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January 4, 1990
[Re-issued October 2, 2007]
[HPWLI 05550-01A]

Action Products, Inc.
954 Sweeney Drive
Hagerstown, Maryland 21740

Gentlemen:

On December 7, 1989, your representative delivered one Winchester, Model 70 XTR bolt action rifle [with scope] chambered for caliber 300 Weatherby Magnum and one Winchester Ranger pump action shotgun chambered for 12 Gauge 3" Magnum, for recoil testing. A number of 180 grain Weatherby cartridges and Remington Premier shotshells were also delivered. The test items were and unmarked half-vest of your manufacture and a strap-on shoulder pad marked "PAST".

Testing was done with the guns suspended from a 4-wire ballistic pendulum. A piezoelectric force transducer [PCB Model 208A05, S/N 5748] was mounted in the center of a 1/4" thick aluminum plate cut to the approximate profile of the butt plate. The plate was then screwed to the rear of the butt; the transducer was held firmly [by hand] against a rigid steel frame; and the gun was fired. Tests were conducted with no pad [plate directly in contact with the butt]; and with each of the test pads between the butt and the plate [screws passing directly through the pads. Factory recoil pads were removed in all cases.

Data were recorded on standard "floppy discs" and subsequently processed and formatted to provide the force-vs.-time curves shown in Figures 1 – 12e. Each curve is the result of mathematically averaging data from individual shots for each configuration tested.

In addition to the guns and ammunition provided by your representative, we also conducted tests with a Remington Model 700 bolt action rifle [with scope] chambered for caliber .30-06. Both 180 grain Winchester and 150 grain M2, Ball ammunition were used with that gun.

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Table I is a summary of the data in Figures 1 – 12e.

TABLE I – SUMMARY OF RESULTS

Gun/Ammunition	Mean Peak Recoil Force [Pounds]		
	No Pad	PAST Pad	Action Pad
12 Gauge 3" Magnum	2201	1663	941
300 Weatherby Magnum	1906	1691	1651
.30-06, 180 grain	2263	1626	1653
.30-06, 150 grain	1907	1512	1425

Your guns and remaining ammunition were returned to your representative on December 18, 1989. The test pads have been returned via United Parcel Service. Should you have any questions regarding this matter or if we may be of any further service, please do not hesitate to contact us.

Very truly yours,

H.P. White Laboratory, Inc.



Lester W. Roane

LWR/lt
[Enclosures]