

See figure 6 for a picture of a NATO style cam locking pour spout.



Figure 5 Wedco Jerry cans. Note the 10l (2.5 gallon) can on the lower right and the blue water can on the left; the yellow can is for diesel fuel. (photo courtesy of Back Country Trailers).



Figure 6 NATO style pour spout. This is the Wedco blue can and pour spout for potable water. Just barely visible above the spout is the gold colored anodized cap locking pin unique to the Wedco cans. (photo courtesy of Back Country Trailers)

USGI Steel “Blitz” cans:

These cans are the former US military standard jerry cans. This can has been around for decades. They are made of steel with a vertical edge on the bottom. See figure 7 for a picture of a civilian type Blitz jerry can. This civilian can is the same as the military can except for the color of the paint and the thickness of the metal. Military cans have thicker steel material and are olive drab in color. This can has a male threaded cap and it is different than either the USGI plastic can or the NATO/Wedco cans. See figure 8 for a picture of the Blitz style pour spout. The Blitz style pour spout, as noted earlier, will fit the female internal threads of the USGI MFC; the MFC spout will not fit the Blitz style can, however.

My experience with the Blitz style cans is that they leak. They leak with the cap on and they leak when refueling.



Figure 7 “Blitz” style jerry can. This is the civilian version with its red paint and thinner steel material.



Figure 8 Blitz style pour spout. Note the male threads and the screen on end of spout. This spout is too large for unleaded fueled vehicles. The male threads will also fit the USGI plastic MFC jerry can. Just barely visible is the black rubber gasket.

French Military Jerry Can:

I have no experience with this can other than the picture at the Cheaper than Dirt catalog. The CTD catalog clearly states that the French can pour spout is not compatible with the NATO cans that they also sell. These cans go for about \$10-\$15 used, although I've seen them for sale at Cheaper than Dirt for about \$6 each. The only source I know of is Cheaper than Dirt. These cans are not recommended due to being built by the French, no known pour spout available and no known cap and spout gasket available. Not a recommended fuel jerry can. See figure 9 for a picture of the French jerry can.



Figure 9 French jerry can. Note details of cap and gasket and its incompatibility with the NATO style jerry cans. (photo courtesy of Cheaper than Dirt)

Jerry Can Accessories:

Military type jerry can holder:

This holder is designed to safely carry all types of military designed jerry cans whether for fuel or for water. There is a military version and a civilian version; the difference being color (military is olive drab, civilian is red) and metal thickness (military is thicker). Due the thicker material, the military versions are more robust (and heavier) than the civilian versions although both will work fine for most applications. See figure 10 for a picture of a military style civilian jerry can holder. These holders are available from Major Surplus, Northern Tool, J. C. Whitney and some hardware and auto parts stores. Cost varies from \$14 to \$19 each.



Figure 10 Military style civilian jerry can holder. Military jerry can holders are painted olive drab and have slightly thicker material. They are more robust than the civilian versions, but the civilian versions will work for most people. This holder will safely hold all types of military jerry cans.

There is also a civilian only jerry can holder that will only work with the edge of the Blitz style jerry can. This is usually the jerry can holder you'll see advertised in Jeep and 4x4 hardware catalogs. This holder will not hold or safely carry any other style of jerry can. See figure 11 for an example of this type of holder.

Due to this holder's compatibility with only one type of jerry can, this is not a recommended jerry can holder. However, if all you have are Blitz style cans and do not expect or plan to carry any other fuel or any water cans, then these holders should work.



Figure 11 Blitz style jerry can holder. Note that this holder will not work with any other style of jerry can since it uses the edge of the Blitz style jerry can to hold the bottom of the can.

There are other jerry can holders out there; usually they are designed by and for 4x4 enthusiasts. These type holders generally are “cage” type holders and are therefore heavier but more robust. Their cost is also much higher than the civilian type holders discussed above. Other advantages of these type holders are that they protect the can from rollover or crash damage plus they can, depending on design, provide more theft security than the strap of the military style holder. See figure 12 for one example.



Figure 12 Example of a “cage” type jerry can holder. This one is designed for the military Hummer. Note the 2 olive drab USGI MFC’s and 2 tan and 2 black USGI MWC’s. Photo courtesy of Gypsyrack.

Super Siphon:

One way to solve pour spout incompatibility problems is not to use one in the first place. That is, use a siphon instead of a pour spout. Advantages: no need to keep track of different spouts; less chance of fuel spilling; no need to hold 45 lbs. while pouring, siphons are usually as cheap as, if not cheaper, than spouts and, depending on the jerry can installation on your vehicle, you may not even need to move the jerry can to dispense its fuel into your vehicle.

Cost for the Super Siphon varies from \$6 to \$14, depending on source (cheapest I’ve found is \$6 at Bass Pro Shops. A garden hose adapter is available for about a \$1. See figure 13 for a picture of the Super Siphon.

Two hose sizes of the Super Siphon are available: 3/8” and 1/2”. The 3/8” size will transfer fuel at 1 1/2 gallons per minute while the 1/2” size will transfer at 3 1/2 gallons per minute. Super Siphon hoses are 6’ long.



Figure 13 Super Siphon (photo courtesy of Bass Pro Shops)

Conclusions:

Choosing the right jerry can will depend on your personal preferences and circumstances. If you need a low weight can or one that is impervious to the elements, especially salt spray etc., then the USGI MFC can is the one for you. Cost new is around \$40, used around \$10.

If you want the traditional steel can, then the Wedco cans are the best. Wedco cans run about \$41 each. Used NATO cans are \$10-\$15 each, and CTD has new Israeli cans, 4 for \$60 at the time of this writing. Both will serve you well.

The "Blitz" style jerry cans cost new as much, and sometimes more than the NATO style Wedco cans, and are not as well constructed nor have as safe and leakproof cap and pour spout. They are, however, easier to find in hardware stores around the country and on the 'Net. If you already have them, make sure you keep the gaskets in good shape and consider using the Super Siphon to transfer fuel.

I do not recommend the French cans at all. There are no known spouts or gaskets available, plus they're made by the French.

Unless you plan to use only Blitz style cans, I recommend the military style holder. These holders will hold all military style jerry cans while the civilian only holder will not.

Good Luck!

Sources:

Back Country Trailers: <http://backcountrytrailers.com> ; Wedco NATO-style jerry cans and spouts with gaskets; off-road trailers and gear.

Bass Pro Shops: <http://www.basspro.com/servlet/catalog.OnlineShopping> ; Super Siphon and other camping gear.

Brigade Quartermaster: <http://www.actiongear.com/cgi-bin/tame.exe/agcatalog/index.tam> ; USGI fuel and water cans plus spouts, 20l and 10l sizes; other military gear

Cheaper than Dirt: <http://www.cheaperthandirt.com/ctd/default.asp> ; surplus NATO, Israeli and French jerry cans; spouts and gaskets for the NATO cans; other surplus items.

Davidson Products: <http://www.davidsonproducts.com> ; MFC and accessories, MWC and other items.

Generator Joe: <http://www.generatorjoe.net/store.asp> ; USGI MFC and MWC, plus the Wedco cans; generators and associated hardware.

Mad 4WD: <http://mad4wd.com/tek9.asp> ; Wedco fuel and water jerry cans; other 4x4 items and gear.

Major Survival and Surplus: <http://www.majorsurplusnsurvival.com/> ; surplus MFC's, NATO fuel cans, spouts and gaskets, French jerry cans, German water cans; other surplus items.

Scepter: http://www.scepter.com/gc/gc_page.exe ; manufacturer of USGI MFC and MWC jerry cans; other plastic products.