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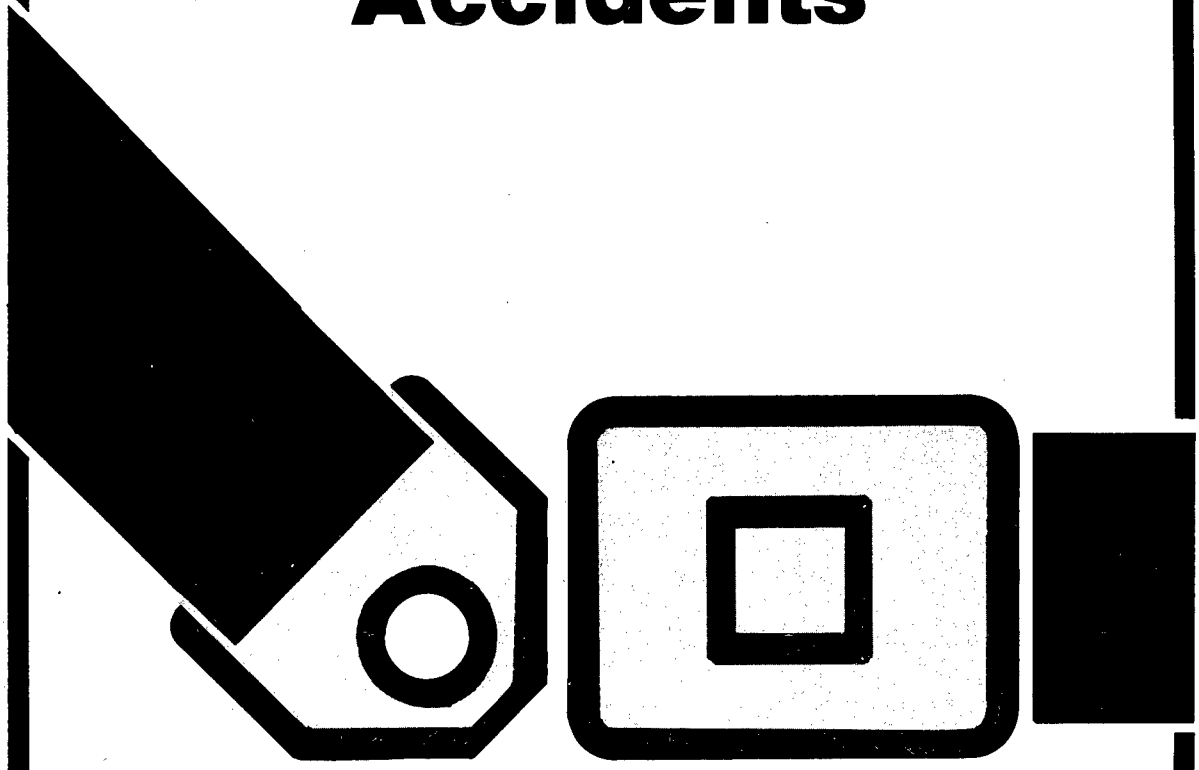
Seatbelt Usage in U.S. Army Vehicle Accidents



Seatbelt Usage in U.S. Army Vehicle Accidents

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September 1985

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Foreword

This information on seatbelt usage by U.S. Army personnel was originally compiled for use by the commander of the Army Safety Center as a member of the Military Panel at the Third National Conference on Drunk Driving and Occupant Protection, Orlando, Florida.

Accident reports for 3 calendar years were analyzed as well as Class A vehicle accidents investigated by the Army Safety Center. Department of Defense, U.S. Army, and installation-level initiatives on seatbelt usage were also reviewed.

J THOMAS H. DENNEY
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Seatbelt Usage in U.S. Army Vehicle Accidents

Summary

Army personnel who use seatbelts are less likely to be killed and they suffer fewer and less severe injuries when involved in accidents.

POV and AMV sedans account for 65 percent of all vehicle accident injuries for Army personnel. Use of seatbelts in these vehicles increased significantly over the 3 years studied.

Enforcement of seatbelt usage has been required on Army installations since 1978 and nonusers have been referred to traffic courts since 1981. Intensive media promotion and law enforcement techniques, including free movie passes/bowling games for users and traffic citations and referral of nonusers to traffic court, have increased use of seatbelts by Army personnel. These programs are inexpensive and require minimum law enforcement efforts.

Introduction

On 7 November 1978, Department of Defense (DOD) began requiring DOD personnel who were operating or riding in a DOD vehicle or POV on a DOD installation to wear seatbelts. As of 15 January 1981, Army regulations require Army personnel to use seatbelts when driving or riding in Army motor vehicles (AMV) or privately owned vehicles (POV) on Army installations.

Effective 2 November 1981, DOD directed enforcement of state traffic laws on DOD installations. This included all persons who operate or control a motor vehicle on a military installation. Installation commanders were given the authority to refer nonusers to traffic court.

Findings

An analysis of DA Form 285 accident reports for 3 calendar years on Class A accidents investigated by the Safety Center revealed that 50 percent of the personnel who did not use seatbelts were injured, compared to 19 percent who did use seatbelts (table 1). Table 2 shows that severe injury costs were $6,086 for users vs. $17,370 for nonusers and days away from work or in the hospital dropped from 23.54 for nonusers to 14.60 for users.

Privately owned vehicles accounted for 63 percent of all injuries and 90 percent of the fatalities (table 3). POV accidents produced more severe injuries and lost workdays than AMV and Army combat vehicles (ACV).

Seatbelt users in privately owned vehicles had less severe injury costs and lost fewer workdays than nonusers. ACV and AMV users also had less severe injuries than nonusers (table 4).

POV and AMV sedans and AMV M880/M890 light trucks accounted for almost 70 percent of all accident injuries. Again, those who used seatbelts fared much better when involved in accidents (tables 5 and 6).

Nine ACV/AMV accidents, involving 22 personnel, were investigated by the Safety Center. Not one soldier was using the seatbelt which was available. Seventy-eight percent of those involved were injured, more than half of them fatally. If the restraint system had been used, 44 percent of the fatal and 88 percent of the nonfatal injuries would either not have happened or would have been less severe. Six of the nine fatally injured people were run over or pinned after ejection from the vehicle. Half of these would have been uninjured or less severely injured if the seatbelts which were available had been used.

POV and AMV sedans are similar in design and use. Seatbelt usage by Army personnel in these vehicles increased over the 3 years studied; however, use of seatbelts in POV sedans was approximately one-third of the usage in AMV sedans.

Various means are being used to increase use of seatbelts on Army installations. The key to the successful programs is command support. One installation used a combination of media promotion and law enforcement techniques before and during a test program to increase seatbelt usage. Warning tickets were issued on the first day, and actual citations were issued shortly afterwards. Seatbelt usage increased from 10 percent the first day to 29 percent in 9 days. A later check showed 38 percent usage of seatbelts.

In one major command, some installations issued tickets and processed them similarly to traffic violations; others used promotional/educational approaches such as "Blue Light" awards of free movie passes and bowling games to seatbelt users.

The Army Safety Center has published articles in *Countermeasure,* including briefs showing the results of accidents where seatbelts were and were not used. "A habit you can live with" was the theme of these articles.

Discussion and Conclusions

Accident injuries and their severity are reduced by the use of seatbelts. Approximately two-thirds of all vehicle accident injuries to Army personnel occur in POV and AMV sedans. Use of seatbelts in these vehicles significantly increased over the 3 years studied.

Increased use of seatbelts follows intense media promotion and enforcement by military police. Such programs are inexpensive, require minimum levels of law enforcement, and they work. Future gains in seatbelt use will come from increased media promotion and well-managed law enforcement programs that create the perception that nonuse of seatbelts is likely to result in a traffic citation.

Recommendation

That installation commanders continue to increase use of promotional media and law enforcement programs to encourage use of seatbelts in POV, AMV, and ACV to reduce accidents and severity of injuries to Army personnel.

TABLE 1.—Seatbelt Use and Injuries for 3 Calendar Years

Occupant Restraint System					
	Used		Not Used		
No. of Personnel	Injuries and Fatalities	Fatalities Only	No. of Personnel	Injuries and Fatalities	Fatalities Only
5065	957 (19%)	42 (0.8%)	3754	1874 (50%)	454 (12%)

TABLE 2.—Seatbelt Use, Average Cost, and Workdays Lost/Hospitalized Per Injury for 3 Calendar Years

	Occupant Restraint System					
	Used			Not used		
Injured	Injured	Avg Cost Per Injury	Avg Days Lost/ Hosp. per Injury	Injured	Avg Cost Per Injury	Avg Days Lost/ Hosp. per Injury
2831	957	$6,086.13	14.60	1874	$17,370.32	23.54

TABLE 3.—Seatbelt Use by Category Vehicle for 3 Calendar Years

		Occupant Restraint System					
		Used			Not Used		
Category Vehicle	No. of Accidents	Personnel	Injuries and Fatalities	Fatalities Only	Personnel	Injuries and Fatalities	Fatalities Only
POV	1470	480	435 (91%)	34 (7%)	1413	1335 (94%)	411 (29%)
ACV	167	92	50 (54%)	1 (1%)	128	90 (70%)	11 (9%)
AMV	6156	4493	472 (11%)	7 (0.3%)	2213	449 (20%)	32 (1.4%)
ALL	7793	5065	957 (19%)	42 (0.8%)	3754	1874 (50%)	454 (12%)

TABLE 4.—Seatbelt Use, Average Cost, and Workdays Lost/Hospitalized Per Injury by Category Vehicle for 3 Calendar Years

		Occupant Restraint System					
		Used			Not Used		
Category Vehicle	Injured	Injured	Avg Cost Per Injury	Avg Days Lost/Hosp. Per Injury	Injured	Avg Cost Per Injury	Avg Days Lost/Hosp. Per Injury
POV	1770	435	$9,319.49	17.45	1335	$21,478.63	27.70
ACV	140	50	$2,728.00	12.27	90	$6,230.89	18.81
AMV	921	472	$3,461.96	12.40	449	$7,388.03	15.20
ALL	2831	957	$6,086.13	14.60	1874	$17,370.32	23.54

TABLE 5.—Seatbelt Use in Top Three Accident-Involved Vehicles for 3 Calendar Years

Vehicle	No. of Personnel	Occupant Restraint System					
		Used			Not Used		
		Personnel	Injuries & Fatalities	Fatalities Only	Personnel	Injuries & Fatalities	Fatalities Only
POV Sedan	1704	441	403 (91%)	32 (7%)	1263	1195 (95%)	356 (28%)
AMV Sedan	2292	1776	147 (8%)	2 (0.1%)	516	92(18%)	6 (1%)
AMV M880/ 890 Trk	970	455	39 (9%)	0 (0%)	515	98 (19%)	2 (0.4%)

TABLE 6.— Seatbelt Use, Average Cost, and Workdays Lost/Hospitalized Per Injury in Top Three Accident-Involved Vehicles for 3 Calendar Years

Vehicle	Personnel Injured	Occupant Restraint System					
		Used			Not Used		
		Injured	Avg Cost Per Injury	Avg Days Lost/Hosp. Per Injury	Injured	Avg Cost Per Injury	Avg Days Lost/Hosp. Per Injury
POV Sedan	1598	403	$9,436.18	17.14	1195	$21,388.50	28.13
AMV Sedan	239	147	$2,328.10	9.85	92	$6,986.52	16.34
AMV M880/ 890 Trk	137	39	$1,985.26	15.46	98	$4,792.70	18.09