

Weights & Loading of M1008 CUCV 5/4 Ton Pickup

Roscommon Equipment Center
Northeast Forest Fire Supervisors
in Cooperation with
Michigan's Forest Fire Experiment Station

The M1008 Commercial Utility Cargo Vehicle (CUCV) is a General Motors Model K30903 Pickup with nominal rating of 5/4 ton capacity. It could be utilized for wildfire use by installing a slip-on tank and pump unit. This paper provides information on the load capacity and estimated tank size for this type of conversion.

The M1008 curb weight and weight ratings in pounds are:

	<u>Curb Weight</u>	<u>Weight Ratings</u> ¹
Front	3,225	3,660 (FAWR)
Rear	2,675	5,140 (RAWR)
Total	5,900	8,800 (GVWR)

The available payload is 2,900 lbs. and the wheelbase is 131.5 inches.

The user should not operate the vehicle above the stated Gross Vehicle Weight Rating (GVWR).

Loading Characteristics with Slip-On Tanks

REC analyzed the M1008 for installing typical slip-on tanks. Since fiberglass tanks are still the most commonly purchased units, calculations were based upon these.

A 150 gallon fiberglass slip-on tank unit, two occupants and 200 lbs. of storage will load an M1008 to about 8,300 lbs. This is just less than 94 percent of the GVWR, leaving some room for error. The slip-on unit used for this calculation includes a hose reel, hose and centrifugal pump mounted on top of the tank. You will find that a standard 150 gallon

fiberglass tank unit will balance the vehicle well if the tank's center of gravity is within an inch or so of the center line of the rear axle.

For the 150 gallon slip-on, we used these numbers, where the W column is the weight in pounds of the item and the D column is the approximate horizontal distance in inches of the item's center of gravity to the centerline of the front axle.

	<u>W</u>	<u>D</u>
Empty weight of fiberglass tank, hose reel, centrifugal pump	550 lbs.	130 in.
Storage weight including the storage container	200 lbs.	145 in.
Water weight - 150 gallons	1,250 lbs.	130 in.
<u>Occupants: two at 200 lbs. each</u>	<u>400 lbs.</u>	<u>50 in.</u>
Total of above loads	2,400 lbs.	

Under the above scenario, the final operating weight will be approximately 8,300 lbs., or about 500 lbs. under the GVWR. This provides a nice cushion for any error or the inevitable additional storage items. Make sure you weigh the final vehicle to insure that you are within the axle and vehicle ratings. The REC Website (www.RoscommonEquipmentCenter.com) has a calculator that can help you estimate the final weight for your particular situation.

NOTE: M1010, M1028 and M1031 vehicles utilize the same base chassis as the M1008. By removing the special bodies mounted to this equipment, you can have an M1008. The above information can then be utilized.

¹ The FAWR (Front Axle Weight Rating) and RAWR (Rear Axle Weight Rating) vary for different CUCV models. The listed ratings are the more conservative, a wise choice to use with an older vehicle.