

# Bladders Carry Extra Fuel for the M1

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Following Operation Desert Storm, Congress directed the development of a system that would increase the range and maneuverability of the Abrams tank during war and peace-time scenarios. As a result, the Army implemented the design and support of the Supplemental Fuel Carrying Capability (SFC2) program, which is now available to Abrams tank units. The SFC2 is a supplemental refueling system intended to extend the operational range of the M1-series Main Battle Tank (MBT) by providing additional onboard fuel availability and the capability to refuel other vehicles. This supports fuel requirements of the AGT1500 turbine engine during idle and in an active field environment.

Extensive testing has been conducted and successfully completed, and the system meets operational requirements. A Production Validation Test (PVT) of the SFC2 for the Abrams tank, TECOM Project No. 1-VC-080-1A1-224, was initiated at the U.S. Army Yuma Proving Ground (YPG). Tests were conducted to determine the performance characteristics of the SFC2 while refueling the Abrams tank, and to provide information/recommendations to the test program sponsor on the fielding of the SFC2. During the course of the testing, several product improvements were recommended, including the addition of a Velcro strap to serve as a positive safety device on the turret release mechanism, and a redesign of the bladder to decrease the possibility of internal failure. After incorporation of these improvements, the requirement of 30 refueling operations per bladder was successfully accomplished without any incident or failure. This system is safe and ready for use by Abrams units.

The SFC2 kit is composed of two 55-gallon fuel bladders, two hose assemblies with dispensing nozzles, strap assemblies to secure the bladders to the tank, a set of instructions (the technical bulletin), and a refuel adapter kit. Fuel is dispensed by driving the tank onto the fuel bladder (dispensing under pressure), or by gravity, leaving the bladders mounted on the tank. The SFC2 is capable of being refueled from the standard Army refuel system with the refuel adapter kit. The kit has been classified as an Additional Authorized List (AAL) item and is listed in the AAL section in the back of the appropriate tank (M1A1/M1A2) operator technical manual. The SFC2 kit, NSN 2910-01-434-4961, can be requisitioned through normal supply channels. The kit will arrive in cardboard shipping crates and needs to be stored under cover in a dry environment. These kits have a shelf life of four years and a wear limit of no more than 30 uses. The Abrams Logistics Management Division, SFAE-GCSS-W-AB-LD, DSN 786-6482, E-mail Address: [callejam@cc.tacom.army.mil](mailto:callejam@cc.tacom.army.mil), can provide additional information on the SFC2.



*SFC2 bladders are carried at turret rear.*



*Crewmen set bladders in path of tank's tracks.*



*Tank's weight on bladder creates system pressure.*