

Adding a Backup Alarm to Military 6x6's

Roscommon Equipment Center
National Association of State Foresters
in Cooperation with
Michigan's Forest Fire Experiment Station

The transmission of older vintage 2.5- or 5-ton military 6x6's do not have a place to integrate a reverse gear activated switch. When converting these chassis to a fire truck, adding a backup alarm is highly desirable and in most jurisdictions, a regulatory necessity. This note shares a simple, inexpensive method for adding a reverse activated switch.

The switch system consists of only two parts; the switch and a mounting bracket. The switch REC used is a sealed, single pulse limit switch with a wobble stick actuator. Omron Model ZE-NJ-2S (Photo 1). Several other manufacturers make similar switches. McMaster-Carr Supply Company and Grainger are examples of national supply houses that carry the Omron switch. Wire the switch in the normally open position. The bracket switch assembly mounts to the cab floor of the 6x6 near the gear shift lever (see Photos 2 and 3). The location is determined at assembly. When the shift lever is in neutral, it should nearly contact the wobble stick in a manner that the circuit stays open. Movement of the shift lever forward into reverse should activate the switch, closing the circuit to the alarm. Cut the wobble stick's length so that the switch does not activate when shifting into 2nd gear.

When you find the optimum location for the switch mount, drill holes in the cab floor and install with sheet metal screws. If you use a different model switch, you will need to design a mounting bracket to work with it.



Photo 1 - Wobble stick switch prior to modification and installation.

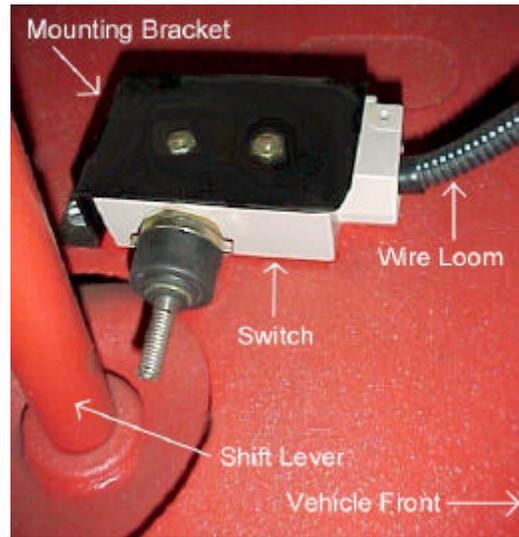


Photo 2 - View from passenger's side. Note the shortened length of wobble stick.

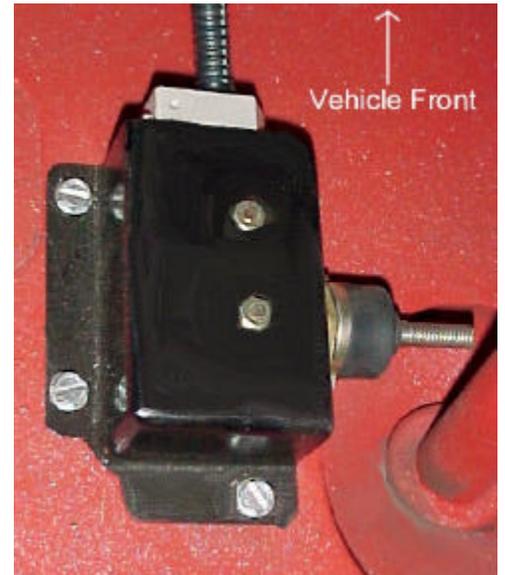
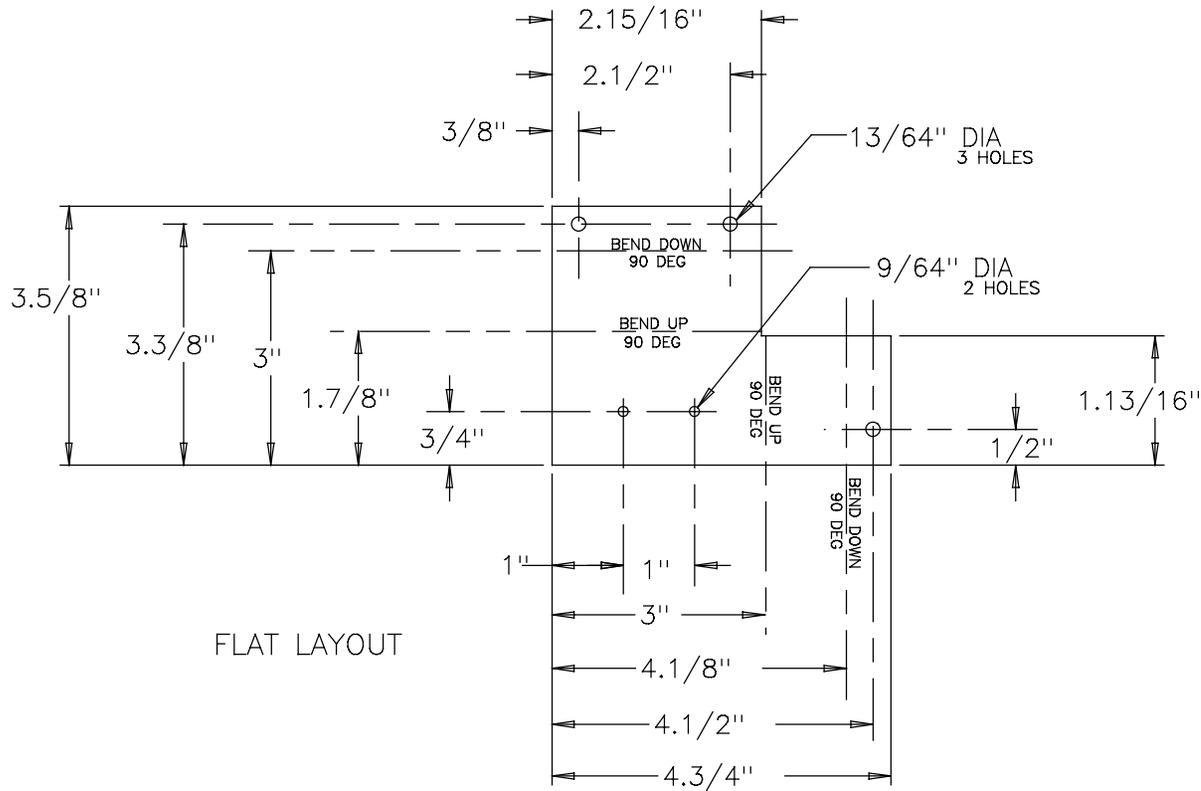


Photo 3 - Top view from driver's seat.

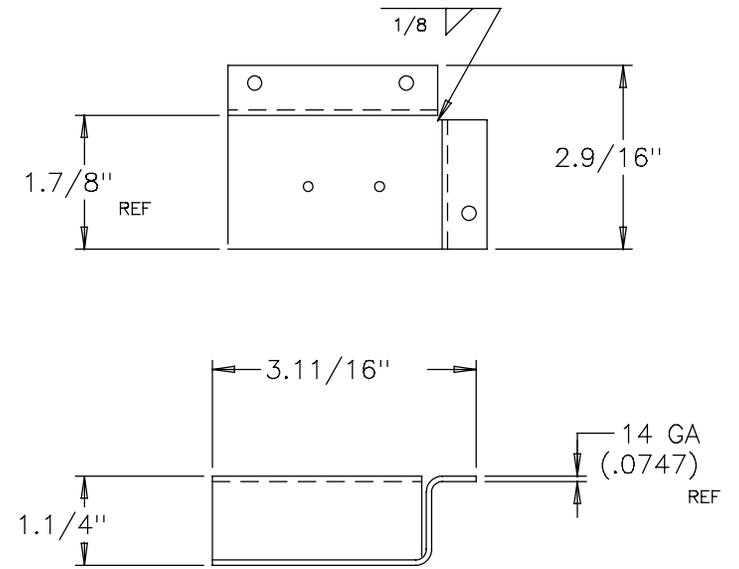
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FLAT LAYOUT



PART NO: 28-8010
 MAT'L: SHEET 14 GA (.0747) HR
 ASTM A569
 FFES SPEC NO: AA-G1448AP
 EST WT: 0.30 LBS

STD. TOLERANCES						DRAWN: LLP		MICHIGAN DNR	
FRACTIONAL: 0 TO 6 IN + - 1/32 6 IN AND UP + - 1/16						CHECKED: KDB			
DECIMAL: 1 PLACE + - 0.1 2 PLACE + - 0.01 3 PLACE + - 0.005				ANGULAR: + - 1 DEG		APPROVED:			
NO.	BY	DATE	REVISION					FOREST MANAGEMENT DIVISION	
FOREST FIRE EXPERIMENT STATION P.O. BOX 68 ROSCOMMON, MICHIGAN 48653								PROJECT NO.: 96-8	
TITLE: BACK-UP SWITCH MTG BRKT				5 TON FEPP		SCALE: 1/2		DATE: 4/2/97	DWG. NO.: 28-8010B