

Complaint

125 F.T.C.

IN THE MATTER OF

BRAKE GUARD PRODUCTS, INC., ET AL.

FINAL ORDER, OPINION, ETC., IN REGARD TO ALLEGED VIOLATION
OF SEC. 5 OF THE FEDERAL TRADE COMMISSION ACT

Docket 9277. Complaint, Sept. 27, 1995--Final Order, Jan. 15, 1998

This final order prohibits, among other things, the Washington-based corporation and its president from misrepresenting the performance characteristics of the braking devices, the availability of insurance discounts resulting from installation of the devices and their compliance with certain government standards. In addition, the final order prohibits the respondents from continuing advertisements that claim their add-on braking system performed as effectively as factory installed antilock braking systems and prohibits the company from using the term ABS in marketing their braking devices. The final order requires the respondents to notify distributors and consumers of FTC findings.

Appearances

For the Commission: *Theodore Hoppock, Janet Evans, Mamie Kresses, Sydney Knight and C. Lee Peeler.*

For the respondents: *Pro se.*

COMPLAINT

The Federal Trade Commission, having reason to believe that Brake Guard Products, Inc., a corporation, and Ed F. Jones, individually and as an officer and director of said corporation ("respondents"), have violated the provisions of the Federal Trade Commission Act, and it appearing to the Commission that a proceeding by it in respect thereof would be in the public interest, alleges:

PARAGRAPH 1. Respondent Brake Guard Products, Inc., is a Washington corporation, with its offices and principal place of business located at 1047 W. Garland Avenue, Spokane, Washington.

Respondent Ed F. Jones is or was at relevant times herein an officer and director of Brake Guard Products, Inc. Individually or in concert with others, he formulates, directs, and controls the acts and practices of the corporate respondent, including the acts and practices

alleged in this complaint. His office and principal place of business is at 1047 W. Garland Avenue, Spokane, Washington.

PAR. 2. Respondents have manufactured, advertised, offered for sale, sold, and distributed certain after-market automotive products including Brake Guard Safety System, also known as the Advanced Braking System, or Brake Guard ABS (herein collectively referred to as "Brake Guard"), a device that is installed on a vehicle to improve its braking performance.

PAR. 3. The acts and practices of respondents alleged in this complaint have been in or affecting commerce, as "commerce" is defined in Section 4 of the Federal Trade Commission Act.

PAR. 4. Respondents have disseminated or caused to be disseminated advertisements and promotional materials for Brake Guard, including but not necessarily limited to the advertisements and promotional materials attached hereto as Exhibits A through H. These advertisements and promotional materials contain the following statements and depictions:

(a) Could you stop?

[Photo of child about to enter path of vehicle on muddy road.]

FULL TIME FOUR WHEEL SAFETY SYSTEM (WITH ANTI-LOCK BENEFITS)

ADVANCED BRAKING SYSTEM ABS™ SAFETY SYSTEM

REDUCES WHEEL LOCK-UP FOR ALL VEHICLES WITH HYDRAULIC BRAKES

WHAT IS ADVANCED BRAKING SYSTEM?

- * It is a Safety System with "Anti-lock" benefits for all vehicles with hydraulic brakes, including motor homes and trucks, etc.
- * It works to inhibit wheel lock-up, skidding and loss of control when braking.
- * It stops vehicles straighter and shorter with better steering control and power.
- * It operates automatically, every time the brakes are applied.

HOW ADVANCE BRAKING SYSTEM WORKS:

* * * *

Like a computer, Advanced Braking System's patented systems (modified gas/hydraulic) compensate 4-wheel braking up to 120-140 times per second @ 60 mph, every time brakes are applied resulting in smoother, shortened and controlled stopping with nearly double the braking power, efficiency and control.

SAFETY SCOREBOARD

LIFE SAVING FEATURES	Advanced Braking System Safety Systems		ALL OTHER ELECTRONIC A.B.S.		
	yes	no	yes	no	some-times
1. Stops Vehicle in A Shorter Distance	√				X
2. Operates Automatically Every Time The Brakes Are Applied	√			X	
3. Helps Steering Control During "Panic" Stops	√		X		
4. Reduces Brake Fade Hot Spots, And Break Wear	√			X	
5. Increases Braking Power ..	√			X	
6. Helps Compensate for Unequal Brake Adjustment Air and Wear Differences in Tire and Uneven Loading	√			X	
7. Reduces Wear to Front End Assembly, Tires and Master Cylinder	√			X	
8. Nearly Doubles Over-all Breaking Efficiency	√			X	
9. Available for All Vehicles With Hydraulic Brakes - including Motor Homes, etc. .	√			X	
10. Available As An "Aftermarket" (Retrofit) System	√				X
11. Transferable From One Vehicle To Another in Less Than One Hour	√			X	

* * * *

Advanced Braking System will reduce skidding under all conditions. However, it is still possible to lock wheels and skid especially at slower speeds and on slippery surfaces.

QUALIFICATION FOR A.B.S. INSURANCE RATE DISCOUNT

Advanced Braking System is a four wheel Safety System with Anti-Lock benefits and is in compliance with the National Highway Traffic Safety Administration (NHTSA) a division of the Department of Transportation (DOT) as defined by their standard No. 105; Hydraulic Brake System. The (S4) definition "Anti-Lock Systems" means a portion of the service system that automatically controls the degree of rotational wheel slop at one or more road wheels of the vehicle during braking. [EXHIBIT A]

(b) ANSWERS TO COMMON QUESTIONS ABOUT BRAKE-GUARD ABS

(ABS - Advanced Braking system)

Q: Why should I consider BRAKE-GUARD ABS as an aftermarket item?

A: Anti-Lock brakes are one of the most advertised options of the decade. Virtually everything your new car buyer reads today has advertisements and positive press regarding Anti-Lock brakes.

* * * *

Q: How does BRAKE-GUARD ABS differ from electronic ABS systems?

A: Electronic ABS systems only work after the wheel(s) lock up. BRAKE-GUARD ABS works every time you use your brakes.

* * * *

Q: Will your customer qualify for an ABS insurance rate discount on their premiums?

A: With BRAKE-GUARD ABS installed on your new or used vehicle, you will qualify for an insurance rate discount if allowed by your carrier.

* * * *

Q: How can I be sure that BRAKE-GUARD ABS will perform as advertised?

A: We claim that the inclusion of BRAKE-GUARD on a vehicle will stop that vehicle straighter and in a significantly shorter distance, while reducing or eliminating premature wheel lock up, brake fade, brake pull while substantially increasing brake life. [EXHIBIT B]

(c) COULD YOU STOP?

[Depiction of child about to enter path of car on muddy road.]

FULL TIME FOUR WHEEL SAFETY SYSTEM (WITH ANTI-LOCK BENEFITS) Anti-Lock BRAKE-GUARD Safety System®

* * * *

The Brake * Guard Safety System meets or exceeds the Society of Automotive Engineers (SAE) wheel slip brake control system road test code SAE J46. The Brake * Guard Safety System is A*B*S "Anti-Lock Braking System" and is in compliance with the National Highway Traffic Safety Administration (NHTSA) a division of the Department of Transportation (DOT) as defined by their standard No. 105; Hydraulic Brake System. The (S4) definition "Anti-Lock Systems" means a portion of the service brake system that automatically controls the degree of rotational wheel slip at one or more road wheels of the vehicle during braking. [EXHIBIT C]

(d) STANDARD HYDRAULIC BRAKE SYSTEM FUNCTION AND BRAKE-GUARD ABS FUNCTION: (ABS- Advanced Braking System)

* * * *

Brake-Guard ABS is a full-time four wheel safety system with anti-lock benefits.

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This principle of operation substantially decreases brake wear and brake fade while inhibiting premature lock-up; The vehicle's brakes now have maximum braking efficiency with less pedal effort. It works with any configuration of braking system, front/rear split or diagonal split, and stops the vehicle an average of 20% to 30% shorter. . . . [EXHIBIT D]

(e) Videotape Transcript:

Host: Hi. Let's talk about safety for a moment. It's probably already happened to you. You are driving down the highway when suddenly you have to stop. And in those few short seconds your life and those of others will depend upon the reliability of your braking system. Will your wheels lock up causing your car to careen out of control or will your car come to a smooth straight stop well short of impact?

The difference could be a revolutionary product called Brake Guard. Brake Guard is a full time safety system with anti-lock benefits. Brake Guard Safety System eliminates some of the hazards of conventional braking systems, dramatically shortening your stopping distance, but more importantly giving you back control of your car in that emergency situation.

* * * *

This patented proven braking system dramatically increases your braking, power, efficiency and control resulting in straighter shorter stops in all kinds of conditions.

* * * *

Announcer: Q: Why do vehicles need the Brake Guard Safety System?

A: That's a good question. When a driver slams on the brakes in a panic stop, excess braking pressure is created, causing the brakes to lock up and skid. The Brake Guard Safety System equalizes braking pressure before it reaches the wheels, therefore reducing skids stopping the vehicle in a much shorter distance and more importantly giving the driver excellent control of their vehicle.

* * * *

Announcer: Q: How much shorter is the stopping distance with Brake Guard Safety System installed?

A: Results can vary depending on road conditions, the weight of the vehicle and a number of other conditions. With Brake Guard Safety System installed, it's been found to reduce stopping distance up to 30%.

* * * *

Announcer: Q: Does the Brake Guard Safety System user qualify for an ABS insurance rate discount on their premiums?

A: Yes, With Brake Guard safety system installed on your new or used vehicle, you will qualify for an insurance rate discount if your carrier offers ABS discounts. [EXHIBIT E]

(f) BRAKE-GUARD	Anti-Lock	WORLD CLASS	Anti-Lock
BRAKE*GUARD	BRAKING	BRAKE*GUARD	Safety System®
Safety System®	Add-on ABS Saves Lives		Reduces Accidents

"A Full-Time" Four Wheel Safety System (with anti-lock benefits) for All vehicles with Hydraulic Brakes.

WHAT IS BRAKE*GUARD?

* It is a Safety System with "Anti-Lock" benefits for vehicles with hydraulic brakes.

* It operates automatically, every time the brakes are applied.

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- * It works to inhibit wheel lock-up, skidding and loss of control when braking.
- * It stops vehicles straighter and shorter with better steering control. [EXHIBIT F]

* * * *

(g) BG's Hot Sheet

* * * *

BG TESTIMONIALS

HERE'S WHAT BRAKE GUARD CUSTOMERS ARE SAYING

This letter is to inform you of the results we have had with the Brake Guard products that we have installed on three vehicles.

The first was a 1956 Ford F100 pickup. The unit drastically improved the stopping of the pickup, especially on wet streets, NO rear wheel lockup!!

The second was on a 1980 Porsche 911SC. The results were excellent. After repeated stops from 60 MPH there was no brake fade, just controlled stops. Also, stops made at 70 MPH on a wet surface produced NO lockup, just smooth controlled stops.

The third vehicle was a 1989 Honda GL1500 Motorcycle. The installation was done on the rear unitized brake. Again the results were shorter, smoother stops. Further tests will be conducted after installing the unit on the front brake.

Allen Smith, Tulsa Enterprises, Huntington Beach, CA

* * * *

I am writing this letter to express my complete satisfaction with your product. I became interested after reading your brochure. My 1977 GMC Motor Home braking has improved both to feel and ability to stop from any speed far beyond my expectations.

Since the installation in mid 1991, I have convinced many of my fellow R.V.ers, mostly GMCs but some others 20' to 36', to install your units and all have found under actual tests that our panic stops require one third less distance (i.e. 200' instead of 300'). Also brake fade is no longer apparent on drawn out stops as in steep off ramps, etc. . . .

Bob Desaussure, San Rafael, CA

* * * *

[EXHIBIT G]

(h) STOP STOP STOP

[ABS logo] with A FULL TIME FOUR WHEEL SAFETY SYSTEM WITH LIMITED ANTI LOCK BENEFITS

[Photo of child about to enter path of vehicle on muddy road.]

ADVANCED BRAKING SYSTEM IS USED BY PEOPLE WHO CARE FOR SHORTER STRAIGHTER SAFER CONTROLLED STOPPING

WHAT IS ADVANCED BRAKING SYSTEM?

A four wheel Safety System for all vehicles with hydraulic brakes.

WHAT HAPPENS TO YOUR BRAKE SYSTEM?

Heat and other factors cause brake drums and rotors to become warped and out of round, when the brakes are applied the contact surface at each wheel is uneven resulting in unequal braking performance, premature wheel lockup, skidding, loss of control and unwanted accidents.

HOW ADVANCED BRAKING SYSTEM WORKS

Like a computer, Advanced Braking System's patented regulator system (modified gas/hydraulic) operates every time the brakes are applied, compensating for unequal braking, resulting in smoother, shortened straighter stopping with much greater control.

Advanced Braking System can reduce skidding under all conditions. It is still possible to lock wheels and skid especially at slower speeds and on slippery surfaces.

* * * *

QUALIFICATION FOR INSURANCE RATE DISCOUNT

Advanced Braking System is a four wheel Safety System and is in compliance with the Department of Transportation as defined by their F.M.V.S.S. No. 105; Hydraulic Brake System. Properly equipped vehicles qualify for insurance rate discounts where applicable. [EXHIBIT H]

PAR. 5. Through the use of the trade names Brake Guard ABS and Advanced Braking System ABS; the logo containing the legend "Advanced Braking System" and the acronym "ABS"; and the statements and depictions contained in the advertisements and promotional materials referred to in paragraph four, including but not necessarily limited to the advertisements and promotional materials attached as Exhibits A through H; respondents have represented, directly or by implication, that Brake Guard is an antilock braking system.

PAR. 6. In truth and in fact, Brake Guard is not an antilock braking system. Therefore, the representation set forth in paragraph five was, and is, false and misleading.

PAR. 7. Through the use of the statements and depictions contained in the advertisements and promotional materials referred to in paragraph four, including but not necessarily limited to the advertisements and promotional materials attached as Exhibits A through H, respondents have represented, directly or by implication, that:

(a) Brake Guard prevents or substantially reduces wheel lock-up, skidding, and loss of steering control in emergency stopping situations;

(b) Installation of Brake Guard will qualify a vehicle for an automobile insurance discount in a significant proportion of cases;

(c) Brake Guard complies with a performance standard set forth in Wheel Slip Brake Control System Road Test Code SAE J46;

(d) Brake Guard complies with a standard pertaining to antilock braking systems set forth by the National Highway Traffic Safety Administration;

(e) Brake Guard reduces stopping distances by 20 to 30% or by up to 30%;

(f) Brake Guard provides antilock braking system benefits, including wheel lock-up control benefits, that are at least equivalent to those provided by original equipment manufacturer electronic antilock braking systems; and

(g) Testimonials from consumers appearing in the advertisements and promotional materials for Brake Guard reflect the typical or ordinary experience of members of the public who have used the product.

PAR. 8. In truth and in fact:

(a) Brake Guard does not prevent or substantially reduce wheel lock-up, skidding, and loss of steering control in emergency stopping situations;

(b) Installation of Brake Guard will not qualify a vehicle for an automobile insurance discount in a significant proportion of cases;

(c) Brake Guard does not comply with a performance standard set forth in Wheel Slip Brake Control System Road Test Code SAE J46 ("SAE J46"). SAE J46 sets forth a test procedure for evaluating the performance of antilock brake systems, but contains no performance standard. Moreover, Brake Guard has not been subjected to the testing set forth in SAE J46;

(d) Brake Guard does not comply with a standard pertaining to antilock braking systems set forth by the National Highway Traffic Safety Administration. The provision referred to establishes only a definition pertaining to antilock braking systems, and Brake Guard does not meet that definition;

(e) Brake Guard does not reduce stopping distances by 20 to 30% or by up to 30%;

(f) Brake Guard does not provide antilock braking system benefits, including wheel lock-up control benefits, that are at least equivalent to those provided by original equipment manufacturer electronic antilock braking systems; and

(g) Testimonials from consumers appearing in the advertisements and promotional materials for Brake Guard do not reflect the typical or ordinary experience of members of the public who have used the product.

Therefore, the representations set forth in paragraph seven were, and are, false and misleading.

PAR. 9. Through the use of the statements and depictions contained in the advertisements and promotional materials referred to in paragraph four, including but not necessarily limited to the advertisements and promotional materials attached as Exhibits A through H, respondents have represented, directly or by implication, that:

(a) In emergency stopping situations, a vehicle equipped with Brake Guard will stop in a shorter distance than a vehicle that is not equipped with the device; and

(b) Installation of Brake Guard will make operation of a vehicle safer than a vehicle that is not equipped with the device.

PAR. 10. Through the use of the statements and depictions contained in the advertisements and promotional materials referred to in paragraph four, including but not necessarily limited to the advertisements and promotional materials attached as Exhibits A through H, respondents have represented, directly or by implication, that at the time they made the representations set forth in paragraph five, seven, and nine, respondents possessed and relied upon a reasonable basis that substantiated such representations.

PAR. 11. In truth and in fact, at the time they made the representations set forth in paragraphs five, seven, and nine, respondents did not possess and rely upon a reasonable basis that substantiated such representations. Therefore, the representation set forth in paragraph ten was, and is, false and misleading.

PAR. 12. The acts and practices of respondents as alleged in this complaint constitute unfair or deceptive acts or practices in or affecting commerce in violation of Section 5(a) of the Federal Trade Commission Act.

EXHIBIT A

**NEW VEHICLE INSTALLATION OF
Advanced Braking System ABS**
DOES NOT VOID OR ALTER NEW VEHICLE
WARRANTIES!
 REFERENCE SOURCE: General Motors Corp. - Ford
 Motor Co. - Chrysler - Nissan - Toyota - Subaru



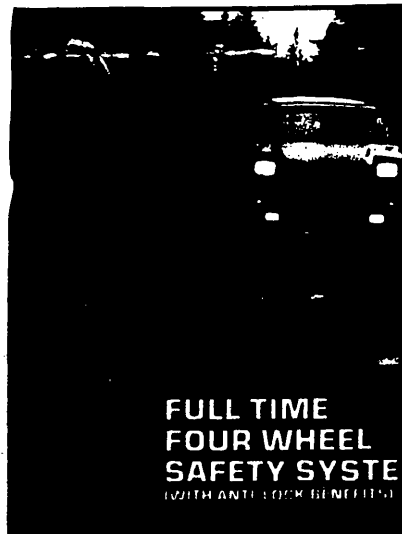
**Qualification for
A.B.S. Insurance
Rate Discount**

Advanced Braking System is a four wheel Safety System with Anti-Lock benefits and is in compliance with the National Highway Traffic Safety Administration (NHTSA) a division of the Department of Transportation (DOT) as defined by their standard No. 105: Hydraulic Brake System. The (S4) definition "Anti-Lock Systems" means a portion of the service system that automatically controls the degree of rotational wheel slip at one or more road wheels of the vehicle during braking.

**LIMITED WARRANTY:
100,000 miles or 10 years.**
 Manufactured by:
**Brake Guard Products, Inc.
 Spokane, Wa., U.S.A.**



**Could
You
Stop?**



**FULL TIME
FOUR WHEEL
SAFETY SYSTEM**
(WITH ANTI LOCK BENEFITS)



**REDUCES WHEEL LOCK-UP
FOR ALL VEHICLES
WITH HYDRAULIC BRAKES**

EXHIBIT A

What Is Advanced Braking System?

- It is a Safety System with "Anti-lock" benefits for all vehicles with hydraulic brakes, including motor homes and trucks, etc.
- It works to inhibit wheel lock-up, skidding and loss of control when braking.
- It stops vehicles straighter and shorter with better steering control and power.
- It operates automatically, every time the brakes are applied.

How Advanced Braking System Works:

Heat and other dimension factors cause brake drums and rotors to become slightly warped and out-of-round. So, when the brakes are applied, the contact surfaces are correspondingly uneven causing an unequal transmission of braking effort from the wheels to the roadway resulting in premature wheel lock-up, early brake fade, uneven wear, skidding and loss of control. Like a computer, Advanced Braking System's patented systems (modified gas/hydraulic) compensate 4-wheel braking up to 120-140 times per second @ 60 mph, every time brakes are applied resulting in smoother, shortened and controlled stopping with nearly double the braking power, efficiency and control.



BRAKE • GUARD INTERNATIONAL HEADQUARTERS

Safety Scoreboard

LIFE SAVING FEATURES	Advanced Braking System		ALL OTHER BRAKES	
	YES	NO	YES	NO
1. Stops Vehicle in A Shorter Distance	✓			
2. Operates Automatically Every Time The Brakes Are Applied	✓			X
3. Helps Steering Control During "Panic" Stops	✓		X	
4. Reduces Brake Fade, Hot Spots, And Brake Wear	✓			X
5. Increases Braking Power	✓			X
6. Helps Compensate for Unequal Brake Adjustment, Air and Wear Differences in Tires and Uneven Loading	✓			X
7. Reduces Wear to Front End Assembly, Tires and Master Cylinder	✓			X
8. Nearly Doubles Over-all Braking Efficiency	✓			X
9. Available for All Vehicles With Hydraulic Brakes - Including Motor Homes, Etc.	✓			X
10. Available As An "Aftermarket" Retrofit System	✓			X
11. Transferable From One Vehicle to Another in Less Than One Hour	✓			X

ROAD SURFACE	COHESION FACTOR
Dry Asphalt	80%o-90%
Wet Surface	30%o-40%
Snow	15%o-20%
Ice	5%o-10%

Advanced Braking System will reduce skid under all conditions. However, it is still possible to lock wheels and skid especially at slow speeds and on slippery surfaces.

ADVANCED BRAKING SYSTEM IS PATENTED INTERNATIONALLY AND UNDER U.S. PATENT NUMBERS 4,871,009 and 5,070,000 OTHER PATENTS ARE PENDING.

EXHIBIT B

ANSWERS TO COMMON QUESTIONS ABOUT
BRAKE-GUARD ABS

(ABS - Advanced Braking System)

Q: Why should I consider BRAKE-GUARD ABS as an aftermarket item?

A: Anti-Lock brakes are one of the most advertised options of the decade. Virtually everything your new car buyer reads today has advertisements and positive press regarding Anti-Lock brakes.

Q: What about profits?

A: BRAKE-GUARD ABS is an excellent profit item; higher than most aftermarket items.

Q: How does BRAKE-GUARD ABS differ from electronic ABS systems?

A: Electronic ABS systems only work after the wheel(s) lock up. *BRAKE-GUARD ABS works every time you use your brakes.*

Q: Will the inclusion of BRAKE-GUARD ABS change the way the brake pedal feels?

A: Yes, your customer will feel a softer pedal, but they will notice increased braking power with less effort. The pedal will not pulsate like the electronic ABS systems.

Q: Will BRAKE-GUARD ABS void your customer's factory warranty?

A: No, the inclusion of BRAKE-GUARD ABS on your vehicle does not void or alter new or used vehicle warranties.

Q: Will your customer qualify for an ABS insurance rate discount on their premiums?

A: With BRAKE-GUARD ABS installed on your new or used vehicle, you will qualify for an insurance rate discount if allowed by your carrier.

Q: How long and complicated is the BRAKE-GUARD ABS installation?

A: The BRAKE-GUARD ABS installation usually requires less than one hour; using special fittings, without modifying any manufacturer's part (15 minute removal). The installation guide takes you through step by step; covering all applications.

Q: What happens in the event of a malfunction?

A: Should the system malfunction, your vehicle will still maintain its normal brakes.

Q: How long has BRAKE-GUARD ABS been on the market?

A: BRAKE-GUARD ABS, produced by Brake-Guard Products, Inc., has been marketed since 1982, directly to police departments and ambulance companies. New car dealers now offer these systems as an option and undercar shops are also finding these systems very marketable. Overseas markets have shown great success with our system.

Q: What about liability?

A: BRAKE-GUARD ABS is insured with product liability insurance for \$1,000,000 with never a claim on it or any other similar system. This is in addition to the current liability you may already carry.

Q: How can I be sure that BRAKE-GUARD ABS will perform as advertised?

A: We claim that the inclusion of BRAKE-GUARD ABS on a vehicle will stop that vehicle straighter and in a significantly shorter distance, while reducing or eliminating premature wheel lock up, brake fade, brake pull while substantially increasing brake life.

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EXHIBIT C

NEW VEHICLE INSTALLATION
Optional Brake Guard ABS
 DOES NOT AFFECT NEW VEHICLE
 WARRANTIES
 REFERENCE SOURCES: General Motors Corp. - Ford
 Motor Co. - Chrysler - Nissan - Toyota - Subaru



**Qualification for
 A.B.S. Insurance
 Rate Discount:**

The Brake • Guard Safety System meets or exceeds the Society of Automotive Engineers (SAE) wheel slip brake control system road test code SAE J46. The Brake • Guard Safety System is A*B*S "Anti-Lock Braking System" and is in compliance with the National Highway Traffic Safety Administration (NHTSA) a division of the Department of Transportation (DOT) as defined by their standard No. 105; Hydraulic Brake System. The (S4) definition "Anti-Lock Systems" means a portion of the service brake system that automatically controls the degree of rotational wheel slip at one or more road wheels of the vehicle during braking.

LIMITED WARRANTY:
 100,000 miles or 10 years.
 Brake • Guard Products, Inc.
 Spokane, Wa., U.S.A.

**Could
 You
 Stop?**



**REDUCES WHEEL LOCK
 FOR ALL VEHICLES
 WITH HYDRAULIC BRA**

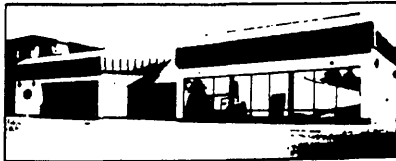
EXHIBIT C

What Is Brake-Guard?

- It is a Safety System with "Anti-lock" benefits for all vehicles with hydraulic brakes, including motor homes and trucks, etc.
- It works to inhibit wheel lock-up, skidding and loss of control when braking.
- It stops vehicles straighter and shorter with better steering control and power.
- It operates automatically, every time the brakes are applied.

How Brake-Guard Works:

Heat and other dimension factors cause brake drums and rotors to become slightly warped and out-of-round. So, when the brakes are applied, the contact surfaces are correspondingly uneven causing an unequal transmission of braking effort from the wheels to the roadway resulting in premature wheel lock-up, early brake fade, uneven wear, skidding and loss of control. Like a computer, BRAKE-GUARD's patented systems (modified gas/hydraulic) compensate 4-wheel braking at 120-140 times per second @ 60 mph, every time brakes are applied—resulting in smoother, shortened and controlled stopping with nearly double the braking power efficiency and control.



BRAKE-GUARD INTERNATIONAL HEADQUARTERS

Safety Scoreboard

LIFE SAVING FEATURES	BRAKE GUARD		ALL OTHER	
	YES	NO	YES	NO
1. Stops Vehicle in a Shorter Distance	✓			
2. Operates Automatically Every Time The Brakes Are Applied	✓			X
3. Helps Steering Control During "panic" Stops	✓		X	
4. Reduces Brake Fade and Squeal and Brake Wear	✓			X
5. Increases Braking Power	✓			X
6. Compensates for Differences in Tire and Uneven Loading	✓			X
7. Reduces Wear to Front End Suspension, Tires and Motor Home	✓			X
8. Nearly Doubles Over-all Braking Efficiency	✓			X
9. Available for All Vehicles With Hydraulic Brakes - Including Motor Homes, Etc.	✓			X
10. Available as An "Automatic" Retard System	✓			
11. Transferable From One Vehicle to Another in Less Than One Hour	✓			X

ROAD SURFACE	COHESION FACTOR
Dry Asphalt	80%
Wet Surface	30%
Snow	15%
Ice	5%

Brake-Guard will reduce skidding under conditions. However, it is still possible to wheel and skid especially at slower speeds and on slippery surfaces.

BRAKE-GUARD IS PATENTED INTERNATIONALLY AND U.S. PATENT NUMBERS 4,871,008 and 5,074,885. OTHER PATENTS PENDING.

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EXHIBIT D

STANDARD HYDRAULIC BRAKE SYSTEM FUNCTION AND
BRAKE-GUARD ABS FUNCTION:

(ABS - Advanced Braking System)

Brakes are a friction device and are about 50% efficient from a mechanical and operational standpoint. Heat and other dimensional factors cause drums/rotors to become slightly warped and out-of-round, creating high and low spots in the metal of the drums/rotors. Therefore when the brakes are applied and the shoes/pads make contact with the high spots on the drums/rotors there is a rapid rise in brake fluid pressure in the brake lines. When they make contact in the low spots, there is a rapid fall in fluid pressure.

When brakes are applied with hard braking effort the shoes/pads correspondingly strike against the high spot contact - creating a rise in fluid pressure causing excessive friction, heat, wear and tear on the shoes/drums and rotors/pads. Brake fluid is non-compressible and will not reciprocate through the brake lines; consequently, the shoes/pads are not allowed to back off from these high spots. The brake fluid pressures in the brake lines are increased and decreased in conjunction with the high and low spot contact. Wheel lock-up occurs at these high spot contacts between the shoes/drums and rotors/pads, due to the higher pressure and excessive friction involved. This leads to loss of vehicle control.

Brake-Guard ABS is a full-time four wheel safety system with anti-lock benefits. It incorporates a pressure sensitive metering system in each unit (two units to a set per vehicle). Though small in size the Brake-Guard ABS is powerful in operation. This is possible through unique engineering incorporating a principle called hydro-equalization meaning the hydraulic pressures in the brake lines are equalized at all four wheels instantly and automatically at all different speeds. Brake-Guard ABS is a hydromechanical device with no electronics. The engineering technical terminology is Hydro Static Equalization.

The inclusion of Brake-Guard ABS on a vehicle boosts braking efficiency to approximately 90%. This is accomplished by modifying the braking system to a simple hydraulic system to an air-over hydraulic system. Air is pre-charged around the periphery of the metering system. The pre-charged air allows the metering system to function within the parameters needed to operate in correspondence with the pressures already existing in the brake lines during light, medium, or hard braking. This delivers optimum response and performance every time the brakes are applied.

The metering system expands and contracts (pulsates) approximately 60 to 80 times per second @30 Mph and approximately 120 to 140 times per second @60 Mph. Pulsations will vary in number depending on wheel size and mph. The brake fluid is now allowed to reciprocate through the brake lines, resulting in the constant equalization of brake-line pressure. The shoes/pads now back-off from the high pressure, out-of-round spots; conversely, the metering system contracts in response to low spot contact. Along with this equalization comes more efficient contact, with more braking surface between the shoes/drums and rotors/pads.

This principle of operation substantially decreases brake wear and brake fade while inhibiting premature wheel lock-up, at the same time it substantially increases brake life and utilizes more braking surfaces. The vehicle's brakes now have maximum braking efficiency with less pedal effort. It works with any configuration of braking system, front/rear split or diagonal split, and stops the vehicle an average of 20% to 30% shorter. The inclusion of Brake-Guard ABS on a vehicle with hydraulic brakes will improve the overall braking by a varying degree between 50% to 90%+.

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Complaint

EXHIBIT E

[On Screen: Product Logo]

Exhibit E

Anti-Lock
Brake Guard
Safety System

Host: Hi. Let's talk about safety for a moment, it's probably already happened to you. You are driving down the highway when suddenly you have to stop. And in those few short seconds your life and those of others will depend upon the reliability of your braking system. Will your wheels lock up causing you to careen out of control, or will your car come to a smooth straight stop well short of impact?

The difference could be a revolutionary product called Brake Guard. Brake Guard is a full time safety system with anti-lock benefits. Brake Guard Safety System eliminates some of the hazards of conventional braking systems, dramatically shortening your stopping distance, but more importantly giving you back control of your car in that emergency situation.

Please watch closely at the following demonstration. This Lincoln TownCar is traveling at approximately 65 mph, on dry pavement. As it makes a sudden hard stop the wheels lock unevenly causing the car to spin out of control. Now watch the same car, with Brake Guard Safety System installed. Again the pavement is dry, the speed about 65. The stop is smooth and even 53 feet shorter than before, but most importantly it was a controlled stop.

And so we have seen just how powerful the Brake Guard Safety System is in operation. This patented proven braking system dramatically increases your braking, power, efficiency and control resulting in straighter shorter stops in all kinds of conditions. It's a fact that regular hydraulic brakes only perform at about 60% efficiency, while the Brake Guard Safety System installed on your vehicle will give you peak efficiency around 90% or better. Remember, most safety devices work only when there is an accident, but the Brake Guard Safety System works every time you use your brakes. Helping prevent accidents before they happen. Now let's answer some of the most asked questions we receive about this remarkable product.

[Questions in superscript as well as audio]

Announcer Q: Why do vehicles need the Brake Guard safety system?

Complaint

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EXHIBIT E

A: That's a good question. When a driver slams on the brakes in a panic stop situation, excess braking pressure is created, causing the brakes to lock up and skid. The Brake Guard Safety System equalizes braking pressure before it reaches the wheels, therefore reducing skids stopping the vehicle in a much shorter distance and more importantly giving the driver excellent control of their vehicle.

Q: How does Brake Guard safety system differ from electronic anti-lock braking systems?

A: Electronic systems only work after the wheels lock up. Electronic ABS systems usually contain two or four wheel sensors, a computer and a fluid pump. They must first detect wheel lock-up before moving into action. On the other hand, Brake Guard Safety System works automatically every time you use your brakes, to retard wheel lock-up before it occurs by equalizing the pressure and allowing the shoes or pads to back off from the high spots on the drums or rotors. Brake Guard Safety System works with much greater simplicity than electronic ABS systems. There are no computers that can fail, wiring or fluid pumps. The Brake Guard Safety System is an all-mechanical continuously operating safety system with anti-lock benefits.

Q: How much shorter is the stopping distance with Brake Guard safety system installed?

A: Results can vary depending on road conditions, the weight of the vehicle and a number of other conditions. With Brake Guard Safety System installed, it's been found to reduce stopping distance up to 30%.

Q: Will the Brake Guard Safety System improve the performance of vehicles with worn brakes?

A: Yes; however, no add-on safety system or electronic ABS system can improve the safety if the brakes are inherently bad or need to be replaced.

Q: How long does it take to install the Brake Guard Safety System?

A: Installation usually requires less than a half an hour.

Q: Is there any breaking-in time required when the Brake Guard safety system is first installed?

A: The Brake Guard Safety System requires no break-in, but the hydraulic brakes do. Immediately after installation, make several hard, fast stops just below

EXHIBIT E

the skid point if conditions permit. This will train the brake pistons at each wheel to operate with the Brake Guard Safety System. However, the break-in process takes a little time. The braking will continue to improve during this period. After the break-in run, always re-check all fittings again, looking for any possible leaks.

Q: Will the addition of the Brake Guard Safety System change the way your brake pedal feels?

A: Yes. Most drivers say they feel a softer, more manageable pedal, and notice increased braking power with less effort.

Q: Does the Brake Guard Safety System user qualify for an ABS insurance rate discount on their premiums?

A: Yes. With Brake Guard Safety System installed on your new or used vehicle, you will qualify for an insurance rate discount if your carrier offers ABS discounts.

Q: Will Brake Guard void your factory warranty?

A: No. The installation of Brake Guard Safety System on your vehicle does not void or alter new or used vehicle warranties.

Q: On what type of vehicle can Brake Guard Safety System be used?

A: Brake Guard Safety System is used on vehicles with all types of hydraulic brakes: cars, motor homes, vans, small trucks and emergency vehicles such as ambulances and police cars.

Q: What's the most important benefit of the Brake Guard Safety System?

A: Well, as I said before, the Brake Guard Safety System works every time you use your brakes, helping prevent accidents before they happen. And with Brake Guard Safety System you get a controlled shorter stop that could very well make the difference in saving a life or the lives of those you love.

Complaint

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EXHIBIT F

**Add-On ABS Saves Lives****Reduces Accidents**

"A Full-Time" Four Wheel Safety System (with anti-lock benefits) for All Vehicles with Hydraulic Brakes.

WHAT IS BRAKE-GUARD?

- It is a Safety System with "Anti-Lock" benefits for vehicles with hydraulic brakes.
- It operates automatically, every time the brakes are applied.
- It works to inhibit wheel lock-up, skidding and loss of control when braking.
- It stops vehicles straighter and shorter with better steering control.

OTHER BENEFITS OF BRAKE-GUARD:

- Positive reduction in brakefade and hot spots (dangerous conditions caused by hard brake use).
- Increases brake life substantially.
- Reduces wear to critical front-end assembly, tires, and master cylinder.
- Helps compensate for unequal brake adjustment, air and wear difference in tires and uneven loading.
- Makes driving easier, safer and more fun while reducing the chance of accident, injury or lawsuit.

DISTRIBUTED BY:**LIST PRICE
\$595⁰⁰**

EXHIBIT G



ing this letter... ing approximately 55 MPH and sets up an air bag...

My product... my product as far as least...

Other 1990... other 1990 as a World in...

BG's Hot Sheet OFFICIAL BRAKE GUARD PRODUCTS NEWS PUBLICATION



International Sales Foot High Growth Rates Brake Guard is currently marketing both...

New BG Posters Hot Off the Press Brake Guard has just received new posters...

Brake Guard Publishes Quarterly Newsletter This is the first issue of BG's Hot Sheet...

Installation Tips from the Pros The Dual Diagonal Dilemma

Dual-diagonal brake design appears to present a problem when installing Brake Guards...



BRAKE GUARD PRODUCTS International Sales Foot High Growth Rates

Jaguars are Unique Animals

When you think of luxury cars, one would assume that with the increase in price comes an increase in all-around safety...

into the right frame and the left rear brake on the same chamber of the master cylinder...

When viewing the master cylinder, it's easy to see that two brake lines are emerging from the front of the cylinder...

If you have come across installation questions, or have developed solutions of your own, we would like to hear from you...

000013:

Complaint

125 F.T.C.

EXHIBIT G



BG TESTIMONIALS



HERE'S WHAT BRAKE GUARD CUSTOMERS ARE SAYING

This letter is to inform you of the results we have had with the Brake Guard products that we have installed on three vehicles.

The first was a 1966 Ford F100 pickup. The unit drastically improved the stopping of the pickup, especially on wet streets. NO rear wheel lockup!!

The second was on a 1980 Porsche 911SC. The results were excellent. After repeated stops from 60 MPH there was no brake fade, just controlled stops. Also, stops made at 70 MPH on a wet surface produced NO lockup, just smooth controlled stops.

The third vehicle was a 1989 Honda GL1500 Motorcycle. The installation was done on the rear unitized brake. Again the results were shorter, smoother stops. Further tests will be conducted after installing the unit on the front brake.

Allen Smith
Tulsa Enterprises
Huntington Beach, CA
You are currently being contacted on Honda Marketing applications. Look for test results in next issue.

In January 1991 a new company (vehicle) was purchased. The need was given to the Chevrolet 3/4 Ton Long Bed. The truck was equipped with G.M.'s Anti-Lock Brakes.

Within 4-6 months, the rear wheels would lock at very slow speed on wet surfaces such as the L.A. free-

way traffic at 3-5 MPH. The " idiot " light on the dash began to stay on. The dealer made the necessary repairs, but within 3-4 months the same thing once more. The needed part was not in stock and the mechanic who was assigned to my truck told me, and I quote, " This is the only real way to fix the problem, " as he un-plugged the unit.

One week ago the Brake Guard (system) was installed, and what a difference! Perhaps you should present your product to Chevy dealers who must be embarrassed by the repair procedure.

Kelly Tidwell
S.T.D. Enterprises
Huntington Beach, CA

In June 1991, I had an anti-lock braking system (Brake Guard) installed on my 1990 V-4 4X4 pickup. I have now had an opportunity to test this system on pavement, gravel roads, and ice.

I am very satisfied with this installation. In all situations it has provided shorter stops without loss of maneuverability. On gravel roads, I particularly like the increased control when going down steep, rough roads. On ice, I like the increased control that comes from being able to stop in the shortest distance without skidding—thus being able to continue to steer the vehicle.

Kenneth Strawn
Ridgeway, N.C.

I am writing this letter to express my complete satisfaction with your product. I became interested after reading your brochure. My 1977 GMC Motor Home braking has improved both as to feel and ability to stop from any speed far beyond my expectations.

Since the installation in mid 1991, I have convinced many of my fellow R.V.'ers, mostly GMC's but some others 26' to 36', to install your units and all have found under actual tests that our panic stops require one third less distance (i.e. 200' instead of 300'). Also, brake fade is no longer apparent on drawn out stops as in steep off ramps, etc.

I am sure my enthusiasm will continue for at least the 100,000 mile guarantee and hopefully fellow travelers I meet along the way will heed my advice. Thank you for an amazing and honest product.

Bob Zimmerman
San Rafael, CA
We're sending you some brochures to pass out to your fellow motorhome-

In September 1990 at Camping World in Nashville Tennessee, I had brake guard installed on my 1986 Beauder (33 feet). It has a 460 cu. in. engine, John Deere chassis, and four wheel disc brakes.

After having the brake guard system installed, we were traveling home to New York on Route 81 in the state of Virginia. We were travel-

ing approximately 55 MPH and came up on a car doing approximately 10 MPH with no 4 way flashers. We had to make a quick slow down, and I believe the Brake Guard system made a positive difference in the performance of the brakes. We now tow a car behind on a dolly and are very pleased the way the brakes are performing. I highly recommend Brake Guard to anyone who wants their brake system improved.

Bill Peery
Ridgeway, NY

NEXT ISSUE:

- BG develops special application for Honda GoldWing motorcycles
- Results from South West Research Institute in San Antonio Texas on the effects of Brake Guard systems.
- The physics behind proportioning valves and Brake Guard applications

If you would like to send us your testimonial, or have other questions or comments about Brake Guard Products, please contact us at:

Brake Guard Products
P.O. Box 9689
Spokane, WA 99209
Tel: 1-800-ABS-STOP
Fax: (509) 328-7261

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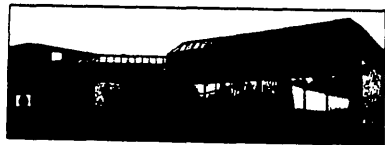
Complaint

EXHIBIT H



ADVANCED BRAKING SYSTEM
DOES NOT VOID OR LIMIT
NEW VEHICLE WARRANTY

REFERENCE SOURCE: GENERAL MOTORS CORP., FORD MOTOR CORP.,
CHRYSLER, NISSAN, TOYOTA, MITSUBISHI, SUBARU, HONDA, MAZDA, HYUNDAI



BRAKE-GUARD INTERNATIONAL BUILDING

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STOP

with
A FULL TIME
FOUR WHEEL
SAFETY SYSTEM
WITH LIMITED-ANTI LOCK BENEFIT

**ADVANCED BRAKING SYSTEM
IS USED BY
PEOPLE WHO CARE**

SHORTER
STRAIGHTER
SAFER
CONTROLLED STOPPING

EXHIBIT H

WHAT IS ADVANCED BRAKING SYSTEM?

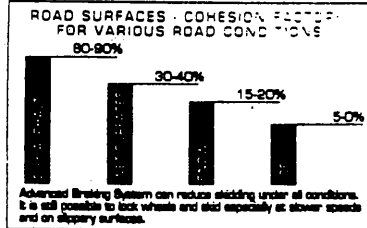
A four wheel Safety System for all vehicles with hydraulic brakes.

WHAT HAPPENS TO YOUR BRAKE SYSTEM?

Heat and other factors cause brake drums and rotors to become warped and out of round, when the brakes are applied the contact surface at each wheel is uneven resulting in unequal braking performance, premature wheel lockup, skidding, loss of control and unwanted accidents.

HOW ADVANCED BRAKING SYSTEM WORKS

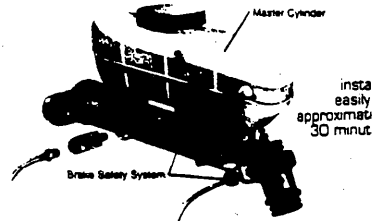
Like a computer, Advanced Braking System's patented regulator system (modified gas/hydraulic) operates everytime the brakes are applied, compensating for unequal braking, resulting in smoother, shortened, straighter stopping with much greater control.



ADVANCED BRAKING SYSTEM IS PATENTED INTERNATIONALLY AND UNDER U.S. PATENT NUMBERS 4,571,008 and 5,074,825. OTHER PATENTS ARE PENDING.

MAILED
OCT 4 1995
DOCUMENT PROCESSING

EASE OF INSTALLATION



ADVANCED BRAKING SYSTEM IS USED BY

- Emergency Vehicles • R.V.'s • Motorhome
 - Fleets • Performance Automotive • New C and
- and
PEOPLE WHO CARE

7 REASONS WHY YOU SHOULD HAVE ADVANCED BRAKING SYSTEM INSTALLED...	
LIFE SAVING FEATURES	BRAKE-RELATED Safety Feature
1. Saves Vehicle In A Shorter Distance.....	<input checked="" type="checkbox"/>
2. Operates Automatically Every Time The Brakes Are Applied.....	<input checked="" type="checkbox"/>
3. Reduces Brake Pad, Hub, Spins and Brake Wear.....	<input checked="" type="checkbox"/>
4. Holds Compensates for Unequal Brake Pad/rotors, Air and Wear Differences in Tires and Uneven Loading.....	<input checked="" type="checkbox"/>
5. Increases Overall Braking Efficiency.....	<input checked="" type="checkbox"/>
6. Available for All Vehicles With Hydraulic Brakes - Including Motor Homes, Etc.....	<input checked="" type="checkbox"/>
7. Available As An "Aftermarket" (Retrofit) System.....	<input checked="" type="checkbox"/>

QUALIFICATION FOR INSURANCE RATE DISCOUNT

Advanced Braking System is a four wheel Safety System and is in compliance with Department of Transportation as define their F.M.V.S.S. No. 105: Hydraulic E System. Properly equipped vehicles qualify insurance rate discounts where applic

INITIAL DECISION

BY LEWIS F. PARKER, ADMINISTRATIVE LAW JUDGE

MAY 2, 1997

I. INTRODUCTION

The Commission issued the complaint in this case and two companion cases on September 27, 1995. I issued a default decision in one case (D. 9276) on October 16, 1996 and an initial decision in another (D. 9275) on March 3, 1997.

The complaint in this case charges that Brake Guard Products, Inc. ("BGPI"), and Ed F. Jones, individually and as an officer and director of Brake Guard, have violated the Federal Trade Commission Act by representing, through advertisements and promotional materials for aftermarket automotive products including the Brake Guard Safety System, also known as the Advanced Braking System or Brake Guard ABS ("Brake Guard"), that Brake Guard is an antilock braking system when, in truth and in fact, it is not an antilock braking system.

The complaint also alleges that the following representations were made in respondents' ads and promotional materials and that they were false and unsubstantiated:

(a) Brake Guard prevents or substantially reduces wheel lock-up, skidding, and loss of steering control in emergency stopping situations;

(b) Installation of Brake Guard will qualify a vehicle for an automobile insurance discount in a significant proportion of cases;

(c) Brake Guard complies with a performance standard set forth in Wheel Slip Brake Control System Road Test Code SAE J46;

(d) Brake Guard complies with a standard pertaining to antilock braking systems set forth by the National Highway Traffic Safety Administration;

(e) Brake Guard reduces stopping distances by 20 to 30% or by up to 30%;

(f) Brake Guard provides antilock braking system benefits, including wheel lock-up control benefits, that are at least equivalent to those provided by original equipment manufacturer electronic antilock braking systems; and

(g) Testimonials from consumers appearing in the advertisements and promotional materials for Brake Guard reflect the typical or

ordinary experience of members of the public who have used the product.

The complaint also alleges that respondents have falsely represented, without substantiation, that:

- (a) In emergency stopping situations, a vehicle equipped with Brake Guard will stop in a shorter distance than a vehicle that is not equipped with the device; and
- (b) Installation of Brake Guard will make operation of a vehicle safer than a vehicle that is not equipped with the device.

On May 22, 1996, I entered a partial summary decision, later clarified on May 28, 1996, which found that respondents' trade names and logos, and the advertising and promotional materials attached to the complaint, made the alleged claims ("Partial Summary Decision (Ad Meaning)").

In a second partial summary decision on October 16, 1996, I held that respondents' representations that installation of their braking devices will qualify a vehicle for an automobile insurance discount in a significant proportion of cases is false and unsubstantiated ("Partial Summary Decision (Insurance Discounts)").

Trial in this proceeding was held between October 21, 1996 and February 13, 1997. The record was closed on February 14, 1997 and the parties filed their proposed findings on March 12, 1997. Replies were filed on March 27, 1997. With few exceptions, respondents have not supported their factual claims by detailed references to the record.

This decision is based on the transcript of testimony, the exhibits which I received in evidence, and the proposed findings of fact and conclusions of law filed by the parties. I have adopted several proposed findings verbatim. Others have been adopted in substance. All other findings are rejected either because they are not substantiated by the record or because they are irrelevant.

II. FINDINGS OF FACT

*A. The Corporate Respondents' Business And
Mr. Jones' Connection Therewith*

1. Brake Guard Products, Inc. is a Washington corporation, with its offices and principal place of business located at 1047 W. Garland Avenue, Spokane, Washington (Ans. ¶ 1).¹

2. Ed F. Jones is President of the corporate respondent. Individually or in concert with others, he formulates, directs, and controls the acts and practices of the corporate respondent, including the acts and practices alleged in the complaint. His office and principal place of business is at 1047 W. Garland Avenue, Spokane, Washington (Ans. ¶ 1; Tr. 2955-57).

3. The acts and practices of respondents alleged in the complaint have been in or affecting commerce (Ans. ¶ 1).

B. The Product And Its Promotion

4. Since approximately 1980, respondents have manufactured, advertised, offered for sale, sold and distributed an after-market automotive product under the trade names Brake Guard Safety System, the Advanced Braking System, or Brake Guard ABS (hereinafter collectively referred to as "Brake Guard"), a device that is installed on a vehicle ostensibly to improve its braking performance (Ans. ¶ 1; Tr. 2963). Brake Guard consists of a metal housing containing a resilient membrane. The devices are sold in sets of two, so that one may be attached to each of the two hydraulic brake lines of a motor vehicle. The device is a simple hydraulic accumulator, meaning that during heavy brake pedal application, the resilient membrane can expand to accept some brake fluid. When the pedal is released, the brake fluid is returned to the brake lines (Tr. 874; CX 32-M, -Z-24; see RX 91-M (depiction)).

5. BGPI sold the Brake Guard systems through a network of dealers and distributors, including new car dealers, vehicle service

¹ Abbreviations used in this decision are:
Ans. Respondents' answer to the complaint.
CPF: Complaint counsel's proposed finding.
Cplt Complaint.
CX: Commission exhibit.
F.: Finding number in this decision.
Tr.: Transcript of the hearing.
RX: Respondents' exhibit.

centers, and vehicle part catalog companies. (*See, e.g.*, RX 229-L; CX 234-B; CX 321-A, B; CX 233-A; CX 234-E, F.) BGPI's 1992 promotional material indicated that it had over 1200 U.S. dealers and marketed Brake Guard in 34 countries abroad. (Compare CX 234-Z-208 with CX 234-A (BGPI marketing material referring to 1992 events, submitted in deposition held November, 1992).) The wholesale cost to dealers and distributors of Brake Guard ranged from \$98 to \$240 per system (CX 231-G, H, W; *see also* CX 234-Z-53, -60). The price to consumers ranged from \$283 to \$349, installed (CX 231-Z-10, Z-14; CX 234-J, -Z-143). BGPI estimates that it has sold between 400,000 and 500,000 Brake Guard systems (Tr. 2615-16). BGPI's gross receipts for sales of Brake Guard from 1990 to 1994 amounted to \$10,412,792 (\$279,450 in 1990; \$1,426,404 in 1991; \$3,383,401 in 1992; \$3,003,667 in 1993; and \$2,319,870 in 1994) (CX 246-A, -D, -G, -K, -N).

6. BGPI promoted Brake Guard through ads in automotive magazines, and a variety of widely disseminated videos, brochures, posters, and other promotional materials.

7. Print ads for the Brake Guard device appeared in magazines such as "Brake and Front End" (Tr. 2722), "Northwest Motor" (CX 169), "Specialty Automotive Magazine" (CX 172), "Import Automotive Parts & Accessories" (CX 173), "Automotive Executive" (CX 174), "The New American" (CX 179), and "Undercar Digest" (CX 180), as well as "RV West," "Automotive News and Trailer Life" (Tr. 2722).

8. BGPI also used several different videos to promote its product. (*E.g.*, CX-25 (Cplt Ex. 3, *see* Ans. ¶ 1); CX 107, CX 109, CX 110, CX 111, CX 146, CX 149, CX 158, CX 159, CX 234-Z-199-202.) Many of the magazine ads instructed the reader to call for a "free video." (*E.g.*, CX 179, 180.) BGPI distributed videotapes extensively to dealers, to assist them in marketing the product to consumers. (*E.g.*, CX 114-A, CX 163-F, CX 226-H, CX 233-A (reflecting BGPI's shipment of videos to dealers); CX 140-A, B, D, F, G, I (reflecting dealer shipment of video to installers); Tr. 2969-70.) One reseller used the videotape to make presentations to car dealerships (CX 234-Z-7 (regarding CX-234-Z-199-202)); another stated that "selling the Brake Guard is easy after the customers are sat down to watch a demo tape of the performance of the Brake Guard" (CX 53-Z-47).

9. BGPI also promoted its product through numerous brochures (CX-21, CX 23, CX 28, CX 112, CX 113, CX 136, CX 160, CX 188,

CX 228; Tr. 2744) which were provided to dealers by the hundreds (CX 114-A-B, CX 145, CX 163-A, -B, -F, -G, -I, -J, CX 226-A, -E), and were designed to be given to customers as well as dealers and distributors (Tr. 2759). BGPI provided brochure display stands to dealers (e.g., CX 108, CX 113, CX 163-F), and BGPI marketing materials reminded dealers to take brochures to sales presentations (CX 130-B).

10. BGPI provided dealers with other printed materials to promote Brake Guard, including posters (CX-108, CX 117, CX 126, CX 142, CX 143, CX 148), stickers (CX 115, CX 118, CX 124), an "Engineering Summary" (CX 116), a Certificate of ABS Insurance Rate Discount (CX 120, 122, 134, 154), a marketing "Hot Sheet" (CX 130, 235), a Question and Answer Sheet (CX 22 (Cplt Ex. B, see Ans. ¶ 1), CX 132), a sheet describing Brake Guard's function (CX 24 (Cplt Ex. D, see Ans. ¶1), CX 133), and a sheet describing how Brake Guard complied with NHTSA and SAE standards (CX 137). Brake Guard also prepared material designed for a direct mail program (CX 224 A-B; Tr. 2751).

11. BGPI also provided dealers with "dealer kits" that contained reprints of positive magazine articles, brochures, posters, testimonial letters from dealers and consumers and, on occasion, training tapes (Tr. 2714-15, 2970). Magazine ads also urged interested persons to call for a free "dealer kit" (e.g., CX 179, 180). CX-53, which contained numerous testimonials and purported test results, was disseminated to distributors and dealers to assist in sales (Tr. 114, 2972).

12. Larry Jones, BGPI's national sales manager from 1990-94, testified that he personally represented BGPI at fifteen to twenty trade shows a year (Tr. 2622). One of these was the Specialty Equipment Manufacturing Association (SEMA) show (Tr. 2760; CX 14-C, CX 15-C, CX 16-A-E). SEMA is the association of automotive aftermarket manufacturers, distributors and outlets, and it holds the world's largest automotive aftermarket show, attended by 50,000 manufacturers, distributors and dealers, every November in Las Vegas, Nevada (Tr. 108-09, 166-67; CX 235). BGPI sponsored a booth at SEMA featuring the Brake Guard logos, displayed posters, and distributed celebrity brochures making claims for the Brake Guard dealer kits and videos (Tr. 2760; see CX 240). BGPI distributed a variety of these materials at other trade shows (Tr. 2763).

13. BGPI personnel made oral presentations of Brake Guard claims to potential customers, dealers and distributors (Tr. 2718-19).

14. Brake Guard dealers and distributors distributed ads that repeated claims made by BGPI. (E.g., CX 181, Tr. 2728-29; CX 242.) As of the date of the hearing in this matter, Brake Guard distributors continued to make claims contained in BGPI advertising materials (CX 242).

15. BGPI's advertising costs from 1990 to 1994 totaled \$433, 997, including \$6,196 for advertising and \$3,242 for trade shows in 1990 (CX 246-A, -C); \$105,077 for advertising in 1991 (CX 246-D); \$128,092 for advertising in 1992 (CX 246-G); \$66,329 for advertising and \$20,352 for trade shows in 1993 (CX 246-K, -M); and \$95,193 for advertising and \$9,516 for trade shows in 1994 (CX 246-N, -P).

*C. The Claims Made In Respondents' Ads
And Promotional Materials*

16. In my Partial Summary Decision (Ad Meaning), at 2, I found that respondents made claims that:

A) Brake Guard is an antilock brake system (Cplt ¶ 5) that complies with a standard pertaining to antilock braking systems set forth by the National Highway Traffic Safety Administration (Cplt ¶ 7d, "NHTSA compliance claim") and prevents or substantially reduces wheel lockup, skidding and loss of steering control in emergency stopping situations (Cplt ¶ 7a, "braking control benefits claim");

B) Brake Guard complies with a performance standard set forth in Wheel Slip Brake Control System Road Test Code SAE J46 (Cplt ¶ 7c, "SAE J46 claim");

C) Brake Guard provides antilock braking system benefits, including wheel lockup control benefits, at least equivalent to those provided by original equipment manufacturer electronic antilock braking systems (Cplt ¶ 7f, "OEM ABS equivalence claim");

D) Brake Guard will, in an emergency stopping situation, stop a vehicle in a shorter distance than a vehicle that is not equipped with the device (Cplt ¶ 9a) ("general stopping distance claim"), and Brake Guard reduces stopping distances by 20% to 30% or by up to 30% (Cplt ¶ 7e) ("specific stopping distance claim");

E) Installation of Brake Guard will qualify a vehicle for an automobile insurance discount in a significant proportion of cases (Cplt ¶ 7b, "insurance discount claim");

F) Installation of Brake Guard will make operation of a vehicle safer than a vehicle that is not equipped with the device (Cplt ¶ 9b, "comparative safety claim");

G) Testimonials from consumers appearing in the advertisements and promotional materials reflect the typical or ordinary experience of members of the public who have used the product (Cplt ¶ 7g, "testimonial typicality claim"); and

H) At the time they made the representations set forth in complaint paragraphs five, seven, and nine, respondents possessed and relied upon a reasonable basis that substantiated such representations (Cplt ¶ 10).

17. Promotional materials admitted into evidence make some or all of the representations alleged in the complaint. CX 108, CX 130, CX 174, CX 177, CX 227, CX 228, and CX 235 identify the product by the trade name Advanced Braking System ABS; and CX 105, CX 106, CX 113, CX 115-118, CX 123, CX 124, CX 136 and CX 169 identify the product by the trade name Brake Guard Anti Lock Safety System. These exhibits thus make the claim that the product is an antilock brake system. Many ads reinforce this claim by expressly identifying the product as providing "anti lock benefits" (*e.g.*, CX 105, CX 106, CX 112, CX 136, CX 141, CX 160, CX 171, CX 174-177, CX 179, CX 180-182, CX 184, CX 224, CX 228), or as being an "ABS" or "anti-lock" system (CX 117, CX 132). CX 188 also makes this claim, since it identifies Brake Guard as the "anti-lock brake alternative" and states that it has "anti-lock" benefits and "inhibits premature individual wheel lock-up."

18. CX 133 expressly states that the Brake Guard device will stop a vehicle an average of "20% to 30% shorter," and CX 107-F expressly states that Brake Guard has "been found to reduce stopping distance up to 30%." CX 117 states that Brake Guard "delivers 20% to 30% shorter stopping distance." These statements are identical or substantially similar to statements previously found to have conveyed the specific stopping distance claim, and they also make this claim. Partial Summary Decision (Ad Meaning), at 19.

19. Many ads admitted into evidence make the general stopping distance claim. CX 112, CX 113, CX 125, CX 136, CX 141, and CX 160 state that Brake Guard "stops vehicles straighter and shorter" and

that it will provide "smoother, shortened and controlled stopping." This language is identical to that previously found to convey the general stopping distance claim. Partial Summary Decision (Ad Meaning), at 19. In addition, CX 104-106, CX 112, CX 113, CX 125, CX 136, CX 141, CX 160, CX 228 and CX 240 contain the "Safety Scoreboard" indicating that the Brake Guard device "Stops Vehicle in A Shorter Distance." This language is identical to that previously found to convey the general stopping distance claim. Partial Summary Decision (Ad Meaning), at 19. CX 108, CX 124, CX 148 and CX 188 generally promise "shorter stopping distances," or that a vehicle can "stop straighter in a shorter distance," and thus make the claim expressly.

20. CX 104-106, CX 112, CX 113, CX 125, CX 136, CX 141, CX 160 and CX 228 contain text identical to that previously found to convey the insurance discount claim, and thus, they too make this claim. Partial Summary Decision (Ad Meaning), at 15-16.

21. Many of BGPI's ads make the comparative safety claim. CX 104-107, CX 111-13, CX 125, CX 136, CX 141, CX 146, CX 149, CX 160, CX 188, CX 223, CX 228, and CX 240 refer to the product as a "four wheel safety system" or a "safety system" and promise that Brake Guard will improve braking capacity. The ads contain additional language that reinforces the comparative safety claim. CX 104, CX 105, CX 106, CX 112, CX 113, CX 125, CX 136, CX 141, CX 160, CX 228 and CX 240 do so by including a "safety scoreboard" highlighting the "life saving features" of Brake Guard. CX 117, CX 126, CX 142, CX 143, CX 169, CX 181, and CX 242 promise improved braking function, including shorter stopping distances and reduced wheel lockup. CX 171, CX 175, CX 176, CX 179 and CX 180 promise that Brake Guard will stop a vehicle in a "dramatically shorter distance" and CX 107, CX 109, CX 110, CX 111, CX 146 and CX 158 promise that Brake Guard helps prevent accidents before they happen.

22. Many BGPI ads convey the braking control benefits claim. For example, CX 104-107, CX 112, CX 113, CX 125, CX 132, CX 133, CX 136 and CX 188 contain text identical or substantially similar to that previously found to convey the braking control benefits claim. Partial Summary Decision (Ad Meaning), at 9-12.

23. Many ads admitted into evidence expressly make both the SAE J46 and the NHTSA compliance claims: CX 106, CX 112, CX 113, CX 125, CX 136, and CX 160 state that the Brake Guard device

"meets or exceeds the Society of Automotive Engineers (SAE) wheel slip brake control system road test code SAE J46. The Brake Guard Safety System is ABS 'Anti-Lock Braking System' and is in compliance with the National Highway Traffic Safety Administration, (NHTSA) a division of the Department of Transportation (DOT) as defined by their standard No. 105; Hydraulic Brake System. The (S4) definition 'Anti-Lock Systems' means a portion of the service brake system that automatically controls the degree of rotational wheel slip at one or more road wheels of the vehicle during braking." This is the same language previously found to convey the J46 and NHTSA compliance claims. Partial Summary Decision (Ad Meaning), at 17. CX 104 and CX 105 use substantially similar language to that previously found to convey these claims. CX 141 and CX 228 contain language substantially similar to that previously found to convey the NHTSA compliance claim.

24. The OEM ABS equivalence claim also is made in numerous ads. CX 104-106, CX 112, CX 113, CX 125, CX 136, CX 141, CX 160 and CX 228 contain the "Safety Scoreboard" that was previously found to convey the OEM ABS claim. Partial Summary Decision (Ad Meaning), at 21-22. Other ads (CX 107, CX 111, CX 146, CX 149, CX 132 and CX 184) compare OEM ABS and Brake Guard and imply that because Brake Guard operates continuously, it offers superior benefits. This comparison previously was found to convey the OEM ABS equivalence claim. *Id.*

D. Substantiation For Respondents' Ad Claims

1. Complaint Counsel's Expert Witnesses

a. John W. Kourik

25. John W. Kourik is a licensed professional engineer in the State of Missouri (Tr. 1083). He obtained a B.S. in Mechanical Engineering from Washington University in 1948 and was employed with Wagner Electric, a manufacturer of brake systems, from 1948 until his retirement in 1988. Positions he held at Wagner included Supervisor, Hydraulics Brake Products; Chief Engineer, Brake Products, and Director, Brake Engineering and Aftermarket Services (CX 84-A; Tr. 1073-75).

26. During his 40 years at Wagner, Mr. Kourik was involved in the design, construction and testing of brake assemblies, including

construction of various types of hydraulic valves used in brake systems, and in the construction of air brake antilock systems (Tr. 1076, 1081-82). He was substantially involved in the development of test protocols for Wagner's brakes, supervision of road tests conducted at three facilities on a fleet of forty test vehicles, and the analysis of test results (Tr. 1076-1082, 1089). His experience included testing the effectiveness of antilock systems (Tr. 1082).

27. Mr. Kourik was a long-term member of the Society of Automotive Engineers ("SAE"), an internationally based membership of professionals who work on developing standards and recommended practices for the automotive and aircraft industries. Mr. Kourik was involved in the collection and analysis of test data as part of his involvement in SAE committees that developed a brake rating test procedure and a test protocol to evaluate brake linings, each of which was adopted by the SAE (Tr. 1087-88). In addition, Mr. Kourik was the first chairman of the Wheel Slip Brake Control Systems Subcommittee, which developed an SAE-approved test protocol, SAE-J46, designed to distinguish antilock systems from non-antilock systems and to enable an antilock manufacturer to fine-tune a system during the development process (Tr. 1090-91). Mr. Kourik also served as a member of the Brake Task Force of the Truck-Trailer Manufacturers Association (CX 84-A) in an effort to ensure compatibility of antilock systems on trailers with those on the tractors that hauled them. This twenty-year effort required the evaluation of antilock system test data (Tr. 1093).

28. During his career Mr. Kourik has reviewed hundreds of stopping distance tests and hundreds of wheel slip control tests, including wheel slip control tests on passenger cars (Tr. 1118-19). Mr. Kourik is an expert in the design and application of brake systems, their components, actuating systems and control systems, and in the analysis of brake system testing, including stopping distance and wheel slip control testing (Tr. 1094).

b. James G. Hague

29. James G. Hague is a project engineer working with NHTSA's Office of Defects Investigation ("ODI") at the Vehicle Research and Test Center ("VRTC"), which conducts investigatory testing to assist in ODI's vehicle safety investigations (CX 92-A; Tr. 33-37). While in the military, Mr. Hague received training and had several years of experience with aircraft mechanics, including aircraft hydraulic and

brake systems, which are similar to automotive hydraulic and brake systems. He continued to be responsible for aircraft maintenance in private employment for six years after leaving the military (Tr. 744-52). In 1979, Mr. Hague enrolled in Ohio State University ("OSU"). His university experience included course work in auto engineering and braking systems and extracurricular activities involving vehicle design and construction. In 1983, he received a B.S. in Mechanical Engineering from OSU (Tr. 752-56).

30. In 1983, Mr. Hague became a contract employee at NHTSA's VRTC in East Liberty, Ohio. VRTC conducts vehicle and vehicle component tests for NHTSA, including testing for ODI. Mr. Hague was a project or test engineer, providing technical expertise and support in the development of test protocols, test designs, the conduct and supervision of testing, and the deduction, analysis and presentation of the data (Tr. 761). His specific assignment included brake testing (Tr. 762). From 1984 through 1989, Mr. Hague held various positions, including service as a test engineer on hydraulic systems, as a test engineer on power industry equipment, and as president of a company that developed and marketed software for use by test engineers (CX 92-A; Tr. 764-68).

31. In 1989, Mr. Hague returned to VRTC as a contract employee. There, he provides technical expertise and support to VRTC in the development of test protocols, the conduct of testing, and the analysis and presentation of test data (Tr. 761, 769). His tests are investigatory, designed to determine whether there is a safety-related defect in an automotive system, and if so, what the consequences are. He is assigned most of the brake investigations that come to VRTC. In this position, he has conducted numerous tests of braking systems, and authored twenty-eight reports regarding the results of his investigations of vehicle systems (Tr. 771-83; CX 92-B, -C).

32. Mr. Hague's position requires expertise in passenger cars and light trucks, and extensive knowledge of testing. Mr. Hague is an expert in passenger car and light truck systems, particularly brake systems, and in passenger car and light truck testing, particularly brake testing (Tr. 784).

c. John Hinch

33. John Hinch is Lead Engineer in the Office of Defects Investigation of NHTSA. He obtained a B.S. degree from the College of Engineering at the University of Michigan. His course

work in that program involved numerous engineering courses. Subsequently, he took masters level classes in general and mechanical engineering (CX-94; Tr. 1868-72).

34. From 1975 to 1978, Mr. Hinch was employed by NHTSA as a mechanical engineer, designing tests to evaluate the traction generating potential of tires, specifying control procedures and test instrumentation, analyzing the test data and preparing the reports (Tr. 1872-81). From 1978 to 1989, he was employed as an engineer at ENSCO, Inc., a research and development company, where he was responsible for testing of automotive systems and the interaction of automobiles with other systems. While at ENSCO, he served as lead engineer designing and constructing a test facility for the Federal Highway Administration. During his career at ENSCO, Mr. Hinch conducted over two hundred full-scale crash tests, calibrating equipment, processing the data after the test, and preparing or conducting final review of the project reports (Tr. 1882-89).

35. In 1989, Mr. Hinch returned to NHTSA as an engineer assisting the Chief of its Crash Avoidance Division. While in this position he designed tests to analyze what vehicle properties are associated with rollover crashes, and analyzed the resulting data (Tr. 1891-93). In 1992, he moved to ODI as a defects engineer, where he investigated alleged safety defects in school bus and heavy truck fleets, critically analyzing test data submitted by the fleet vehicle manufacturers to determine whether their data was competent and reliable, directing the conduct of tests to evaluate the validity of defect complaints, and writing detailed scientific reports to document the conclusions of investigations (Tr. 1894-96).

36. In 1994, Mr. Hinch was promoted to the position of Technical Assistant to the Director of ODI, where he provides support to the director on the technical issues raised in each of the two to three hundred investigations performed by ODI each year, supervises junior engineers in the development of scientifically sound investigation techniques and test protocols, and critically reviews test data submitted by manufacturers. Since 1995, he has been in charge of all testing conducted at VRTC, ensuring that such work is performed in a competent manner; he also gives guidance to testing conducted at other locations (Tr. 1896-99).

37. Mr. Hinch has investigated and tested antilock brakes on school buses, has been involved in component testing on antilock

brake systems, and has studied the traction generating potential of ABS-type controllers (Tr. 1902-03).

38. Mr. Hinch has written more than twenty different technical reports and papers, some of which have been published by the SAE (Tr. 1881-82). He has been a member of the SAE and the National Safety Council, another professional society (Tr. 1882).

39. During his career, Mr. Hinch has been involved in the design and analysis of brake testing protocols. He has been responsible for the design of scientifically reliable protocols to test various aspects of automobile performance, including braking performance, and is also responsible for the evaluation of such testing. Mr. Hinch is an expert in vehicle testing, vehicle test procedures and the analysis of data obtained from vehicle testing (Tr. 1900).

2. The Function Of Automotive Brake Systems

40. The function of a motor vehicle's brake system is to slow or stop the vehicle. Hydraulic brake systems utilize an incompressible fluid to create pressure within a closed system of brake lines. When the driver pushes on the brake pedal, the brake lines transmit this pressure through the master cylinder to wheel cylinders or brake caliper pistons, which, in turn, apply force to the brake linings or pads (CX 102-Z-18; Tr. 786-89). This produces a brake torque at the axle which is transmitted to the tire/pavement interface (Tr. 789).

41. When the wheels slow down relative to the ground, slip is caused, generating horizontal tire-road forces. Wheel slip refers to the difference between the angular velocity of the free rolling wheel and the angular velocity of the braked wheel, divided by the angular velocity of the free rolling wheel, expressed as a percentage (CX 103-B; Tr. 789-90, 1119-20). Stated more simply, wheel slip refers to the proportional amount of wheel/tire skidding relative to vehicle forward motion (CX 102-J n.27).

42. The amount of brake force developed at the tire/road interface is a function of the amount of wheel slip (CX 103-C; Tr. 789-90). As brake application is increased, the slip at each wheel increases, thus increasing the braking forces on the vehicle. When slip proceeds beyond 20%, however, brake force starts to fall off subtly. More important, after 20% slippage, the ability of the tire/road contact spot to produce lateral force generation--necessary to make turns--falls precipitously (Tr. 790-91). An example of this is when a driver

attempts to turn on clear ice: the vehicle will not turn, because there is severely limited lateral force generation capability (Tr. 791, 1907).

43. At 100% wheel slip, the wheels are locked and no longer rotating (Tr. 791). Wheel lockup occurs whenever the brake force generated at the road/tire interface exceeds the capacity of the pavement and the tire interface to produce that force. The friction or "mu" of a road surface, referring to the ability of a given surface to produce a frictional force, is a factor in wheel lockup. Dry concrete is a high friction surface; ice is a very low friction surface. Vehicle speed is also a factor in lockup. However, wheel lockup can occur at any speed, and on a surface of any level of friction, if the driver applies sufficient force (Tr. 791-94; CX 103-D, -E).

44. Certain risks are associated with wheel lockup. If front wheels lock first, braking force is diminished and the stopping distance is extended. Additionally, when the front wheels lock, there is no lateral force generation capability, and the driver is unable to steer. If rear wheels lock first, the vehicle typically spins out of control (Tr. 796).

3. The Operation Of Antilock Brake Systems

45. Antilock brake systems are designed to maintain maneuverability and controllability during braking, under all operating conditions, by controlling wheel slip (CX 103-C, -D; CX 102-Z-22). NHTSA defines an antilock system as "a portion of a service brake system that automatically controls the degree of rotational wheel slip at one or more road wheels of the vehicle during braking" (CX-37-A; Tr. 1120, 2506).

46. The SAE publication "Antilock Brake System Review--SAE J2246" ("SAE J2246") defines an antilock brake system as "[a] device which automatically controls the level of slip in the direction of rotation of the wheel on one or more wheels during braking" (CX-103-A). SAE J2246 sets forth the fundamentals of ABS and the development of ABS systems (CX 103-A-C) and the SAE J2246 definition of an antilock brake system is applicable to all ABS systems, including after-market systems (Tr. 2533). SAE publications are regarded as authoritative by experts in the braking field (Tr. 1125, 1909; *see* Tr. 2532).

47. In order to control the "degree" or "level" of wheel slip as set forth in the NHTSA and SAE definitions, an ABS system must have components to detect what the rotational wheel slip is, even before it needs to be controlled. Thus, it needs sensors at the road wheels or

the drive train that measure the rate of rotation of the road wheels. It also needs a computational device that can measure any change in the rotation of the wheel over time and compute the wheel slip, so as to evaluate whether lockup is approaching. If so, the system must be able to send signals to an actuator or control device to reduce the line pressure at the wheel, reducing brake force so the wheel can continue rolling at a more appropriate speed (Tr. 800-01, 1120-21, 1750-51). These components are necessary because the only way to control a system is to know whether the system is generating error (*i.e.*, to know what level of slip exists, and whether it is excessive) and to be able to affect the processes to correct the system back to the desired point (*i.e.*, to be able to return slip to the required level) (Tr. 802). A system that can sense the rotation of a wheel at a given point in time but cannot sense the vehicle's speed and does not know the wheel's immediate past history of wheel rotation cannot function as an antilock system, because it will not be able to calculate changes in wheel slip and thus control the degree to which wheel slip is allowed (Tr. 1121-22).

48. Brake engineers generally understand ABS to mean a portion of a service brake system that automatically controls the degree of rotational wheel slip during braking by: (1) sensing the rate of angular rotation of the wheels; (2) transmitting signals regarding the rate of wheel angular rotation to one or more devices which interpret those signals and generate responsive controlling output signals; and (3) transmitting those controlling signals to one or more devices which adjust brake actuating forces in response to those signals (CX 102-G, -I). This definition reflects the meaning of ABS as it has been generally understood among brake engineers since at least 1990 (Tr. 1123-25).

49. In 1995, NHTSA amended its definition of an antilock brake system to adopt the definition set forth in Finding 48 (CX 102, CX 38-A-B). The new regulation clarifies the definition (Tr. 1122, 157), but does not substantively change it (Tr. 156-58; compare F. 47 with F. 48 (elements of this new definition are consistent with elements required to comply with the prior definition)).

50. SAE expects that antilock brake systems will contain the components set forth in F. 47, and operate in the manner set forth in F. 48. In SAE J2246, SAE identifies the components of an antilock brake system as: (a) sensors to determine the wheel speed and the vehicle speed; (b) control logic to process the sensors' signals and

determine the desired regulation of the brake pressure; (c) a means to implement the control logic; and (d) a means to regulate the brake pressure as dictated by the control logic (CX 103-L; Tr. 1126). SAE states that,

"in a typical application, variable reluctance sensors are used for wheel speed sensing. The vehicle speed is estimated from the wheel speeds, eliminating the need for a separate vehicle speed sensor. The control logic is implemented via microprocessor software in an electronic controller. . . . A wiring harness links the various sensors, the displays, the controller, the vehicle electrical system, and the modulator. The brake pressure regulation is typically done with the modulator employing solenoids that close or open different fluid paths to build or decay the brake pressure at the wheels."

(CX 103-L; Tr. 1126).

51. The factory-installed ABS systems widely advertised to consumers consist of the components set forth in F. 47 and control the degree of rotational wheel slip in the manner set forth in F. 48 (BGPI Admissions 7, 9 and 11 (per Order Ruling on Complaint Counsel's Motion to Deem Admitted Certain Requests for Admission, July 8, 1996 (hereinafter, Admissions Order))).

52. The Brake Guard device is an accumulator (Tr. 873; CX 34-Z-6). It does not consist of wheel sensors, electronic signaling mechanisms, an ABS computer and hydraulic modulators, and it does not work in the way factory-installed ABS systems work (BGPI Admissions 10, 12 (per Admissions Order, *supra*); RX 191-M (depiction of device)). Accumulators are not ABS, because they do not have the capacity to measure wheel speeds, make error determinations, and issue control signals to adjust the brake torques and braking response to actively and automatically control the degree of rotation of wheel slip of one or more of the wheels during the braking maneuver (Tr. 876). Mr. Brinton, BGPI's expert, admitted that Brake Guard cannot measure the rate of rotation of the wheels and cannot compute the difference between the speed of the braked wheel and the free rolling wheel (Tr. 2575), as is needed to compute wheel slip. The resilient unit in Brake Guard can absorb some pressures but it cannot actually measure, read or comprehend them (Tr. 2575).

53. Accumulators are a part of some ABS systems, but are not ABS themselves. In ABS systems that include accumulators, if the wheel sensors send signals that tell the computer that the wheel is beginning to slip, the computer sends a control signal to the

modulator to close an isolation valve that prevents the driver from pushing further fluid from the master cylinder out to the caliper. In addition, the computer issues control signals to the controller to open a dump valve, which allows the brake fluid to be released from the brake line and to be stored in a low-pressure accumulator. When sufficient fluid has been dumped so that the wheel begins to spin again at about 10% slip, the computer signals to the modulator to increase pressure. A high-pressure electrical pump then restores fluid from the accumulator to the brake line, as needed, to increase wheel slip, until slip again reaches about 30%, at which point the cycle begins again. The accumulator in such an ABS system is simply a storage device that supplies fluid to the pump, which in turn supplies the fluid to the brake lines. This is unlike respondents' accumulators, which are plumbed directly into the brake lines to provide a supply of energy for braking force (Tr. 876-80).

54. The Brake Guard device does not have the components necessary to operate as an ABS system, as that term is defined by NHTSA, understood by experts in the field, used in the industry, and understood by consumers (F. 45-53).

4. Testing Antilock Brake Systems

55. To demonstrate that a product controls the degree or level of rotational wheel slip (and thus prevents or substantially reduces wheel lockup, skidding and loss of control), as called for by the NHTSA and SAE definitions, adequate, competent and reliable scientific testing is needed that compares the performance of a vehicle equipped with the purported ABS system, to the performance of the same vehicle not equipped with the system, under controlled conditions, during a variety of driving maneuvers where controllability during braking is at issue. The driving maneuvers should include stops on a variety of road surfaces, such as changing friction surfaces (*e.g.*, where the road changes from dry to slick, or vice versa), split friction surfaces (where one side of the road is high friction and the other side of the road is low friction), a low friction lane change, or a low friction curve maneuver (Tr. 1127-31, 802-12, 1907-08, 2579). Some testing involving curves or turns is important because the lateral force generation capability of a vehicle--that is, its ability to maintain maneuverability during a stop--is an important aspect of wheel slip control (Tr. 806-09, 1907-09). During the testing, sufficient pedal

force should be applied so that lockup would occur, but for the operation of the device (Tr. 803-04, 1909-10, *see* Tr. 1128).

56. Conditions that should be controlled include the condition of the tires and the brakes, the road surface, the velocity at the onset of braking and the brake application (Tr. 804-05, 1129-30). One way to ensure that the tire, brake and road surface conditions are as similar as possible is to run the tests with and without the device on the same vehicle as contemporaneously as possible (Tr. 804-05).

57. Additionally, proper instrumentation to record the parameters of interest is needed, including the velocity of the vehicle at the commencement of the stop, the brake pedal force applied, the line pressures developed in the brake system during the stop (measured, for example, by a brake force transducer), the wheel slip (calculated, for example, from data derived from wheel sensors), and whether the wheel lockup had occurred or was being modulated (Tr. 1129-31, 802-12). A visual display of conditions to ensure that the driver can repeat the pedal force he used in the prior test is also needed (Tr. 810, 1132).

58. Results of an antilock brake test should be adequately documented (Tr. 1287). If a test shows that a braking product shortens stopping distance, that alone does not demonstrate that the product is an antilock brake system, because it does not show that the device eliminates or controls wheel lockup (Tr. 1132, 812). However, if a stopping distance test shows that a vehicle experiences lockup, it demonstrates that wheel slip has not been controlled (Tr. 1132, 813, 2576). Anecdotal consumer reports that a device reduced lockup or prevented accidents do not provide competent and reliable evidence that a device is an antilock brake system, because consumers do not have the expertise required to evaluate an antilock system, and because they cannot tell whether or not specific wheels experienced lockup (Tr. 813, 1132, 1912). Consumers cannot provide consistent information and do not know whether wheel slip is, for example, 10%, as opposed to 15% (Tr. 2580).

59. The SAE has published a test procedure for evaluating antilock brake systems that is widely recognized throughout the automotive testing industry (Tr. 829). SAE J46, originally adopted in July 1973 and re-approved without change in 1993, sets forth a test code for evaluating whether or not a product controls wheel slip (CX 39, 40; Tr. 1133-34, 2518). The objectives of the test procedure are to separate antilock systems from non-antilock systems and to

enable antilock manufacturers to evaluate alternatives in systems under development (Tr. 1091). SAE J46 identifies appropriate instrumentation, test facilities, and vehicle preparation, and sets forth four series of recommended road test maneuvers, including: (a) constant friction surface tests at various speeds; (b) split friction surface tests, (c) changing (high to low) friction surface tests; and (d) lane change tests (CX 40-A, -D; Tr. 1134-35). SAE does not set forth a required pedal force, but assumes that sufficient force would be applied to cause lock-up, but for the operation of the device (Tr. 1136). SAE J46 does not set forth exact parameters of testing, but was designed to permit each test facility to select road conditions and test conditions that were appropriate to it, considering that road surfaces varied among test facilities, and to develop comparative data (Tr. 1135).

5. Testing Comparative Stopping Distance

60. Scientifically sound evidence that one braking system provides shorter stopping distances than another braking system (that is, a comparative stopping distance test) requires competent and reliable testing that compares the performance of a vehicle with the device engaged to the performance of the same vehicle with the device disengaged. Braking a vehicle is an energy conversion process in which the vehicle's kinetic energy is changed into heat energy. Because the kinetic energy of the vehicle is proportional to the square of the velocity, even minor variations in speed can result in significant differences in the distance traveled. Accordingly, the speed that the vehicle is traveling at the point the brakes are applied must be known and carefully controlled. When there are minor variations in speed, the stopping distance may be corrected by following an SAE-approved procedure which requires that the vehicle be equipped with instrumentation, such as a fifth wheel data acquisition system, that captures and records (a) the actual speed of the vehicle at the point of braking, and (b) the actual distance traveled from the point the brake was applied until the point the vehicle comes to a rest (Tr. 814-19, 1160-66, 1916-18, 2524-29, 2561-64).

61. All other elements of the testing, *i.e.*, the tires, brakes, and road surfaces must be controlled. With regard to brakes, if they are old, they should be checked and replaced if necessary; if they are new, they should be burnished, because burnishing is a good way to standardize brakes (Tr. 1913, 2526). Tests with and without the

device should be conducted sufficiently close in time to avoid the possibility of an independent variable causing any apparent difference in results (Tr. 822, 1160-66, 1913-16, 2008, 2525-27).

62. Brake application must also be controlled, because brake pedal apply time and force will affect the stopping distance. Increasing brake pedal force results in a proportionally shorter stopping distance, up to a certain limit. Accordingly, the driver must be provided with a protocol for applying force to the pedal. One appropriate protocol is to tell the driver, under each condition, to use whatever brake pedal force is necessary to bring the vehicle to a stop in the shortest distance possible; such a stop is called a "best efforts" stop. Another type of stop is a "panic stop" where the driver is told to press on the brake pedal as hard as he can and hold it until the vehicle stops. Finally, a driver can be told to conduct a stop at a certain pedal pressure level (such as 100 pounds), in which case he needs instrumentation that measures the brake application force and provides a readout so the driver is aware of the pressure he is applying (Tr. 822, 1160-63, 1910-16, 2008, 2526). A minimum of three stops should be conducted to determine whether the results produced are consistent (Tr. 822).

63. A report regarding stopping distance tests should reflect the recording equipment used, show some evidence that information was taken from recorded data, and demonstrate that appropriate controls were used. It should show what the test protocol was, and what instructions were given to the driver. Comprehensive documentation of results is necessary so that another tester can duplicate the test results (Tr. 1165, 1986-87, 2010, 2530).

64. Reports of consumer experiences do not provide competent and reliable evidence that a device provides comparative stopping distance benefits (Tr. 823-24). Test reports reflecting use of a tape measure to measure stopping distance are not reliable because an onlooker cannot reliably tell at what point the driver first applied the brake, and a driver cannot reliably brake at a predetermined point on the road. Use of a tape measure suggests that: (a) there was no certainty regarding the point at which braking commenced and (b) the tester was not aware of the vehicle's precise speed at entry, and thus was not able to correct for differences in kinetic energy (Tr. 824, 1164-65, 1918, 2530). Even minor errors regarding the point that braking commenced are significant as a vehicle traveling at 60 miles per hour is moving at 88 feet per second; thus, an error time of as

little as a tenth of a second can result in an 8.8 foot error in measured distance (Tr. 1163-64, 1919).

65. Brake engineers can use certain mathematical equations, derived from Newton's laws of physics, to evaluate the accuracy of stopping distance data. The velocity and stopping distance can be used to yield an estimated acceleration/deceleration in feet per second squared, and converted to gravities. This data can then be evaluated in light of the coefficient of friction of the purported test surface. If calculated decelerations are in excess of what can be achieved on the reported road surface, it suggests error in the stopping distance measurement, or the estimated speed, or both (Tr. 1273, 1638-46, 1955-58).

66. Competent and reliable scientific test data, evaluating performance under controlled conditions with proper instrumentation, also is required to demonstrate that a product makes a vehicle safer (Tr. 2531; *see* Tr. 1287 ("when you get into talking about safety and whether its improved safety or shorter stopping distances, comparative data requires documentation that's without dispute"))).

67. A competent and reliable test designed to measure stopping distances and wheel slip control would cost approximately \$50,000. (*See* Tr. 2202, 901.)

6. The Performance Of The Brake Guard Device

a. Evidence Relied Upon By Respondents

68. BGPI relies on a number of test reports to support its claims. They are set forth below, in chronological order. BGPI also relies upon several testimonial letters, discussed after the test data.

1) 1987 Ambulance Testing

69. BGPI relies upon an anonymous, one page report of April, 1987 testing on two ambulances, purporting to show that installation of the Brake Guard device shortened stopping distances by 14% on the first vehicle and 11% on the second (RX 3).

70. RX 3 indicates that the purpose of the testing was to determine average stopping distances. It provides no evidence that the Brake Guard device is an antilock system because the test methodology did not provide for an evaluation of the controllability or maneuverability of the vehicles in situations where wheel slip control is at issue (Tr. 1204-05, 1958-59).

71. RX 3 provides no information about instructions given to the driver on how to apply the brakes; thus, it cannot be determined what kind of stops are being reported, or whether the brake application was controlled (Tr. 1954-55). The road conditions changed during the test (from dry to wet), providing affirmative evidence that the conditions were not properly controlled (Tr. 1953). Finally, there is no evidence that the vehicles were properly instrumented to ensure that velocity was kept constant, that the stopping distances were reliably measured, or that the stopping distances were corrected to accommodate differences between the target speed and the actual speed. Thus, the data contained in RX 3 is not reliable (Tr. 1204-07, 1708, 1954).

72. Mr. Hinch conducted additional calculations on the RX 3 data to confirm his analysis. Application of the formulas discussed above to the data reported in RX 3 reveals that the friction between the tire and the road (that is, the traction coefficient) on the wet "after" surface would be higher than the traction coefficient on the dry "before" surface, a result that is contrary to the laws of physics. Traction coefficients are always higher on dry roads than on wet roads. This information confirms that there was error in the conduct of the test or the reporting of the results (Tr. 1955-58).

2) Gerard Testing

73. BGPI next relies upon RX 232, consisting of a two page letter and one page report from Thomas J. Gerard & Associates, dated September 7, 1990. These documents report on the results of stopping distance tests conducted on a 15-year old pickup truck, and purport to show that during panic stops on dry asphalt from "25 mph \pm 2 mph" the stopping distance improved from 46.4 feet without Brake Guard to 38.7 feet with Brake Guard (a 16.5% improvement) (RX 232 (same as RX 190-Z-220)). The report cautions that the results are preliminary, and Mr. Jones admitted that in a subsequent telephone conversation, Mr. Gerard emphasized this point and stated that BGPI should do further testing (RX 232; Tr. 2983).

74. RX 232 contains no data regarding wheel slip control testing, and provides no evidence that the Brake Guard device controls the degree of wheel slip (Tr. 2005-06).

75. RX 232 contains no indication that the tester used appropriate equipment to measure stopping distances. Mr. Jones testified that a tape measure was used for this purpose, thus establishing that the measurements were unreliable. Moreover, there was insufficient

control of the vehicle speed. Because distance varies by the square of the speed, the apparently minor variation permitted in entry speed (± 2 mph) could result in a 38% variation in distance traveled, if all other factors were perfectly controlled. Also, there is no indication what instructions were provided to the driver with regard to brake application, or that stopping distances were corrected to account for variations in speed (Tr. 2000-03).

76. Mr. Hinch conducted additional calculations in connection with his review of the Gerard data. These calculations revealed that, given the level of scatter in the data, there was no statistical significance to the apparent differences in the stopping distances without and with Brake Guard, a result due probably to the lack of controls in the test. Thus, the September, 1990 Gerard data does not provide competent and reliable evidence that the Brake Guard device shortens stopping distances (Tr. 2004-06).

3) 1992 Cunningham Testing

77. BGPI relies on March, 1992 testing performed by the Cunningham Engineering firm, offered as RX 188 H-L (typewritten reports) and supplemented as RX 206 A-M (typewritten reports plus handwritten data logs). The original typewritten materials consist of three single page reports of stopping distance tests conducted on a pickup truck, a motor home and a passenger car, plus a summary of these three reports. These documents purport to show that installation of the Brake Guard device shortened stopping distances by 4% on the passenger car, 8% on the pickup truck and 13% on the motor home. The summary report indicates that in each case "skidding stops" were made without the Brake Guard device; that after installation of the device "controlled nonskidding stops" were made; that the distances were measured with a measuring tape; and that "average distances were calculated by summing the selected stopping distances and dividing by the correct number of runs" (RX 188-K). Brake Guard disseminated the typewritten results of the 1992 Cunningham tests in its ads (CX 53-Z-12-14).

78. The 1992 Cunningham reports do not support the wheel slip control claims. The methodology used did not evaluate whether or not the device provided antilock brake system benefits. Moreover, the pickup truck had rear wheel ABS. Had a valid wheel slip control test been conducted on this vehicle, it would have been difficult to evaluate whether any observed control of wheel slip was due to the

Brake Guard device or to the factory-installed ABS (Tr. 1209, 1936-41; *see* RX 206-F).

79. A facial analysis of the stopping distance data reveals that they are unreliable. There is no evidence that the vehicles tested were properly instrumented; no indication how the tester measured the speed at which the brake stop was initiated; and no evidence that stopping distances were corrected. The stopping distances are inherently unreliable because a tape measure was used to measure them (Tr. 1209-10, 1935-37). Also, the fact that the stops without Brake Guard (that is, the "before" stops) were described as "panic stops" and that the stops with Brake Guard (that is, the "after" stops) were described as "controlled nonskid stops" suggests that two dissimilar stops were being compared to each other and, therefore, that the testing was not properly controlled (Tr. 1938). Thus, the typewritten Cunningham 1992 reports do not provide competent and reliable scientific evidence in support of the wheel slip control or stopping distance claims (Tr. 1951, 1209).

80. Handwritten data logs prepared during the 1992 Cunningham testing reveal that the typewritten reports do not describe various testing errors that render the results unreliable, and that they present the results in a seriously biased manner by consistently omitting unfavorable data generated during the testing:

a). Motor home tests. The data logs indicate that during the before phase of the motor home testing, the driver let up on the brake pedal during one run, thus extending the average before stopping distance. Additionally, one of the longest of the five after stops was not included in the data, thus shortening the average after distance. The data log also shows that the before and after stops were conducted using different braking methods--the before stops were "panic" stops, the after stops (except for the long one excluded from the average) were "best effort" stops (described in the typewritten report as "controlled nonskid stops"). A best effort stop will generally achieve a shorter stopping distance, and BGPI is aware of this (Tr. 2787). Moreover, the test vehicle had one tire that was nearly flat. Thus, the motor home tests were conducted in an unscientific and biased manner. Although he considers all of this data inherently unreliable, Mr. Hinch analyzed it and determined that, because of the large amount of scatter, any apparent difference between the before and after stops was not statistically significant (Tr. 1942-47; compare RX 206-E (same as RX 188-I) with 206-J).

b). The pickup truck tests. The typewritten report of these tests, RX 206-F (same as RX 188-H), does not accurately reflect the information shown on the data log, RX 206-K. The shortest (132 feet) of the before "panic" stops was left out of the average before calculation (reported as 169 feet). Moreover, all of the five runs conducted after Brake Guard was installed on the pickup--some panic stops and some best effort stops--yielded stopping distances that were longer than the before tests (the average of these five stops was 177.1 feet), yet that data is not reflected in the typewritten report. Instead, that report reflects data reported on a second data page, from a second set of five runs, where the method of brake application was not revealed and where the driver for three of the runs was Ed Jones, Jr., the son of BGPI's president and a company employee (Tr. 3000). The original driver did not sign this second data sheet (he had signed the others). Additionally, while the data log, RX 206-K, contains the handwritten note that the driver's last comment was "not much difference," the typewritten summary report, RX 206-C-D, states that the driver's comments were "lots of control" and "dramatic difference." No explanation is provided for why the unfavorable data and comments are left out of the typewritten reports. Analysis of all of the pickup truck data reveals that the stopping distances with and without Brake Guard were almost identical and that there is no statistically significant difference between them (Tr. 1947-50; compare RX 206-K with RX 206-F).

c). Passenger car tests. The data log for the passenger car tests, RX 206-M, reveals the same pattern. The average of the two before stops, identified as panic stops, was 180 feet. The first and last of the after stops, at distances of 179 (panic stop) and 184.5 feet (method of brake application not indicated), respectively, were not included in the reported average of the after stops. Instead, the typewritten report reflects the average (173 feet) of three shorter stops, where the method of brake application is described as "controlled," a term the author elsewhere used to describe best effort stops (compare the motor home log, RX 206-J, with the motor home report, RX 206-E). If all of the before and after stops are compared, there is no statistically significant difference between the two data sets (Tr. 1950; compare RX 206-M with RX 206-G (same as RX 188-J)).

Thus, the handwritten logs reinforce the conclusion that the March, 1992 Cunningham tests do not support BGPI's claims (Tr. 1950-51). They also support the conclusions that the 1992 Cunningham test

reports knowingly misrepresented the results of the tests, and that because of Ed Jones, Jr.'s participation in the testing BGPI was aware of this fact.

4) Turkey Testing

81. BGPI relies on a letter reporting results of purported March, 1993 testing in Turkey (RX 230 (same as RX 190-Z-324-327)). The English language letter reporting the results contains eleven lines of text, and states that in road tests with no specified protocol, on an unidentified vehicle, stopping distances were reduced by 12.7, 14.8 and 18.8 % while braking from 50, 70 and 90 km/h, respectively. It states also that during panic braking "at the beginning" there was no locking and that during braking there was no skidding. The accompanying "test report," apparently in Turkish, consists of a cover page containing 8 lines of text and a second page containing 22 lines of text (RX 230). No one from BGPI attended the testing and BGPI is unaware of the circumstances of the test, the equipment used, or the underlying data used to generate the stated conclusions (Tr. 3007-08).

82. This document does not constitute competent and reliable evidence in support of BGPI's claims. There is no evidence to indicate that the test organization used a methodology that would evaluate wheel slip control, that they controlled the test parameters, or that they used appropriate instrumentation to measure ABS performance. Moreover, although the document states that during braking "at the beginning" there was no lockup, it does not say what happened after the beginning. Because the document is so incomplete, it does not constitute competent and reliable evidence in support of the antilock brake system claims (Tr. 1229-30 (re: RX 190-Z-324, which is the same document as RX 230)).

83. Also, these March, 1993 documents from Turkey do not provide evidence in support of the stopping distance claims. There is no evidence that the vehicle was properly instrumented, that the parameters were controlled, that the stopping distances were reliably measured, or that they were corrected (Tr. 1228-29).

5) Slovenia Testing

84. BGPI also submitted results of testing conducted in Slovenia in October, 1993 (RX 2). The report is in a foreign language, accompanied by an English translation. It purports to show stopping

distance improvements of 17 to 35%, and states that in split mu testing, the car "remained in the driving line with no intention to turn right" (RX 2, 2-A).

85. With regard to wheel slip control, the split mu testing was uncontrolled, *i.e.*, it was conducted only with the Brake Guard device engaged. Therefore, there is no way to tell whether lockup was prevented by the device. There is no report of the pedal force used, and the result reported could have been achieved by using a pedal force too low to cause lockup. Furthermore, there is no indication that the test company controlled parameters needed for proper wheel slip control testing. Thus, this report does not provide competent evidence that the Brake Guard device controls wheel slip (Tr. 1984, 1195-97, 1200).

86. With regard to the stopping distance claims, the report does not provide sufficient evidence that the vehicle was appropriately instrumented to measure stopping distance, or that the stopping distances that were measured were corrected to reflect variations from the target speed (Tr. 1201-03, Tr. 1979).

87. The report and data contain a number of troubling inconsistencies. According to the written report, the test was conducted by placing a limiter on the brake pedal, to limit brake application to a point just under the skidding limit, although there is no indication of just where it was set (*e.g.*, at what pedal force). However, RX 2-J, a photograph of the brake pedal, does not show a limiter attached to it. If a limiter had been used, its effect would be to limit the decelerations that can be achieved during braking. Calculations on the reported data showed an inconsistency between the reported after stopping distances and the decelerations that could reasonably be achieved on the test surface. This indicates some error in the reported data, possibly due to problems with the limiter (Tr. 1975-79, 2130; CX 100). In addition, RX 2-P, which BGPI asserted was a part of the Slovenian testing (although it bore a July, 1993 date, fully three months earlier than the date of the test report), indicates that the pedal forces during the testing varied significantly, confirming poor control of this aspect of the testing (Tr. 1982). Thus, the report does not provide competent and reliable scientific evidence in support of the stopping distance claim (Tr. 1985, 1201-04).

88. In any event, Mr. Ed Jones testified unequivocally that he did not rely on the Slovenian testing as substantiation for his claims (Tr. 2012-13).

6) 1994 Cunningham Testing

89. BGPI also relies on a report provided by the Cunningham organization in June, 1994. This report purports to reflect the results of testing on two passenger cars equipped with factory antilock braking systems, where stopping distances were measured with a measuring tape and average distances were calculated by summing the "selected" stopping distances. According to the report, stopping distances were shortened 21% on one vehicle, and 14% on the other vehicle, after the Brake Guard device was installed (RX 206-P). A BGPI employee drove the test vehicles, and other BGPI personnel attended the testing (Tr. 3014, 2772-73).

90. This data does not substantiate BGPI's antilock brake claims, because no methodology was used that would actually evaluate whether or not the Brake Guard device provided wheel slip control (Tr. 1209, 1934).

91. The stopping distance data contained in the 1994 Cunningham report is unreliable since a measuring tape was used to measure stopping distances, a methodology that is inherently unreliable. The vehicles' cruise control was apparently used to control for speed, but cruise controls have poor speed control and should not be relied upon for scientific accuracy. In any event, the cruise control on one of the vehicles broke midway through the testing, and after that point there is no indication of how speed was measured. There also is no evidence that the stopping distances were corrected to accommodate differences in the entry speed (Tr. 1207-11, 1929-33; *see* RX 206-N to -T (same as RX 188 A-F)).

92. Moreover, calculations pursuant to the formula contained in F. 65 reveal a rate of deceleration much higher than the reported road surface (dry asphalt) would permit, confirming that either the speed or stopping distances are in error (Tr. 1635-41).

93. In any case, no credence can be given to this report, since Cunningham previously prepared, for BGPI, test reports that misrepresented the actual results of the testing. *See* F. 77-80, *supra*. In the earlier 1992 test reports, Cunningham stated that it had summed "selected" test results to achieve its conclusions (RX 188-K) when it had left out negative data. In the June, 1994 test report, Cunningham used the same expression to describe the treatment of the data, and no raw data were provided for analysis. Therefore, it cannot be assumed that the data omitted was consistent with that

which was reported (Tr. 2141). Thus, this report does not substantiate BGPI's claims.

7) Australia Testing

94. BGPI also relies upon a February, 1995 report of testing conducted in Australia (RX 8) which was designed to verify that two test vehicles (passenger cars) complied with the Australian Design Standard when equipped with the Brake Guard device (RX 8-C). The report reflects the speeds, decelerations, and pedal force achieved during a variety of test runs, and concludes that the Brake Guard device "improved the braking performance" of the tested vehicles. It does not state, however, what criteria (improved deceleration levels, or some other factor) were used to measure the "improved" performance, it contains no stopping distance data, and it reflects no testing under SAE J46-type road conditions (*see* RX 8).

95. RX 8 does not reflect any test methodology that would show whether or not the device provided wheel slip control, and contains no data regarding wheel slip control testing. Thus, it cannot substantiate BGPI's wheel slip control claims (Tr. 1999, 1219).

96. With regard to the stopping distance claims, the cover letter to RX 8 states that the test organization compared the performance of the vehicle fitted with the Brake Guard device to "that of a standard vehicle which we have previously tested." It is not clear when the prior testing was done, and there is no indication of an attempt to compare or control the test conditions (such as the conditions of the road surface). This is not surprising, because compliance testing is simply designed to show that a vehicle meets some minimum standard, and is not calculated to generate valid comparative results. In any case, stopping distances were not even reported. Thus, the February, 1995 data provided in RX 8 does not substantiate BGPI's stopping distance claims (Tr. 1991-99, 1219-22).

8) Brinton Testing

97. BGPI also relies on test data generated by Robert S. Brinton on January 21, 1997, fifteen months after the complaint was issued in this proceeding, and two days before his deposition. The testing consisted of stopping distance tests conducted on a motor home that was hauling a pickup truck. This combination had a weight of approximately 17,000 pounds and a length of approximately 34 feet.

The length and weight of this test vehicle far exceeds the average passenger car, which weighs 2,500 to 4,400 pounds, with a length of less than 14 feet (Tr. 2556-57). Larry Jones, formerly a BGPI employee and now a Brake Guard distributor, drove the test vehicle. Four runs were conducted without the Brake Guard device, followed by four runs with it. The test report consists of one page of data, showing the speed at the onset of braking and the stopping distance for each of the eight runs. No two of the stops were conducted at the same speed, and the report does not provide distances corrected to any particular speed (RX 216; Tr. 2556-57, 2571).

98. Even assuming the data were reliable, they would not support BGPI's stopping distance claims, because each run was at a different speed, and the before and after distances cannot be compared to one another. *See* F. 60. At trial, BGPI stipulated that a comparison of stops 1 and 5, when corrected for differences in speed, would reveal only a one percent change (Tr. 2570) which was not shown to be statistically significant. BGPI has previously asserted that the heavier the vehicle, the more dramatic the effect of the Brake Guard device (Tr. 2866; CX 188-B). Prior testing by Mr. Brinton showed that when Brake Guard was installed on a pickup truck, it did not shorten its stopping distance (Tr. 2541). Thus, there is no certainty that the results of this test (on a motor home hauling a pickup) could be projected to any other vehicle (whether to a motor home alone or to a passenger vehicle).

99. Moreover, the Brinton data does not constitute competent and reliable evidence. Brake pressure was not controlled between the before and after testing, because Larry Jones applied much higher brake pressure during the runs with the Brake Guard device than he did during the runs without the Brake Guard device (Tr. 2573; RX 239). Because higher pedal force shortens stopping distance, F. 62, this would have biased the results in favor of Brake Guard. Moreover, the equipment that was used to measure speed and distance (known as a Bowmonk) does so by means of an internal motion sensor, and has an error rate of 2% (Tr. 2558-62; RX 210). By contrast, SAE's recommended practice for the conduct of stopping distance tests sets forth that speed and distance should be actually measured (not estimated) by a fifth wheel type device (which attaches to the back of the vehicle and counts wheel revolutions per minute to measure speed and distance) with an error rate of less than .5 % for speed, 1% for distance (Tr. 2558-64). Mr. Brinton's insistence that

the Bowmonk is reliable is questionable because he is a distributor of this equipment (Tr. 2552).

100. The data also does not support the antilock brake claims. Mr. Brinton's testing did not evaluate the performance of Brake Guard under SAE J46-type conditions, or measure wheel lockup frequency (Tr. 2566, 2573). Moreover, Mr. Brinton conceded that the Brake Guard device does not control the degree of wheel slip or prevent lockup (Tr. 2574).

9) Testimonial Letters

101. BGPI also relies upon information recounted in testimonial letters that it has solicited from dealers and consumers (Tr. 2711). Although BGPI states that it has sold more than 400,000 systems, a total of only 81 testimonials were admitted into evidence, representing very few of its customers. In any event, consumer satisfaction (or lack thereof) does not provide competent and reliable evidence of stopping distance, wheel slip control and safety claims (F. 58, 64, 66).

102. The complaint against BGPI specifically cites two testimonials that were reprinted on the BGPI promotional circular known as the "Hot Sheet," under the heading "Here's What Brake Guard Customers Are Saying." The first of the reprinted letters, from Alan Smith of Tulsa Enterprises, claims better stopping distances or reduced wheel lockup after installing Brake Guard on three vehicles (BGPI Cplt ¶ 4 (g), Cplt Ex. G p.2). Tulsa Enterprises, however, was a dealer/distributor of the Brake Guard device (Tr. 2970), not an unbiased consumer. This relationship was not disclosed on the Hot Sheet.

103. The second of the reprinted letters is from Mr. Bob DeSaussure. When reprinted in the Hot Sheet, it read as follows:

Dear Sir:

*** My GMC Motor Home braking has improved both as to feel and ability to stop from any speed far beyond my expectations. Since the installation in mid 1991 I have convinced many of my fellow R.V.ers, mostly GMCs but some others 20' to 36', to install your units and all have found under actual tests that our panic stops require one-third less feet (i.e. 200' instead of 300'). ***

Cplt Ex. G, p.2 (emphasis added). The original testimonial from Bob DeSaussure, however, stated as follows:

Dear Sir:

*** My GMC Motor Home braking has improved both as to feel and ability to stop from any speed far beyond my expectations. Since the installation in mid 1991 I have convinced many of my fellow R.V.ers, mostly GMCs but some others 20' to 36', to install your units and all agree that their braking has been dramatically improved. We have found under actual test that our panic stops require one-third less feet (i.e. 200' instead of 300'). ***

P.S. Apparently it works fine on my 1983 sedan altho I feel no difference except the wheels do not lock up.

CX 243 (emphasis added). The testimonial reprinted in the Hot Sheet states that many consumers conducted "actual tests" (plural) and achieved a one-third stopping distance reduction, whereas DeSaussure's actual letter reported only a single test, on DeSaussure's own vehicle. Moreover, the Hot Sheet omitted the DeSaussure post-script, which suggested no stopping distance improvement in his passenger car.

104. Thus, the two testimonials reprinted in the Hot Sheet, which were cited in the complaint, did not accurately represent typical consumer experience with the Brake Guard device.

b. Other Tests Of The Brake Guard Device

105. Several organizations have conducted testing on the Brake Guard device and obtained results contrary to BGPI's claims. Only the NHTSA testing was competent and reliable, and put BGPI on notice that its claims were false. The remaining test data, however, were known to BGPI and put BGPI on notice that its claims were, at best, unsubstantiated and possibly false.

1) NHTSA Investigation and Testing

106. In 1991, NHTSA's VRTC became aware of aftermarket devices advertised as antilock brake systems which would shorten stopping distances. To evaluate the performance of these devices, VRTC conducted tests on an aftermarket braking device supplied by an entity, Marketex, that is not a party to this proceeding. Subsequently, ODI opened a new defects investigation to assess the safety performance of devices sold by BGPI and two other entities (CX-32-K). As part of ODI's investigation, VRTC conducted carefully controlled road testing designed to evaluate the capacity of respondents' devices to prevent wheel lock-up, skidding and loss of control under a variety of road conditions where, in real life, a vehicle

without antilock brakes will experience wheel lock-up, resulting in loss of vehicular control (CX-32-Z-21; CX-34). These tests demonstrated that respondents' devices did not prevent lock-up in those circumstances, that the test vehicle performed no better with the devices turned on than it did when they were turned off, and that the performance of the devices marketed by BGPI and the other entities under investigation was extremely similar. (*See generally*, CX-34.) By contrast, the nearly identical vehicle equipped with factory-installed ABS and subjected to the same road tests did not experience lockup, and did maintain control. *Id.* In addition, NHTSA conducted two further stopping distance tests on the Brake Guard device. Each of these tests demonstrated that it did not shorten stopping distances (CX 35, 36). NHTSA concluded that further allocation of resources to its investigation was unlikely to lead to an order to recall the devices and closed the defect investigation. However, because the testing and investigation indicated that the devices did not perform as claimed in advertising, the matter was referred to the Federal Trade Commission (CX-32-G).

2) 1991 Report of Stopping Distance Tests on Device from Marketex

107. In 1991, VRTC contacted Marketex, a company that had advertised Brake Guard, and asked for the device. The device that was provided to VRTC was labeled "Brake Guard," but was accompanied by literature that said its name had been changed to "AccuBrake" (Tr. 47; CX 35-F, -Z-6). CX 35, discussed below, reports the results of testing on the device identified, for purposes of convenience, as "AccuBrake." In 1991, after learning that CX 35 contained negative results, BGPI informed VRTC through its attorney that the AccuBrake device was not a genuine Brake Guard device, but an inferior counterfeit (Tr. 46-48). At trial, however, BGPI asserted that the AccuBrake device performed in the same manner as the Brake Guard device and that the CX 35 results applied to Brake Guard (Tr. 1388-89). Subsequent testing demonstrated that the AccuBrake and Brake Guard devices are substantially similar and offer substantially similar stopping distance performance (F. 116).

108. CX 35 reports the results of straight line stopping distance tests, as well as stopping distance tests during a lane change and on a 500-foot radius curve, on a variety of surfaces (CX 35-L; Tr. 1172). The test vehicle was properly instrumented for stopping distance

tests, including a fifth wheel performance monitor to provide distance and velocity measurements, and a lockup box designed to permit visual indication of individual wheel lockup (CX 35-H; Tr. 1171-72). Stopping distances were corrected to account for any difference between the target speed and the actual speed (Tr. 1173; CX 35-K). Tests with and without the device were conducted on the same vehicle, a Toyota pickup truck. An adequate number of runs were made, and the parameters of the test were carefully controlled (Tr. 1173-74, 1177; CX 35-S). CX 35 was performed in a competent manner and the results are reliable (Tr. 1177).

109. The AccuBrake device did not reduce stopping distances; indeed, stopping distances were somewhat longer, on average, when it was installed (CX 35-Z-3). In 69 different tests conducted when the vehicle contained no cargo, the average stopping distance without the device was 152 feet, whereas the average stopping distance of the same number of runs with the device installed was 165 feet (CX 35-Z-2; CX 35-S, -T). An additional series of tests was conducted with the vehicle loaded with cargo. Two drivers conducted these tests, with each driver conducting a complete set of tests with and without the device (*i.e.*, each made 66 runs with the device, 66 without). The first driver's average stopping distance without the device was 172 feet, whereas his average with the device was 181 feet. The second driver's average stopping distance without the device was 161 feet, and his average with the device was 162 feet (CX 35-Z-2; CX 35-Z-19-21). The results of CX 35 provide competent and reliable evidence that the device tested does not shorten stopping distances (Tr. 1177; CX 35-Z-3).

110. The device tested failed to prevent lockup in 26 of 30 panic stop tests (CX 35-S ("full dump" tests), -U). Thus, it did not perform as an antilock device (CX 35-U; Tr. 1132, 813). Indeed, in some instances rear wheel lockup occurred with the device engaged, where it had not occurred with the device disengaged (CX 35-U).

3) 1991 Report of Stopping Distance Tests on the Brake Guard Device

111. After being informed by BGPI's attorney that the AccuBrake tests were not applicable to the Brake Guard device, the NHTSA investigator asked him to supply some for testing on the same vehicle as the CX 35 testing, a pickup truck. BGPI's attorney responded by

sending a set of devices that he identified as "genuine Brake Guard products" (CX 32-E, K; Tr. 47-48).

112. CX 36 reports on the results of these follow-up stopping distance tests conducted on the Brake Guard device. These tests used the same test vehicle, instrumentation and protocol as the CX 35 testing (CX 36-I (including photo of test vehicle with fifth wheel attached to rear, and referring to CX 35 instrumentation, which included a fifth wheel), CX 35-H; Tr. 1171). The instrumentation was appropriate, the test parameters were carefully controlled, and the stopping distances were corrected (Tr. 895-97, 1167).

113. Stopping distance tests were conducted under ten different configurations, including five sets where the vehicle contained no cargo, and five sets where the vehicle was loaded to its maximum weight. Within each loading category, tests included 3 sets of best efforts stops at various speeds and on various surfaces, and 2 sets of "spike" (panic) stops at two speeds on two surfaces. A sufficient number of runs were made under each condition (during the best efforts stops, six runs were made for each of the dry concrete stops, and three runs on the wet asphalt stops; during the spike or panic stops, three runs were made on each condition) to ensure reliable results (Tr. 896).

114. Stopping distances increased after installation of the Brake Guard device in 9 of the 10 configurations. In the last configuration, stopping distance decreased by about 1%. On average, stopping distances increased when the Brake Guard device was installed by 6.2% in the lightly loaded configurations, and by 1.3% in the maximum load configurations (CX 36-S, -T; Tr. 897). Thus, the Brake Guard device did not shorten stopping distances (CX 36-V).

115. During each of the panic stop tests, for all configurations, both without and with the Brake Guard device, all four wheels locked. Thus, the Brake Guard device did not prevent wheel lockup in these tests. Indeed, during one configuration of testing (maximum load 50 mph panic stops) the consequences of lockup were exacerbated after installing Brake Guard. During these tests, when the Brake Guard device was disengaged, the front wheels locked first, permitting the vehicle to stop within the designated lane. When the Brake Guard device was installed, the vehicle's rear wheels locked first, causing the vehicle to swerve and leave the designated lane (CX 36-T, -V).

116. The testing reported in CX 36 was competent and reliable (Tr. 1166-70, 900). It demonstrates that the Brake Guard device does not shorten stopping distances, and that it does not shorten stopping distances by up to 20% or by 20 to 30% (Tr. 1170). This testing also demonstrated that the internal design of the AccuBrake and Brake Guard devices was essentially identical, and that the Brake Guard device's performance was not significantly different from that of the AccuBrake device (CX 36-V).

4) 1993 Report of Wheel Slip Control Testing

117. CX 34 reports the results of another set of VRTC tests performed in 1992 and 1993 on two versions of the Brake Guard device: one purchased in July 1992 (BG I), and a second that BGPI provided, identifying it as an "improved" product (BG II) whose performance would be superior to that of the old version (CX 32-L).

118. Four different road braking tests were conducted to determine if the two Brake Guards and three other aftermarket devices could control the degree of road-wheel slippage when subjected to panic braking on medium to very low friction surfaces (CX 34-K; Tr. 826-27, 1137). The performance of the test vehicle with each device engaged was compared to that of the same vehicle with the device disengaged (Tr. 1138). The same tests were also performed on a nearly identical vehicle with factory installed antilock brakes, again tested with the ABS on and off, to determine the performance of factory-installed ABS and make the results more understandable to the consumer (CX 34-F; Tr. 883, 1138).

119. The aftermarket device tests were conducted on a low mileage (three to five thousand miles) 1992 vehicle without factory installed antilock brakes ("aftermarket vehicle"). Prior to the beginning of testing, new tires, front brake pads and rear brake shoes were installed on the vehicle, and the brakes were burnished to control their condition (Tr. 833-36). The devices tested were installed so they could be engaged and disengaged (CX 32-I, -L; Tr. 831-32, 80).

120. The factory-installed ABS tests were conducted on a new 1992 vehicle ("OEM vehicle"), with just a few hundred miles on the odometer, also equipped with new tires and brakes, which were appropriately burnished prior to the testing. A switch was installed so that the ABS could be turned on and off (Tr. 832-36; CX 34-H-K).

121. The only difference between the two vehicles was that the aftermarket vehicle had rear drum brakes, whereas the OEM vehicle had rear disc brakes; there is no reason to believe that the rear brakes on the two vehicles would have affected the test results (Tr. 833, 871). The fact that the tests demonstrated that the two vehicles performed in the same manner when the after-market devices and factory-installed ABS were disengaged supports the conclusion that the differing rear brakes did not substantively affect the results. (See F. 126-129.)

122. The test protocol included test maneuvers set forth in SAE J46, including the lane change test, a changing friction surface test, and a split friction surface test (Tr. 827). The test was based upon SAE J46, because it is a test procedure that is widely recognized throughout the automotive testing industry as appropriate for evaluating whether or not a device controls wheel slip (Tr. 829-30; see CX 39). In addition, the vehicles were tested on a five hundred-foot radius curve surface which evaluated the ability of a vehicle to come to a stop on a wet curve, without leaving the road and without hitting a barrier in front of it (Tr. 855).

123. The same driver was used for all tests. The surfaces where the tests were conducted were used exclusively for vehicle tests and regularly checked for friction levels. On the surfaces that are used wet, the facility uses a water truck to keep it uniformly wet. Application of brakes was controlled by instructing the driver to apply the same level of pedal force (112 pounds) during each driving maneuver, an appropriate level of pedal force (Tr. 833-41, 845; CX 34-H). The test parameters were appropriately controlled (Tr. 1148).

124. The OEM vehicle was run through the test procedure three times with its antilock brakes disengaged, and three times with that system turned on. Then, the aftermarket vehicle, installed with the BG I device pursuant to the manufacturer's instructions, was run through the test procedures three times with the device off and then three times with the device on. These tests were conducted within minutes of each other. This procedure was calculated to ensure that the various parameters of the tests with and without the device were controlled. The BG II device tests on the aftermarket vehicle, and comparison testing on the OEM vehicle, were conducted in the same manner, immediately thereafter (Tr. 834, 841-42). Three runs were conducted under each condition because the results of the testing

were strongly consistent; this number of test runs was appropriate (Tr. 841, 1147).

125. The aftermarket device test vehicle was instrumented to provide the test driver with a visual readout of vehicle speed, applied pedal force (obtained from the brake force transducer), deceleration, stopping distance, and elapsed time of maneuver. An onboard computer data acquisition system was also used to record the time history of vehicle speed, pedal force, vehicle acceleration, brake line pressure at four wheels, and wheel speed at four wheels (CX 34-I, -J; Tr. 833-36). Baseline tests on the OEM vehicle had been conducted using this same equipment. For the comparison tests to the BG I and II testing, the OEM vehicle was instrumented with the same visual readout (vehicle speed, applied pedal force, deceleration, stopping distances and elapsed time of maneuver) although the only data automatically recorded was the time history of pedal force and a marker for the time of braking (CX 34-J). The instrumentation was appropriate and comprehensive (Tr. 1147-48).

126. The first test, the low-friction surface lane change test, simulates a situation where a driver traveling at 35 mph on a wet, two lane highway encounters a stopped vehicle (represented in the test by cones in the road) approximately 90 feet ahead, applies the brakes with 112 lbs. of pedal force, and attempts to switch to an adjacent lane and stop before hitting a second vehicle somewhat further ahead (CX 34-L, -M; Tr. 846-48). This test procedure is one of the primary procedures within SAE J46 and is conducted so frequently that there is a permanently marked course for it at the VRTC test facility (Tr. 847). The aftermarket test vehicle failed to negotiate successfully the course regardless of whether the BG I or BG II was engaged or disengaged. In every attempt, when the brakes were applied all four wheels locked and the driver lost control of the vehicle, hitting the cones in the first lane and traveling uncontrolled until gradually coming to rest off the road (CX 34-S -U; Tr. 851-53, 1140). The results of the tests on the OEM vehicle when the factory-installed ABS was disengaged were the same (CX 34-S, -U, -Z-14; Tr. 850-53, 1139-40). By contrast, when the factory ABS was engaged on the OEM vehicle, the road wheels were observed to slow down and spin back up, avoiding lock up, so that the driver was able, on every attempt, to avoid the obstacle in lane 1 by steering into lane 2, and bringing the vehicle to a controlled stop well short of the obstacle in lane 2 (CX 34-S, Z-14; Tr. 853, 1139).

127. The second test, the low friction surface curve test, simulates a situation on a wet two lane curve, where the driver proceeding at 35 mph encounters a vehicle stopped ahead of him, but cannot change lanes because of obstacles in the second lane. He must apply 112 lbs. of pedal force and attempt to stop before striking the vehicle ahead of him, without leaving the road (CX 34-N). Although not a part of SAE J46, this procedure is utilized so frequently that a course for conducting the test is permanently marked at the VRTC test facility (Tr. 854). On each occasion when equipped with the BG I or BG II devices, whether the devices were engaged or disengaged, the test vehicle experienced four wheel lockup, and the driver lost control of the vehicle which proceeded along in a straight line, leaving the curved road (Tr. 857-58; CX 34-U-W, -Z-19; Tr. 1140-41). Had there been obstacles off the road, such as trees, the vehicle would have struck them (Tr. 857). Similarly, when the OEM vehicle's ABS was disengaged, it experienced four wheel lockup, leaving the road (Tr. 856; CX 34-U-W, Z-19). When the factory-installed ABS was engaged, however, lockup was avoided and the driver was able to steer safely around the course, coming to a stop prior to colliding with the obstacle placed in the road (Tr. 856-57, 1141; CX 34-V-W,-Z-19).

128. The third test, the changing-friction surface test, requires a vehicle to brake while experiencing a large change in surface friction, simulating the experience of a driver traveling on a wet highway at 40 mph who hits the brakes with 112 lbs. of pedal force and then encounters a patch of ice (CX 34-O, -P). This test procedure is described in SAE J46 and there is a preexisting test surface for such tests at the VRTC facility (Tr. 860). CX 34, the report of the VRTC testing, contains graphs depicting the history of wheel slip during the changing friction surface test, based upon data obtained from the instrumentation installed in the vehicles (Tr. 863). The graphs show that whether the BG I or II was engaged or disengaged, as the front and rear axles proceeded onto the very low friction surface, the wheels proceeded almost immediately to 100% wheel slip, where they remained throughout the remainder of the maneuver (CX 34-W, CX 34-Z-27-29; Tr. 865-66). When the factory-installed ABS was disengaged, the OEM vehicle's performance mimicked that of the aftermarket test vehicle (CX 34-Z-34). When its ABS was engaged, the graphs show that as the wheels transitioned onto the very low friction patch, the wheels commenced toward lockup. As the OEM ABS system detected the lockup, however, it adjusted the level of

braking downward, and allowed the wheels to spin again. A controlled, optimal level of braking was established at each wheel, and slippage was held to between 10 and 20% throughout the remainder of the maneuver. On graphs appended to the test report, short duration spikes at approximately one-half second intervals show the ABS system continually assessing wheel speed and adjusting braking action as appropriate (Tr. 864; CX 34-X; CX 34-Z-2; Tr. 1142-43).

129. The fourth test was a split-friction surface test, also recommended in SAE J46 and also conducted on a track permanently dedicated for such testing at VRTC. In this test, a twelve-foot lane is marked so that the wheels on one side of a vehicle will be on a surface similar to a wet highway, and the other side's wheels will be on a surface similar to an ice-covered highway. The driver was instructed to approach the course at 40 mph, apply 112 lbs. of brake pedal force, and try to steer a straight path. In such a test, if wheel slippage is not controlled, the subsequent loss of steering control generally will cause the vehicle to spin toward the higher friction surface (CX 34-Q, -R). VRTC believes, however, that the pedal force applied in this test was not fully adequate, because even when the OEM vehicle's ABS was disengaged, spin out did not always occur. Spin was kept to 10° or less when the OEM ABS was engaged. When the BG I device was disengaged, the test vehicle spun from 20° to 150°. When this same device was engaged, spin was kept to 10° in one attempt, but was substantially more (as high as 330°) in the other three runs. Thus, the BG I did not effectively prevent loss of control. When the aftermarket vehicle was tested with the BG II device disengaged, the vehicle spun more than 10° on 2 of 4 attempts; the same frequency of spin occurred when the BG II device was engaged. Thus, the BG II did not prevent loss of control (CX 34-Z-3-4; Tr. 868-70).

130. VRTC disassembled and inspected respondents' devices and concluded that they were simple small-volume hydraulic accumulators, that is, hydraulic energy storage devices. Other devices tested by VRTC, which were subject to the same road tests as the Brake Guard devices and performed in the same manner, varied in the volume, hardness, and weight of the rubber insert. One of these other devices also had a screw which permitted the volume and stiffness of the insert to be adjusted. There is no reason to believe

that redesigning the devices would have any effect on the outcome of the tests (CX 34-Z-5, -6; Tr. 872-73).

131 The testing reported in CX 34 was competent and reliable (Tr. 1149, 2577). It demonstrates that the Brake Guard device does not control the degree of rotational slip at one or more road wheels, as set forth in the NHTSA definition of ABS (CX 37-A; Tr. 880-81, 1150) and that the device does not control the level of rotational slip in the direction of rotation of the wheel on one or more wheels during braking, as set forth in the SAE J2246 definition (CX 103; Tr. 880-81, 1151). Nor is respondents' device an antilock brake system as braking engineers define that term (CX 102-G, -I): It does not sense the rate of angular rotation of the wheels, does not transmit signals regarding the rate of wheel angular rotation to one or more controlling devices, and does not transmit controlling signals to modulators that adjust brake actuating forces in response to those signals (Tr. 880-81, 1151).

132. The testing on the aftermarket vehicle reported in CX 34 demonstrates that the Brake Guard device does not prevent or substantially reduce wheel lockup, skidding, and loss of control. In that testing, there was no indication that the device had any capacity to control the degree of wheel slip (Tr. 881, 1151).

133. The testing reported in CX 34 demonstrates that respondents' device provides no wheel lockup control benefits (Tr. 881). By contrast, the factory-installed system tested in CX 34 demonstrated effective wheel lockup control (CX 34-Z-7; Tr. 104).

5) 1993 Report of Stopping Distance Testing

134. After the conclusion of the Wheel Slip controls tests on the aftermarket vehicle, while it was still equipped with the BG II device, VRTC conducted stopping distance tests on that vehicle. Qualitative comparison testing was performed on the OEM vehicle (Tr. 885-86).

135. Conditions of the testing were controlled. A controlled calibrated surface was employed for testing. The vehicles had only recently been equipped with new tires and brakes and both vehicles had undergone a similar brake burnish and the same test experiences. The protocol was for the driver to conduct five stops with the device engaged, then five stops with the device disengaged, then to switch to the second vehicle and repeat the procedure. This procedure was followed over a few days until each vehicle had accumulated a total of 70 stops (35 engaged, 35 disengaged). This procedure ensured that

tire, brake and road conditions remained controlled (Tr. 885-89, 892; CX 33-L, M; Tr. 1162).

136. The vehicles were instrumented appropriately for stopping distance testing, including fifth wheel performance monitors to measure vehicle speed and distance, and performance monitors to provide the test driver with a visual readout of conditions (Tr. 886-88, 892, 1161). Stopping distances were corrected to accommodate differences between target speed and actual speed (CX 33-L).

137. With regard to pedal application, the driver was instructed to conduct best effort stops (CX 33-L). This was a reliable procedure (Tr. 892).

138. CX 33 reports the results of this testing, and includes analysis of the standard deviation of the data. The data establish that the Brake Guard device did not shorten the stopping distance of the vehicle; whether engaged or disengaged, the minimum stopping distance of the vehicle remained the same (170 feet). Moreover, the average and maximum stopping distances of the vehicle were longer when the Brake Guard device was engaged. The installation of the Brake Guard device increased the standard deviation of the test sample, meaning that the driver was less able to keep the stopping distances consistent when it was installed (CX 33-N; Tr. 891).

139. Testing on the OEM vehicle was designed to see what effect each device (aftermarket device or OEM ABS) had on the vehicle being tested, and to provide a protocol, the results of which could easily be understood by a non-technical person. It was not to provide a head-to-head comparison of the stopping distances of the two vehicles. This aspect of the testing showed that engaging the OEM ABS shortened the vehicle's minimum, maximum and average stopping distances by 13% (CX 33-N, M; Tr. 902).

140. The results of this testing were consistent with the results of CX 36 (Tr. 893-94).

6) Southwest Research Testing

141. In 1992, BGPI hoped to obtain test results that demonstrated (a) that a vehicle equipped with Brake Guard complied with the Department of Transportation's Federal Motor Vehicle Safety Standards (F.M.V.S.S.), which contain minimum stopping distance standards (*see* CX 56-O), and (b) that the Brake Guard device provided shorter stopping distances. Toward this end, it hired an independent test company, Southwest Research Institute (SWRI), to

conduct testing of the Brake Guard device (Tr. 2775). SWRI prepared a proposal outlining the test procedure, which among other things provided for repeated burnishing of the brakes during testing, and which BGPI approved (CX 55; Tr. 2167, 2775). The test report (CX 56) is dated September, 1992.

142. The test protocol called for testing on three vehicles, including a pre-inspection for vehicle safety and brake condition; installation of instrumentation and a data recorder; burnishing brakes between each major series of test stops; measuring stopping distances without and then with Brake Guard device installed from 30 and 60 mph under both lightly loaded and fully loaded conditions (*e.g.*, without and with cargo); and removal of Brake Guard and repeat testing to verify test reproducibility (referred to as step 5 reverification tests) (CX 55; CX 56-K, L). The testing was conducted on a four door passenger car, a single unit truck, and a 15-passenger van (CX 56-I).

143. The vehicle instrumentation included a data acquisition system, fifth wheels (to permit accurate measurement of speed at the point of brake application and of stopping distances), brake pedal pressure transducers (to permit control of the brake application force) and decelerometers (to permit the driver to determine what amount of deceleration could be permitted before wheel lockup would occur). Lockup was determined by external observation and was taped with a video camera (Tr. 2170-80; CX 56-I-J). Burnishing was consistent with F.M.V.S.S. requirements (Tr. 2178-79). Stopping distances were corrected pursuant to an SAE formula (Tr. 2184-86; CX 56-P). The test protocol provided for best efforts stops. For each vehicle, stops were conducted in both the lightly loaded condition, known as "LVWR," and when loaded to its gross vehicle weight rating, known as "GVWR" (CX 56-O).

144. In these tests, stopping distances were observed to decrease as the number of severe stops accumulated, and the reverification stops (that is, the stops after Brake Guard was removed) were always shorter than any of the stops that came previously (CX 56-P; Tr. 2188). For vehicle 1, the average of the lowest 3 stops (hereinafter "low 3" average) during step 5 (these are the reverification stops, at LVWR) are each lower than the same average for the step 2 stops (with Brake Guard, at LVWR). Similarly, for vehicles 2 and 3, the averages for the step 5 stops (reverification stops at GVWR) are all lower than the step 4 stops (with Brake Guard at GVWR) (CX 56-Q).

SWRI observed that this was normal during stopping distance testing and is not considered to be related to the presence or absence of the Brake Guard device (CX 56-P). F.M.V.S.S. stopping distance requirements anticipate that stops after the brakes are burnished will be shorter than stops before burnish. (*See* CX 46-P (chart; compare, e.g., pre- and post-burnish requirements for cars, trucks and vans).)

145. SWRI compared various sets of stops. It determined that if one compared only the stops before Brake Guard installation to the stops after Brake Guard installation, at the same vehicle weight, stops with Brake Guard were shorter in 10 of 12 comparisons. By contrast, if stops with Brake Guard were compared to reverification stops at the same vehicle weight, that is, the stops after removal of Brake Guard, the Brake Guard stops were longer in 5 out of 6 cases (*i.e.*, the same frequency) (CX 56-R).

146. Considering this data, SWRI determined that it could not state that the differences in stopping distances were due to the Brake Guard device, or simply to the position of each stop in the test sequence (CX 56-R; Tr. 2188-89). Moreover, stopping differences ranged from 10.9 percent longer to 15.6 percent shorter with the Brake Guard device. Even assuming the Brake Guard device did cause the observed shortening of stops, the net improvement was less than 3% over all, which SWRI concluded was not meaningful. SWRI did not conduct a statistical analysis of this data (CX 56-H, -R; Tr. 2193); thus, it is not established that the 3% difference was statistically significant.

147. The SWRI testing showed that with Brake Guard, wheel lockup occurred 27.6% of the time, whereas without Brake Guard, it occurred 7.7% of the time (CX 56-R). The Brake Guard device neither prevented nor decreased lockup incidence, but instead increased it (CX 56-R; Tr. 2194). SWRI concluded that the increased incidence of wheel lockup with Brake Guard installed demonstrated a real difference in braking controllability in the car and the truck (CX 4-R).

7) Canadian Testing

148. BGPI was also aware of, and had seen, the adverse results of 1992 testing by Transport Canada (Canada's equivalent to the U.S. Department of Transportation) on the Brake Guard device. (*See* CX 54-B; Tr. 2778-81.) Transport Canada was concerned with advertising claims by BGPI, and sought to evaluate whether the

device shortened stopping distances or reduced wheel lockup frequency. Accordingly, it equipped a pickup truck with the Brake Guard device so that it could be engaged and disengaged, instrumented the vehicle with a performance computer, and conducted two types of stopping distance tests--panic stops and best effort stops (CX 54-G). The pickup truck was equipped with OEM ABS on the rear axle only (CX 54-F).

149. Graphs plotting the slopes of the results of the stopping distance versus speed data consistently demonstrated that the stopping distances with Brake Guard operating were longer than the stopping distances without Brake Guard (CX 54-M-Q). In particular, a comparison of 9 cases where the speed of the vehicles was quite similar ($\pm .1$ mph) showed that braking distance was increased by 7.3% with the Brake Guard device installed (CX 54-Q, R, -Z-5) and Transport Canada concluded that the Brake Guard device did not shorten stopping distances (CX 54-R).

150. Transport Canada also observed that during the braking tests, whether the Brake Guard device was engaged or disengaged, the front wheels (which were not equipped with OEM ABS) locked up every time the brakes were rapidly applied. Transport Canada concluded that the Brake Guard device did not prevent wheel lockup and could not be considered an antilock device (CX 54-Q, R).

151. No expert testimony was available with regard to this test, and its reliability is not established. BGPI ignored the results of this test, although it did not offer any testimony to critique the test protocol or conclusions (Tr. 2778-80).

8) Korea Testing

152. BGPI also was aware of a 1991 report of testing conducted in Korea, which it relied on and marked as an exhibit, but ultimately did not introduce into evidence (RX-4; Tr. 2984). This testing indicated that during wet asphalt testing, at 50, 60, 70 and 80 km/h, whether the Brake Guard device was turned on or off, complete four-wheel lockup occurred (Tr. 2986-88). This same testing indicated that installing the Brake Guard device did not shorten stopping distances (Tr. 2990-91).

III. CONCLUSIONS OF LAW

A. Respondents Made The Alleged Claims

Through the use of their trade names and logos, and their ads and promotions, respondents made the claims alleged in the complaint (F. 16-24).

Each of the ads described in the findings make the challenged claims expressly (*see, e.g.*, F. 18), or convey their meaning so clearly that I can confidently find that they make one or more of the claims alleged in the complaint (*see, e.g.*, F. 24). *See Kraft, Inc.*, 114 FTC 40, 121 (1991), *aff'd*, 970 F.2d 311 (7th Cir. 1992), *cert. denied*, 507 U.S. 909 (1993).

B. The Level Of Substantiation Required To Support Respondents' Claims

An ad is likely to mislead if the message it conveys is false, or if claims which are made are unsubstantiated, and advertisers must possess a reasonable basis for substantiation of claims which are made. Respondents' ads do not, with two exceptions,² reveal the level of support which they had for their claims. Thus, one must consider, for these claims, the six "Pfizer factors" which determine the type and amount of substantiation respondents should have possessed when they were made. *Thompson Medical Co.*, 104 FTC at 648, 820-21.

These factors include the type of claim, the product involved, the consequences of a false claim, the benefits of a truthful claim, the cost of developing substantiation for the claim, and the amount of substantiation which experts in the field believe is reasonable. *Thompson Medical*, 104 FTC at 821; *Pfizer, Inc.*, 81 FTC 23, 64 (1972).

Where, as here, a product and its ads involve health or safety, the Commission requires a relatively high level of substantiation for such claims--usually scientific tests. *Thompson Medical*, 104 FTC at 822.

The benefits of a truthful claim are obvious and the costs of reliable testing to support ad claims are not excessive (F. 67). Requiring such testing would not, therefore, deter the development or advertising of a new brake device.

² As to these claims which stated that tests proved the wheel lockup prevention and stopping distance claims (CPF 57), respondents must, as a matter of law, possess adequate tests to substantiate them. *Thompson Medical Co.*, 104 FTC 648, 821 (1984), *aff'd*, 791 F.2d 189 (D.C. Cir. 1986), *cert. denied*, 479 U.S. 1086 (1984).

The consequences of false claims are significant, for respondents' devices sell for \$283 to \$349 per system (F. 5), and there is a possibility of significant injury to consumers who rely on the Brake Guard device to shorten stopping distance or avoid brake lockup.

Finally, experts in the field agree that claims of the sort made by Brake Guard require competent and reliable scientific testing (F. 55, 60, 66).

Consideration of the facts of this case under the Pfizer decision leads to the conclusion that the proper level of substantiation for claims that the Brake Guard device is an antilock brake system and complies with the NHTSA ABS definition, for the braking benefits and stopping distance claims, and for the comparative safety claims, is competent and reliable scientific testing. *See Thompson Medical*, 104 FTC at 826; *Firestone Tire & Rubber Co.*, 81 FTC 398, 463 (1972), *aff'd*, 481 F.2d 246 (6th Cir.), *cert. denied*, 414 U.S. 1112 (1973).

C. Respondents' Claims Are False And Unsubstantiated

1. ABS and Related Claims

The Brake Guard systems advertised and promoted by respondents are not antilock brake systems since they do not have the components needed to control the level or degree of rotational wheel slip (compare F. 51 with F. 52-54). Competent and reliable wheel slip testing conducted by VRTC on the Brake Guard device confirms this conclusion (F. 131) as do stopping distance tests showing lockup during hard stops (F. 115). Respondents have submitted no competent and reliable evidence that supports their claim that the Brake Guard device controls wheel slip (F. 68-100). In fact, their own expert testified that the Brake Guard device does not control the degree of wheel slip (Tr. 2574). Thus, the claims that it is an antilock brake system and complies with the NHTSA ABS definition (Cplt ¶¶ 5 and 7d) are false and unsubstantiated.

The results of the testing set forth in CX 34 demonstrate that respondents' device does not prevent or substantially reduce wheel lockup, skidding, or loss of steering control (F. 132). This conclusion is confirmed by the results of CX 36, which showed that wheel lockup was not prevented by the Brake Guard device (F. 115). Respondents have submitted no competent and reliable evidence to support this claim (F. 68-101). Their own expert witness testified

that the Brake Guard device does not prevent wheel lockup (Tr. 2574). Thus, the claim that the Brake Guard device prevents or substantially reduces wheel lockup, skidding and loss of steering control in emergency stopping situations (Cplt ¶ 7a) is false and unsubstantiated.

CX 34 provides substantial evidence that factory-installed antilock brake systems do provide meaningful wheel lockup control (F. 133). Since respondents' devices do not provide antilock brake system benefits, including wheel lockup control benefits, that are at least equivalent to those provided by OEM ABS, the claim that the Brake Guard device does provide those benefits (Cplt ¶ 7f), is false and unsubstantiated.

SAE J46 does not contain any performance standards or goals to be met in order to pass (Tr. 1136-37, 2582). Thus, a claim that a product complies with a performance standard set forth in SAE J46 is false (Tr. 1136-37). Moreover, as of 1992 (at least three years after it first started disseminating the SAE J46 claim, *see* CX 104 and CX 105, each of which bears a 1990 copyright) BGPI admitted that it had never conducted any testing pursuant to SAE J46 on the Brake Guard device, CX 32-U, and BGPI performed no such testing after that date (F. 68-100). When tested by NHTSA pursuant to a protocol consistent with SAE J46, respondents' device did not perform as antilock brakes (CX 34). Accordingly, the claim that the Brake Guard device complies with a performance standard set forth in Wheel Slip Brake Control System Road Test Code SAE J46 (Cplt ¶ 7c) is false and unsubstantiated.

2. Insurance Discount Claim

Respondents' claim that installation of the Brake Guard device will qualify a vehicle for an automobile insurance discount in a significant proportion of cases, (Cplt ¶ 7b), is false and unsubstantiated. Partial Summary Decision (Insurance Discounts), Oct. 13, 1996.

3. Stopping Distance Claims

The complaint alleges that respondents' specific improved stopping distance claims (20% to 30%, or up to 30%) are both false and unsubstantiated, and that their general improved stopping distance claims are unsubstantiated (Cplt ¶ 7e, 9a). The evidence establishes that both the general and specific stopping distance

representations are false, as well as unsubstantiated. Competent and reliable testing performed by VRTC on two separate occasions on the Brake Guard device, and on a substantially similar device (the AccuBrake), consistently demonstrated that no stopping distance enhancement results from installation of the Brake Guard device. Indeed, this evidence shows that the Brake Guard (like the AccuBrake) increases the average stopping distance of a vehicle (F. 109, 114, 138).

The tests introduced by respondents to substantiate these claims are not competent and reliable (F. 68-100), and statistical analysis of respondent's data is consistent with the conclusion that the Brake Guard device provides no stopping distance enhancement (F. 76, 80).

SWRI was unable to reach the conclusion that its stopping distance data supported this claim (F. 146). It further concluded that, if a stopping distance enhancement occurred, it was insignificant. Thus, SWRI's data could not substantiate any improved stopping distance claim. Guides for Use of Environmental Marketing Claims, 16 CFR 260.6 and Example 2 (deceptive to claim environmental benefit where benefit is in fact not significant or meaningful); *P. Lorrillard Co. v. FTC*, 186 F.2d 52, 57 (4th Cir. 1950) (advertising claiming that cigarette was lowest in nicotine, tar and resins challenged in part because the difference was, in fact, insignificant); *see* Enforcement Policy Statement on Food Advertising, 59 Fed. Reg 28388 (June 1, 1994)(cautioning against claims that deceptively imply a significant difference). The conclusion that Brake Guard provides no stopping distance improvement is consistent with the conclusions of other testing, although that testing has not been shown to be reliable (*i.e.*, that of Transport Canada, F. 149, and that conducted in Korea, F. 152). Accordingly, respondents' specific and general stopping distance improvement claims (Cplt ¶¶ 7e, 9a) are both false and unsubstantiated.

4. Testimonial Typicality Claim

The testimonials included in respondents' advertising conveyed the impression that reduced stopping distances and reduced wheel lockup were typically experienced by consumers. (*See* F. 101-102.) Competent and reliable testing conducted by VRTC demonstrates that these experiences are not typical (F. 114-115, 132, 138). Furthermore, where scientific evidence is required to substantiate claims, consumer testimonials cannot provide support for them. *See FTC v.*

Pantron Corp., 33 F.3d 1088, 1098 (9th Cir. 1994), *cert. denied*, 115 S.Ct. 1794 (1995). There is substantial evidence that the experiences recounted in respondents' testimonials do not accurately reflect consumer experience (F. 101, 102). Finally, there is no proof that the experiences recounted in any of respondents' consumer testimonials are accurate, since consumers do not have the competence to evaluate whether stopping distance improvements or wheel lockup control have occurred (F. 58, 64). In conclusion, respondents' testimonial typicality claim (Cplt ¶ 7g) is false and unsubstantiated.

5. Safer Claim

Respondents introduced no competent and reliable evidence showing that their device will make a vehicle safer (F. 66, 68-100; Tr. 1255). By contrast, competent and reliable testing performed by VRTC found that the device did not shorten stopping distances, and did not control wheel slip (F. 114-115, 132, 138). Thus, respondents' claim that the Brake Guard device will make a vehicle safer than a vehicle not equipped with the device (Cplt ¶ 9b) is unsubstantiated.

D. The Deceptive Claims Are Material

Advertising misrepresentations are deceptive under Section 5 of the FTC Act only if they are "material." FTC Policy Statement on Deception ("Deception Statement"), 103 FTC 174, 182 (1984). A material misrepresentation is one that is likely to affect a consumer's choice of or conduct regarding a product; *i.e.*, reasonable consumers would consider the information in the claims important. *Id.*

Many of the claims alleged in the complaint were made expressly and the materiality of these claims is presumed. *Id.* These include the claim that the product is an antilock brake system (Ad Meaning at 6); the braking control benefits claim (*Id.* at 9-12); the insurance discount claim (*Id.* at 15-16); the SAE J46 and NHTSA compliance claims (*Id.* at 16-17; claims virtually express); the general and specific stopping distance claims (*Id.* at 18-19); the testimonial typicality claim (*Id.* at 23); and the comparative safety claim (*Id.* at 24). Materiality also is presumed for claims that the respondents intended to make. Respondents admit they intended the term "ABS" in their advertisement to mean antilock braking system (Tr. 2926).

The Commission also presumes claims to be material if they pertain to the "central characteristics of a product . . . such as those

relating to its purpose . . . [or] efficacy," or to safety. *Thompson Medical Co.*, 104 FTC at 816-17; Deception Statement, 103 FTC at 182. The majority of the challenged claims made for the product directly involved its purpose, efficacy and safety. The central theme of respondents' ads was that the Brake Guard device was an antilock brake system that provided certain braking and stopping distance improvements, and that installing an antilock brake system like Brake Guard would make the vehicle safer. (E.g., CX 104-106, CX 112, CX 113, CX 125, CX 136, CX 223, CX 228.) The SAE J46 and NHTSA ABS claims served to reinforce the impression that the device was an antilock brake system, and thus drove home this "safety" message.

Finally, claims regarding cost are presumed material. Deception Statement, 103 FTC at 182. The insurance discount availability claim made by respondents pertained to the overall cost of using the Brake Guard device, and hence it was material. In sum, all of the claims alleged in the complaint are material.

E. Analysis Of Respondents' Defenses

Although their arguments do not adequately cite the record or authorities upon which they rely, Rules of Practice, Section 3.46(a), I will deal with respondents' defenses.

1. This Proceeding Is In The Public Interest

Respondents have had few complaints about the Brake Guard device, but this is not surprising since consumers cannot evaluate its effectiveness (F. 58, 64). Furthermore, the public interest is served by prohibiting respondents from advertising and selling an expensive device which does not operate as claimed. *See Automotive Breakthrough Sciences, Inc.*, D. 9275 at 46 (Initial Decision, March 3, 1997).

2. Respondents Made The Alleged Claims

I reject respondents' argument that they did not make the alleged claims, for my Partial Summary Decision (Ad Meaning) analyzed in detail respondents' ads and promotional material before finding that the claims alleged in the complaint were made.

3. Respondents' Claims Are False And Unsubstantiated

Respondents point to extensive testing they have conducted which supports the claims they have made, but complaint counsel have established beyond any doubt that all of the testing submitted by respondents, including those done in foreign countries, were flawed and do not substantiate the claims (F. 69-100). The Brake Guard device is patented but this does not mean that it operates as claimed. *See Thompson Medical Co.*, 104 FTC 648, 750 (Initial Decision), *aff'd as modified*, 104 FTC 786, 788 (1984), *aff'd*, 791 F.2d 189 (D.C. Cir. 1986), *cert. denied*, 479 U.S. 1086 (1987).

4. NHTSA Testing Is Competent And Reliable

Respondents criticize NHTSA's testing of the Brake Guard device, but cite no record evidence supporting this argument. In contrast, complaint counsel have cited detailed documentary evidence and testimony which justify the conclusion that NHTSA's stopping distance and wheel slip control tests are competent and reliable (F. 106-140). The Brake Guard device is not, as respondents claim, "new technology" (Tr. 2963) and NHTSA's testing using widely recognized techniques was appropriate. These tests reveal that the Brake Guard device is not equivalent to OEM ABS and does not reduce stopping distance or control wheel slip.

F. The Appropriate Order

1. Terms Of The Proposed Order

The relief complaint counsel seek in this proceeding is that contained in the notice order with the addition of: 1) a ban on all stopping distance claims for the Brake Guard or any substantially similar device; and 2) the reseller and consumer notification provisions ordered against the two other sets of respondents in this action.³

2. Broad Fencing-In Relief Is Justified

The requested relief is appropriate given the serious and deliberate nature of respondents' violations, and their transferability to other products or claims. *See, e.g., Thompson Medical*, 104 FTC

³ See *BST Enters., Inc.*, D. 9276 (Default Judgment and Initial Decision, Oct. 16, 1996); *Automotive Breakthrough Sciences, Inc.*, D. 9275 (Initial Decision, Mar. 3, 1997).

at 833-38; *Kraft, Inc.*, 114 FTC 40, 139-142 (1991), *aff'd*, 970 F.2d 311 (7th Cir. 1992), *cert. denied*, 507 U.S. 909 (1993); *Stouffer Foods Corp.*, D. 9250, 1994 FTC LEXIS 196, at *40-44 (Sept. 26, 1994).

Through nine separate deceptive claims, respondents have misrepresented the fundamental purpose and every relevant aspect of their product.

Most of the challenged claims whose truth or falsity cannot be judged by consumers (F. 58) involve safety and performance. *See Thompson Medical*, 104 FTC at 834; *Stouffer*, 1994 FTC LEXIS 196, at *39-40. Another indication of the seriousness of respondents' violations is the size and scope of their advertising. For more than a decade, respondents have engaged in a nationwide, multi-media effort to market their product as an antilock system that shortens stopping distances. From 1990 to 1994 alone, BGPI spent more than \$430,000 on advertising for the Brake Guard device and promoted it at 10 to 15 national trade shows each year (F. 5, 12, 15). Respondents disseminated their claims through more than 1200 dealers in the United States as well as in 34 countries abroad (F. 5). Thus, the challenged advertising claims were widely disseminated. *See Litton Indus.*, 676 F.2d at 364, 372 (9th Cir. 1982); *Thompson Medical*, 104 FTC at 833-34.

The record also reveals respondents' continuous, knowing dissemination of claims designed to sell their product regardless of whether they had sufficient information to support the truth of these claims, and despite substantial information that they were false (F. 52-54), including the Korea test, which indicated on its face that in stopping distance tests on a wet surface, the Brake Guard device did not shorten stopping distances or prevent wheel lockup (F. 152), and NHTSA's 1991 report of its initial tests of the Brake Guard device, which concluded that it did not shorten stopping distances (F. 114).

In 1992, respondents sought additional test evidence. They selected a local engineering firm, Cunningham Engineers, and sent Ed Jones, Jr., a BGPI employee and the BGPI president's son, to attend the tests. In initial testing, with "panic stops" before and after the installation of Brake Guard, no stopping distance improvement occurred. Faced with this result, BGPI apparently attempted to manipulate the test. Some of the subsequent Brake Guard test runs utilized "best effort" stops, which respondents knew would produce

shorter stops than "panic stops." Even then, all of the Brake Guard stops in the test came out longer than the non-Brake Guard stops. At that point, Ed Jones, Jr. got in the vehicle and did the driving himself, ensuring a set of data to show shorter stopping distances after installing Brake Guard (F. 77-80). Thereafter, although Ed Jones Sr. admitted that these tests failed to reach "any real conclusion that means anything," (Tr. 3005-06), the test results were disseminated by BGPI as advertising (CX 53-Z-12-14).

Later in 1992, respondents attempted to secure more reputable substantiation in support of their claims by hiring SWRI. Although SWRI's results failed to show any stopping distance improvement attributable to the Brake Guard device, respondents disseminated advertising stating that the SWRI results proved that it met the stopping distance requirements of FMVSS 105 (CX 235), and even disseminated as advertising the specific pages of the SWRI test where it made this conclusion (CX 53-Z-26-28).

Thus, I conclude that faced with substantial credible evidence that its product did not reduce wheel lockup frequency, and indeed may increase it, and that in carefully controlled testing a reputable entity had been unable to demonstrate reduced stopping instances, respondents chose to ignore these facts. In 1993, respondents continued to disseminate ads proclaiming shorter stopping distances and reduction in wheel lockup from installation of the Brake Guard device. (*See, e.g.*, CX 240.)

When Transport Canada's results turned out adversely, respondents took a similar approach: They dismissed them because a BGPI employee had been rude to the Canadian test company (Tr. 2778). On another occasion, the company stated that the Canadian test was flawed because the vehicle tested had a faulty master cylinder (Tr. 2815). No evidence of this "flaw" was introduced into the record.

Respondents have offered no credible reason for dismissing the results of NHTSA's 1993 wheel slip and stopping distance tests. Indeed, their own expert acknowledged that the 1993 NHTSA wheel slip test report (CX 34) is competent and reliable (Tr. 2577) and neither their expert nor any other witness offered any criticism of the 1993 NHTSA stopping distance test report (CX 33). Nevertheless, respondents continued, long after the 1993 publication of these reports, and after they were clearly aware of the results of NHTSA's

investigation,⁴ to disseminate ads making claims disproved by those tests (CX 188).

Thus, I conclude that respondents' violations were knowing and deliberate and that they continued to make them in the face of convincing evidence that the claims were false, *see Thompson Medical*, 104 FTC at 834; *Kraft, Inc.*, 114 FTC at 140; *FTC v. Figgie Int'l, Inc.*, 994 F.2d 595, 604 (9th Cir. 1993), *cert. denied*, 510 U.S. 1110 (1994); furthermore, I conclude that respondents are likely to repeat the violations, and that the proposed fencing-in relief is warranted. *See Litton Indus., Inc.*, 97 FTC 1, 79 (1981), *aff'd as modified*, 676 F.2d 364 (9th Cir. 1982).

3. The Stopping Distance Claims Should Be Barred

The complaint in this proceeding alleged that respondents' general stopping distance claims were unsubstantiated, but did not allege falsity. The notice order required that respondents have competent and reliable scientific evidence before making any future general stopping distance claims. However, substantial evidence adduced at trial supports the conclusion that the claims are false as well as unsubstantiated. Two competent and reliable stopping distance tests conducted by NHTSA on the Brake Guard device, and a competent and reliable test on a substantially similar device, establish that it will not provide shorter stopping distances (F. 114, 109, 138). The NHTSA results are consistent with other adverse data known to BGPI (F. 145, 149, 152), and even the testing offered by respondents' expert witness failed to support respondents' claims (F. 98). None of the evidence respondents presented to support their stopping distance claims meets the most basic standards of competent and reliable substantiation. Thus, a bar on stopping distance improvement claims for this or any substantially similar device is the most appropriate means of protecting consumers from future deception. *See Stouffer*, 1994 FTC LEXIS 196.

4. Reseller And Consumer Notification Is Appropriate

The proposed reseller and consumer notification provisions are identical to those ordered against the two other sets of respondents in Dockets 9275 and 9276. These provisions are designed to alert

⁴ Respondents were aware of the results of NHTSA's investigation as late as July 21, 1994. On that date, a distributor/dealer faxed BGPI a copy of NHTSA's report (CX 32), which contained the results reported in CX 33 and CX 34. *See* RX 205.

distributors and end purchasers that they should not expect the device to provide the ABS benefits and stopping distance enhancements promised by respondents' advertising. These notifications will help eliminate further deception by inducing distributors to stop using the deceptive sales materials already in their possession and will mitigate continuing injury to purchasers who were deceived by respondents' past advertising. *Removatron*, 111 FTC 206, 311 (1988) (notification of device operators); *Figgie Int'l, Inc.*, 107 FTC 313, 395 (1986), *aff'd*, 817 F.2d 102 (4th Cir. 1987) (respondent ordered to notify past purchasers of safety concerns); *Southwest Sunsites, Inc.*, 105 FTC 7, 176-78 (1985), *aff'd*, 785 F.2d 1431 (9th Cir.), *cert. denied*, 479 U.S. 828 (1986) (notification of agents/brokers and consumers); *AMREP Corp.*, 102 FTC 1362, 1678-80 (1983), *aff'd*, 768 F.2d 1171 (10th Cir. 1985), *cert. denied*, 475 U.S. 1034 (1986) (notification of buyers under contract).

5. Trade Name Excision Is Warranted

As has previously been found, respondents' trade names and product logos that employ the "ABS" acronym falsely convey to reasonable consumers that their products are antilock braking systems. Partial Summary Decision (Ad Meaning), at 6. Indeed, this claim is inherent in the trade names "Brake Guard ABS" and "Advanced Braking System ABS." The "ABS" acronym has become widely used to refer to the genuine antilock systems that are commonly installed on new cars. The association with the acronym "ABS" is sufficiently established that consumers are likely to assume mistakenly that the Brake Guard device is equivalent to and provides the same benefits advertised for genuine ABS. In such circumstances, it is appropriate to order that the "ABS" term be excised.

Trade name excision is appropriate when it conveys a deceptive claim, and when a less severe remedy, such as affirmative disclosures, could not correct the misimpression. *Thompson Medical*, 104 FTC at 837-38. Here, any qualifying phrase that could be appended to respondents' trade name would lead to a "confusing contradiction in terms." *Continental Wax*, 330 F.2d 475, 480 (2d Cir. 1964).

Given the strong association of the acronym "ABS" with antilock brakes and their performance attributes, adding a qualifying phrase contradicting that assertion would simply confuse consumers, for

respondents intended the term "ABS" to convey "antilock brake system," (Tr. 2926) and it can have only that meaning. Trademark registration of respondents' trade names and logos does not protect them from this remedy, because the entire point of excision is to address deception arising from a registered name or mark. Additionally, the proposed excision provision will render this order consistent with the order issued against competitors BST and ABSI.

G. Summary

1. The Federal Trade Commission has jurisdiction over respondents and over their acts and practices that are the subject of this proceeding under Section 5 of the Federal Trade Commission Act.

2. The acts and practices of respondents described above constitute unfair or deceptive acts and practices in or affecting commerce in violation of Section 5(a) of the Federal Trade Commission Act.

3. The following order is necessary and appropriate under applicable legal principles and the facts of this case.

ORDER

DEFINITIONS

For the purposes of this order:

1. "*Competent and reliable scientific evidence*" shall mean tests, analyses, research, studies, or other evidence based upon the expertise of professionals in the relevant area, that has been conducted and evaluated in an objective manner by persons qualified to do so, using procedures generally accepted in the profession to yield accurate and reliable results; and

2. "*Purchasers for resale*" shall mean all purchasers of the Brake Guard Safety System, Advanced Braking System, or Brake Guard ABS for resale to the public, including but not limited to franchisees, wholesalers, distributors, retailers, installers, and jobbers.

I.

It is ordered, That respondents, Brake Guard Products Inc., a corporation, its successors and assigns, and its officers, and Ed F. Jones, individually and as an officer and director of said corporation,

and respondents' agents, representatives, and employees, directly or through any partnership, corporation, subsidiary, division, or other device, in connection with the manufacturing, labeling, advertising, promotion, offering for sale, sale, or distribution of the Brake Guard Safety System, Advanced Braking System, or Brake Guard ABS or any substantially similar product in or affecting commerce, as "commerce" is defined in the Federal Trade Commission Act, do forthwith cease and desist from employing the initials or term ABS in conjunction with or as part of the name for such product or the product logo.

II.

It is further ordered, That respondents, Brake Guard Products, Inc., a corporation, its successors and assigns, and its officers, and Ed F. Jones, individually and as an officer and director of said corporation, and respondents' agents, representatives, and employees, directly or through any partnership, corporation, subsidiary, division, or other device, in connection with the manufacturing, labeling, advertising, promotion, offering for sale, sale, or distribution of the Brake Guard Safety System, Advanced Braking System, or Brake Guard ABS or any substantially similar product in or affecting commerce, as "commerce" is defined in the Federal Trade Commission Act, do forthwith cease and desist from representing, in any manner, directly or by implication, that such product:

- A. Is an antilock braking system;
- B. Prevents or substantially reduces wheel lock-up, skidding, or loss of steering control in emergency stopping situations;
- C. Will qualify a vehicle for an automobile insurance discount in a significant proportion of cases;
- D. Complies with a performance standard set forth in Wheel Slip Brake Control System Road Test Code SAE J46;
- E. Complies with a standard pertaining to antilock braking systems set forth by the National Highway Traffic Safety Administration;
- F. Reduces stopping distances by 20 to 30% or by up to 30%;
- G. Provides antilock braking system benefits, including wheel lock-up control benefits, that are at least equivalent to those provided by original equipment manufacturer electronic antilock braking systems; or

H. Will stop a vehicle in a shorter distance than a vehicle that is not equipped with the product, in emergency stopping situations.

III.

It is further ordered, That respondents Brake Guard Products, Inc., a corporation, its successors and assigns, and its officers, and Ed F. Jones, individually and as an officer and director of said corporation, and respondents' agents, representatives, and employees, directly or through any partnership, corporation, subsidiary, division, or other device, in connection with the manufacturing, labeling, advertising, promotion, offering for sale, sale, or distribution of any braking system, accessory, or device, in or affecting commerce, as "commerce" is defined in the Federal Trade Commission Act, do forthwith cease and desist from representing, in any manner, directly or by implication, that installation of the system, accessory, or device will make operation of a vehicle safer than a vehicle that is not equipped with the system, accessory or device, unless, at the time of making such representation, respondents possess and rely upon competent and reliable scientific evidence that substantiates the representation.

IV.

It is further ordered, That respondents Brake Guard Products, Inc., a corporation, its successors and assigns, and its officers, and Ed F. Jones, individually and as an officer and director of said corporation, and respondents' agents, representatives, and employees, directly or through any partnership, corporation, subsidiary, division, or other device, in connection with the manufacturing, labeling, advertising, promotion, offering for sale, sale, or distribution of any product in or affecting commerce, as "commerce" is defined in the Federal Trade Commission Act, do forthwith cease and desist from misrepresenting, in any manner, directly or by implication:

A. The compliance of any such product with any standard, definition, regulation, or any other provision of any governmental entity or unit, or of any other organization;

B. The availability of insurance benefits or discounts arising from the use of such product; or

C. That any endorsement (as "endorsement" is defined in 16 CFR 255.0(b)) of the product represents the typical or ordinary experience of members of the public who use the product, unless:

(1) Such representation is true, or
(2) Respondent discloses clearly, prominently, and in close proximity to the endorsement or testimonial either:

(a) What the generally expected results would be for users of such product, or

(b) The limited applicability of the endorser's experience to what consumers may generally expect to achieve, that is, that consumers should not expect to experience similar results.

V.

It is further ordered, That respondents Brake Guard Products, Inc., a corporation, its successors and assigns, and its officers, and Ed F. Jones, individually and as an officer and director of said corporation, and respondents' agents, representatives, and employees, directly or through any partnership, corporation, subsidiary, division, or other device, in connection with the manufacturing, labeling, advertising, promotion, offering for sale, sale, or distribution of any braking system, accessory, or device, or any other system, accessory, or device designed to be used in, on, or in conjunction with any motor vehicle, in or affecting commerce, as "commerce" is defined in the Federal Trade Commission Act, do forthwith cease and desist from making any representation, directly or by implication, regarding the absolute or comparative attributes, efficacy, performance, safety, or benefits of such system, accessory, or device, unless such representation is true and, at the time of making such representation, respondents possess and rely upon competent and reliable evidence, which when appropriate must be competent and reliable scientific evidence, that substantiates the representation.

VI.

It is further ordered, That respondents Brake Guard Products, Inc., a corporation, its successors and assigns, and Ed F. Jones shall:

A. Within forty-five (45) days after the date of service of this order, compile a current mailing list containing the names and last

known addresses of all purchasers of the Brake Guard Safety System, Advanced Braking System, or Brake Guard ABS since January 1, 1990. Respondents shall compile the list by:

1. Searching their own files for the names and addresses of such purchasers; and

2. Using their best efforts to identify any other such purchasers, including but not limited to sending by first class certified mail, return receipt requested, within five (5) days after the date of service of this order, to all of the purchasers for resale with which respondents have done business since January 1, 1990, an exact copy of the notice attached hereto as Appendix A. The mailing shall not include any other documents. In the event that any such purchaser for resale fails to provide any names or addresses of purchasers in its possession, respondent shall provide the names and addresses of all such purchasers for resale to the Federal Trade Commission within forty-five (45) days after the date of service of this order.

3. In addition, respondents shall retain a National Change of Address System ("NCOA") licensee to update this list by processing the list through the NCOA database.

B. Within sixty (60) days after the date of service of this order, send by first class mail, postage prepaid, to the last address known to respondents of each purchaser of the Brake Guard Safety System, Advanced Braking System, or Brake Guard ABS identified on the mailing list compiled pursuant to subparagraph A of this Part, an exact copy of the notice attached hereto as Appendix B. The mailing shall not include any other documents. The envelope enclosing the notice shall have printed thereon in a prominent fashion the phrases "FORWARDING AND RETURN POSTAGE GUARANTEED" and "IMPORTANT NOTICE--U.S. GOVERNMENT ORDER ABOUT BRAKE GUARD OR ADVANCED BRAKING SYSTEM DEVICE."

C. Send the mailing described in subparagraph B of this Part to any person or organization not on the mailing list prescribed in subparagraph A of this Part about whom respondents later receive information indicating that the person or organization is likely to have been a purchaser of the Brake Guard Safety System, Advanced Braking System, or Brake Guard ABS, and to any purchaser whose notification letter is returned by the U.S. Postal Service as undeliverable and for whom respondents thereafter obtain a corrected address. The mailing required by this subpart shall be made within

ten (10) days of respondents' receipt of a corrected address or information identifying each such purchaser.

D. In the event respondents receive any information that, subsequent to its receipt of Appendix A, any purchaser for resale is using or disseminating any advertisement or promotional material that contains any representation prohibited by this order, immediately notify the purchaser for resale that respondents will terminate the use of said purchaser for resale if it continues to use such advertisement or promotional material.

E. Terminate within ten (10) days the use of any purchaser for resale about whom respondents receive any information that such purchaser for resale has continued to use any advertisement or promotional material that contains any representation prohibited by this order after receipt of the notice required by subparagraph A of this Part.

VII.

It is further ordered, That respondents Brake Guard Products, Inc., a corporation, and Ed F. Jones shall for five (5) years after the last correspondence to which they pertain, maintain and upon request make available to the Federal Trade Commission or its staff for inspection and copying:

A. The list compiled pursuant to subparagraph A of Part VI of this order;

B. Copies of notification letters sent to purchasers pursuant to subparagraphs B and C of Part VI of this order; and

C. Copies of notification letters sent to purchasers for resale pursuant to subparagraphs A and D of Part VI of this order, and all other communications with purchasers for resale relating to the notices required by Part VI of this order.

VIII.

It is further ordered, That for five (5) years after the last date of dissemination of any representation covered by this order, respondents, or their successors or assigns, shall maintain and upon request make available to the Federal Trade Commission or its staff for inspection and copying:

A. All materials that were relied upon in disseminating such representation; and

B. All tests, reports, studies, surveys, demonstrations, or other evidence in their possession or control that contradict, qualify, or call into question such representation, or the basis relied upon for such representation, including complaints from consumers, and complaints or inquiries from governmental organizations.

IX.

It is further ordered, That respondent Brake Guard Products, Inc., its successors and assigns, shall:

A. Within thirty (30) days after the date of service of this order, provide a copy of this order to each of respondent's current principals, officers, directors, and managers, and to all personnel, agents, and representatives having sales, advertising, or policy responsibility with respect to the subject matter of this order; and

B. For a period of ten (10) years from the date of service of this order, provide a copy of this order to each of respondent's future principals, officers, directors, and managers, and to all personnel, agents, and representatives having sales, advertising, or policy responsibility with respect to the subject matter of this order, within three (3) days after the person assumes his or her position.

X.

It is further ordered, That respondent Brake Guard Products, Inc., its successors and assigns, shall notify the Commission at least thirty (30) days prior to any proposed change in the corporation such as a dissolution, assignment, or sale resulting in the emergence of a successor corporation, the creation or dissolution of subsidiaries, or any other change in the corporation which may affect compliance obligations under this order.

XI.

It is further ordered, That respondent Ed F. Jones shall, for a period of ten (10) years from the date of entry of this order, notify the Commission within thirty (30) days of the discontinuance of his present business or employment and of his affiliation with any new business or employment. Each notice of affiliation with any new

business or employment shall include the respondent's new business address and telephone number, current home address, and a statement describing the nature of the business or employment and his duties and responsibilities.

XII.

It is further ordered, That this order will terminate twenty years from the date of its issuance, or twenty years from the most recent date that the United States or the Federal Trade Commission files a complaint (with or without an accompanying consent decree) in federal court alleging any violation of the order, whichever comes later; provided, however, that the filing of such a complaint will not affect the duration of:

- A. Any paragraph in this order that terminates in less than twenty years;
- B. This order's application to any respondent that is not named as a defendant in such complaint; and
- C. This order if such complaint is filed after the order has terminated pursuant to this paragraph.

Provided further, that if such complaint is dismissed or a federal court rules that the respondent did not violate any provision of the order, and the dismissal or ruling is either not appealed or upheld on appeal, then the order will terminate according to this paragraph as though the complaint was never filed, except that the order will not terminate between the date such complaint is filed and the later of the deadline for appealing such dismissal or ruling and the date such dismissal or ruling is upheld on appeal.

XIII.

It is further ordered, That respondents shall, within sixty (60) days after service of this order upon them, and at such other times as the Commission may require, file with the Commission a report, in writing, setting forth in detail the manner and form in which they have complied with this order.

APPENDIX A

[Brake Guard Products, Inc. letterhead]

Dear Brake Guard Reseller:

Our records indicate that you are or have been a distributor or retailer of the Brake Guard Safety System, Advanced Braking System, or Brake Guard ABS (hereinafter "Brake Guard"), a brake product. This letter is to advise you that the Federal Trade Commission ("FTC") recently obtained an order against Brake Guard Products, Inc. regarding certain claims made for the Brake Guard device. Under that order, we are required to notify our distributors, wholesalers and others who have sold the Brake Guard to stop using or distributing advertisements or promotional materials containing these claims. We are also asking for your assistance in compiling a list of Brake Guard purchasers, so that we may contact them directly. Please read this letter in its entirety and comply with all parts.

The FTC's Decision and Order

The Federal Trade Commission has determined that the following claims made for the Brake Guard device in Brake Guard Products, Inc.'s advertisements, logos and promotional material are FALSE and MISLEADING:

- (a) The Brake Guard is an antilock braking system;
- (b) The Brake Guard prevents or substantially reduces wheel lock-up, skidding, or loss of steering control in emergency stopping situations;
- (c) The Brake Guard will qualify a vehicle for an automobile insurance discount in a significant proportion of cases;
- (d) The Brake Guard complies with a performance standard set forth in Wheel Slip Brake Control System Road Test Code SAE J46;
- (e) The Brake Guard complies with a standard pertaining to antilock braking systems set forth by the National Highway Traffic Safety Administration;
- (f) The Brake Guard reduces stopping distances by 20 to 30% or by up to 30%;
- (g) The Brake Guard provides antilock braking system benefits, including wheel lock-up control benefits, that are at least equivalent to those provided by original equipment manufacturer electronic antilock braking systems; and
- (h) The Brake Guard will stop a vehicle in a shorter distance than a vehicle that is not equipped with the product, in emergency stopping situations.

The FTC order requires Brake Guard Products, Inc. to cease and desist from making these false claims for the Brake Guard device.

In addition, the FTC order requires Brake Guard Products, Inc. to cease and desist from making claims that the Brake Guard will make a vehicle safer, unless at the time of making such representation it possess competent and reliable scientific evidence substantiating the representation.

We need your assistance in complying with this order.

Please immediately send us the names and last known addresses of all persons or businesses, including other resellers, to whom you have sold a Brake Guard Safety System, Advanced Braking System, or Brake Guard ABS since January 1, 1990. We need this information in order to provide the notification required by the

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FTC order. If you do not provide this information, we are required to provide your name and address to the FTC.

Please stop using the Brake Guard Safety System, Advanced Braking System, or Brake Guard ABS promotional materials currently in your possession. These materials may contain claims that the FTC has determined to be false or unsubstantiated. You also should avoid making any of the representations as described in this letter. Under the FTC order, we must stop doing business with you if you continue to use the prohibited materials or make the prohibited representations.

If you have any questions, you may call Deborah Kelly of the Federal Trade Commission at (202) 326-3004. Thank you for your cooperation.

Very truly yours,

Ed F. Jones
President
Brake Guard Products, Inc.

APPENDIX B

[Brake Guard Products, Inc. letterhead]

Dear Brake Guard customer:

Our records indicate that you previously purchased a Brake Guard Safety System, Advanced Braking System, or Brake Guard ABS (hereinafter "Brake Guard"), a brake product. This letter is to advise you that the Federal Trade Commission ("FTC") recently obtained an Order against Brake Guard Products, Inc. regarding certain claims made for the Brake Guard device. Please read this letter in its entirety.

The FTC's Decision and Order

The Federal Trade Commission has determined that the following claims made for the Brake Guard device in Brake Guard Products, Inc.'s advertisements, logos and promotional material are FALSE and MISLEADING:

- (a) The Brake Guard is an antilock braking system;
- (b) The Brake Guard prevents or substantially reduces wheel lock-up, skidding, or loss of steering control in emergency stopping situations;
- (c) The Brake Guard will qualify a vehicle for an automobile insurance discount in a significant proportion of cases;
- (d) The Brake Guard complies with a performance standard set forth in Wheel Slip Brake Control System Road Test Code SAE J46;
- (e) The Brake Guard complies with a standard pertaining to antilock braking systems set forth by the National Highway Traffic Safety Administration;
- (f) The Brake Guard reduces stopping distances by 20 to 30% or by up to 30%;
- (g) The Brake Guard provides antilock braking system benefits, including wheel lock-up control benefits, that are at least equivalent to those provided by original equipment manufacturer electronic antilock braking systems; and
- (h) The Brake Guard will stop a vehicle in a shorter distance than a vehicle that is not equipped with the product in emergency stopping situations.

The FTC Order requires Brake Guard Products, Inc. to cease and desist from making these false claims for the Brake Guard device.

In addition, the FTC order requires Brake Guard Products, Inc. to cease and desist from making claims that the Brake Guard will make a vehicle safer, unless at the time of making such representation it possess competent and reliable scientific evidence substantiating the representation.

If you have any questions, you may call Deborah Kelly of the Federal Trade Commission at (202) 326-3004. Thank you for your cooperation.

Very truly yours,

Ed F. Jones
President
Brake Guard Products, Inc.

OPINION OF THE COMMISSION

BY AZCUENAGA, *Commissioner*:

This case is before the Commission on appeal from an initial decision and order by Administrative Law Judge Lewis F. Parker finding that the respondents, Brake Guard Products, Inc., and its president, Ed Jones,¹ have engaged in unfair and deceptive acts and practices in violation of Section 5 of the Federal Trade Commission Act, 15 U.S.C. 45 ("Section 5"), in connection with the sale and promotion of their aftermarket braking device. For many years, the respondents have advertised that their device provides the benefits of antilock brakes, and improves stopping distances. The respondents do not contest on appeal that they made these claims, and the record shows that they knew or should have known that the claims were false. The substantiation they have offered in their defense consists of lay testimonials and reports that are methodologically unsound or inconclusive.

Because of the potential implications of this case for motor vehicle safety, the Commission takes this case particularly seriously. For the reasons stated below, the Commission concludes that there are no competent and reliable scientific data to support the respondents' advertising claims. We affirm.²

I. BACKGROUND

The respondent, Brake Guard Products, Inc. ("Brake Guard"), is a closely-held corporation, owned and controlled by the respondent Ed Jones and his family. I.D.F. 2; Tr. 2955-57.³ Its offices and

¹ Mr. Jones' given name is Ellsworth Forest Jones, Sr., but he is more commonly known as "Ed Jones." Transcript of Testimony 2825.

² We agree with the findings and conclusions of the Administrative Law Judge and adopt them as our own to the extent they are consistent with this opinion.

The respondents were represented by counsel for portions of the trial before the Administrative Law Judge. Respondent Jones represented himself *pro se* on appeal before the Commission, although at oral argument of the appeal, the respondent corporation was represented by its Vice President-Operations/R&D, Linden A. Burzell, Ph.D. In this instance, the Commission has tried to afford the respondents all possible assistance within the adjudicative framework of its Rules and the Administrative Procedure Act, 5 U.S.C. 554, to ensure that they had "the right of due notice, cross-examination, presentation of evidence, objection, motion, argument, and all other rights essential to a fair hearing." 16 CFR 3.41(c) (1997).

³ References to the record are abbreviated as follows:

I.D.	Initial Decision	Tr.	Transcript of Testimony
I.D.F.	Initial Decision Finding	CX	Complaint Counsel's Exhibit
R.A.B.	Respondents' Appeal Brief	RX	Respondents' Exhibit.

principal place of business are located in Spokane, Washington. I.D.F. 1. Since at least 1980, the respondents have been involved in the manufacture, sale, and distribution of an after-market braking device under the trade names "Brake Guard Safety System," "Advanced Braking System," and "Brake Guard ABS." I.D.F. 4. The device consists of a small metal housing containing a resilient membrane. I.D.F. 4; Tr. 873. The devices are sold in sets of two, one for the front braking system and one for the rear system. I.D.F. 4; Tr. 873.

The respondents sold their braking device through a large network of dealers in the United States and in 34 countries abroad. I.D.F. 5. Consumers paid from \$283 to \$349 for purchase and installation of the Brake Guard device. *Id.* From 1990 to 1994, cumulative sales of the Brake Guard device exceeded \$10 million. *Id.*

For at least four years, the respondents made false and unsubstantiated claims for their aftermarket braking device. The respondents promoted their device as an antilock braking system, with all the performance and safety characteristics of manufacturers' original equipment (hereafter referred to as "OEM"). I.D.F. 16. The respondents advertised their device directly to consumers through print advertisements in specialty magazines such as "Automotive News," "Specialty Automotive Magazine," and "Brake and Front End." I.D.F. 7. The respondents also promoted their product extensively through dealers, using "dealer kits" containing magazine articles, brochures, posters, testimonials, and training tapes, as well as other materials designed to help dealers promote their product to consumers I.D.F. 8-11. Brake Guard participates in approximately 15 to 20 trade shows a year and has sponsored a booth at the giant SEMA⁴

On September 27, 1995, the Commission issued a complaint against the respondents alleging that they had violated Section 5 by making a number of false or unsubstantiated performance claims about the Brake Guard device.⁵ I.D. at 2-3. Specifically, the complaint

⁴ The Specialty Equipment Manufacturing Association ("SEMA") is the association of automotive aftermarket manufacturers, distributors and outlets. Its annual show, attended by over 50,000 people, is the largest in the world.

⁵ On the same date, the Commission issued substantially similar complaints in BST Enterprises, Inc., Docket No. 9276, and Automotive Breakthrough Sciences, Inc., Docket No. 9275. On October 16, 1996, the Administrative Law Judge entered a default judgment in Docket No. 9276. On May 30, 1997, the Commission issued an order adopting the Initial Decision and the appended order as the Final Order and Opinion of the Commission. On March 3, 1997, the Administrative Law Judge issued his Initial Decision and Order in Docket No. 9275. An appeal from the Initial Decision and Order in No. 9275 is pending before the Commission.

alleges that the respondents have represented that: (1) the Brake Guard device constitutes an antilock brake system (complaint ¶ 5); (2) the Brake Guard device prevents or reduces lockup, skidding, and loss of steering control (complaint ¶ 7(a)); (3) the Brake Guard device provides antilock braking benefits that are as good as those provided by OEM electronic antilock braking systems (complaint ¶ 7(f)); (4) in emergency stopping situations, the Brake Guard device stops a vehicle in a shorter distance than a vehicle that is not equipped with the device (hereafter "general stopping distance claim") (complaint ¶ 9(a)); (5) the Brake Guard device reduces stopping distances by 20 percent or up to 30 percent (hereafter "specific stopping distance claim") (complaint ¶ 7(e)); (6) the Brake Guard device makes a vehicle safer than a vehicle that is not equipped with Brake Guard (complaint ¶ 9(b)); (7) the Brake Guard device complies with standards adopted by the National Highway Traffic Safety Administration ("NHTSA") for antilock brakes (complaint ¶ 7(d)); (8) the Brake Guard device complies with performance standards set forth in the Society of Automotive Engineers' ("SAE") Wheel Slip Brake Control System Road Test Code SAE J46 (complaint ¶ 7(c)); (9) installation of the Brake Guard device qualifies a vehicle for an insurance discount in a significant proportion of cases (complaint ¶ 7(b)); and (10) testimonials from consumers appearing in advertisements and promotional materials reflect the typical experience of those who have used the Brake Guard device (complaint ¶ 7(g)).

The complaint alleges that the respondents' general stopping distance claim and their comparative safety claim are unsubstantiated and that the remaining claims are both unsubstantiated and false. Complaint ¶¶ 6, 8, 11.

On May 22, 1996, the Administrative Law Judge granted complaint counsel's motion for partial summary decision on the question whether Brake Guard's trade names, logos, and promotional materials made the claims alleged in the complaint (hereafter "Partial Summary Dec. (Ad Meaning)").⁶ I.D. at 3. Specifically, the Administrative Law Judge found that the respondents made each and every claim alleged in the complaint. Partial Summary Dec. (Ad

⁶ By order of May 28, 1996, the Administrative Law Judge clarified that in his order of May 22 granting partial summary decision, he had concluded that the respondents' advertisements and promotional materials made a claim that the Brake Guard device complies with a standard set forth by NHTSA.

Meaning) at 27-28. On October 16, 1996, by a second partial summary decision (hereafter "Partial Summary Dec. (Ins. Discount)"), the Administrative Law Judge concluded that the respondents' claim that installation of their device qualifies a vehicle for an insurance discount in a significant proportion of cases was both false and unsubstantiated. Partial Summary Dec. (Ins. Discount) at 9-10. A trial was held on the remaining issues. The record closed on February 14, 1997.

On May 2, 1997, the Administrative Law Judge issued his Initial Decision and Order. The Administrative Law Judge found that the respondents made all of the claims alleged in the complaint (I.D.F. 16-24), and that each of these claims was false or unsubstantiated. I.D. at 39-41.⁷ The order of the Administrative Law Judge prohibits the respondents from using the acronym "ABS" in connection with their device or a similar product, making any of the claims that were found to be false, making any of the unsubstantiated claims without proper substantiation, or making certain claims in connection with products other than the Brake Guard device. Order ¶¶ I - V.

On appeal, the respondents "concur * * * that the claims alleged in the complaint were made" but contend that the claims are true and substantiated.⁸ R.A.B. at 18. Although the respondents do not address directly the scope of the order, they deny that test results put them on notice that their claims were false or unsubstantiated. R.A.B. at 16. Finally, the respondents contend that the proceeding is not in the public interest (*id.* at 21) and seek an investigation of the relationship between the staff of the Commission and the Administrative Law Judge, including any private communications between them, and a "recommendation from the Commission to Congress to investigate the facts surrounding this case." R.A.B. at 22.

II. APPLICABLE LAW

As already noted, the respondents have not challenged on appeal that they made the claims alleged in the complaint. The only issue before us in deciding liability is whether the claims are unfair or

⁷ The Administrative Law Judge concluded that Brake Guard's claim that its device would make a vehicle safer was unsubstantiated, and that the remaining claims were both false and unsubstantiated. I.D. at 39-41.

⁸ The respondents concede having made the insurance discount availability claim from 1990 through 1992, but they deny having made this claim after that date. R.A.B. at 5-7. Discontinuance of a practice does not obviate the possibility of a violation or the need for an order. *See, e.g., Fedders Corp. v. FTC*, 529 F.2d 1398, 1403 (2d Cir.), *cert. denied*, 429 U.S. 818 (1976); *Montgomery Ward & Co. v. FTC*, 379 F.2d 666, 672 (7th Cir. 1967).

deceptive and thereby violate Section 5. An advertisement is deceptive if it is "likely to mislead the consumer acting reasonably in the circumstances, to the consumer's detriment."⁹ The Commission long has held that "a firm's failure to possess and rely upon a reasonable basis for objective claims constitutes an unfair and deceptive act or practice in violation of Section 5."¹⁰ As the Commission held in *Pfizer, Inc.*:

[W]hat constitutes a reasonable basis is essentially a factual issue which will be affected by the interplay of overlapping considerations such as (1) the type and specificity of the claim made -- e.g., safety, efficacy * * * ; (2) the type of product -- e.g., * * * potentially hazardous consumer product * * * ; (3) the possible consequences of a false claim -- e.g., personal injury, property damage; (4) the degree of reliance by consumers on the claims; (5) the type, and accessibility, of evidence adequate to form a reasonable basis for making the particular claims.¹¹

Also relevant is "the amount of substantiation experts in the field believe is reasonable."¹² The Commission has observed that, "in fairness and in the expectations of consumers," the only reasonable basis for some types of claims for some types of products would be competent and reliable scientific evidence.¹³ The Commission concludes that the claims in this case, which potentially involve consumer safety, require competent and reliable scientific evidence. A false, material¹⁴ claim is inherently misleading to reasonable consumers and, therefore, is deceptive.

As discussed further below, the Commission concludes, as did the Administrative Law Judge, that Brake Guard's claim that its device would make a vehicle safer was unsubstantiated and that the other claims challenged in this case are both unsubstantiated and false. Therefore, as a matter of law, they are deceptive and violate Section 5.

⁹ Federal Trade Commission Policy Statement on Deception ("Deception Statement"), Appendix to *Cliffdale Associates, Inc.*, 103 FTC 110, 174-84 (1984); *accord, Kraft, Inc.*, 114 FTC 40 (1991), *aff'd*, 970 F.2d 311 (7th Cir. 1992), *cert. denied*, 507 U.S. 909 (1993); *Removatron Internat'l Corp.*, 111 FTC 206 (1988), *aff'd*, 884 F.2d 1489 (1st Cir. 1989).

¹⁰ FTC Policy Statement Regarding Advertising Substantiation ("Advertising Substantiation Statement"), Appendix to *Thompson Medical Co.*, 104 FTC 648, 839 (1984).

¹¹ 81 FTC 23, 64 (1972); *see also* Advertising Substantiation Statement, 104 FTC 648, 840 (1984).

¹² Advertising Substantiation Statement, 104 FTC at 840.

¹³ *Id.*; *see, e.g., Removatron International Corp.*, 111 FTC 206 (1988), *aff'd*, 884 F.2d 1489 (1st Cir. 1989); *Firestone Tire & Rubber Co.*, 81 FTC 398, 463 (1972), *aff'd*, 481 F.2d 246 (6th Cir.), *cert. denied*, 414 U.S. 1112 (1973).

¹⁴ To be material, a claim must be "likely to affect a consumer's choice of conduct regarding a product. * * * If inaccurate or omitted information is material, injury is likely." Deception Statement, 103 FTC at 182.

III. PERFORMANCE-RELATED CLAIMS

Our own review of the record leads us to agree with the Administrative Law Judge that the respondents made false and unsubstantiated performance claims for their braking device.¹⁵ Specifically, we find that the Brake Guard device is not an antilock brake device, does not comply with NHTSA's definition of an antilock brake, and does not reduce wheel lockup, skidding, or loss of steering control, as claimed in the respondents' advertising. I.D. at 39. Because the respondents' device does not provide antilock braking benefits at all, it follows that the claim that it provides antilock benefits that are at least equivalent to those provided by OEM ABS is also false. *Id.* We also agree with the finding of the Administrative Law Judge that the device does not shorten stopping distances. I.D. at 40-41. The respondents' claim that their product complies with performance standards set forth in SAE J46¹⁶ is false because SAE J46 does not state any performance standards. I.D. at 40. Finally, we find that the tests and other materials submitted by the respondents do not substantiate the claims listed above, or the claim that the Brake Guard device improves vehicle safety.

A. Antilock Brake and Related Claims

Antilock brake systems are designed to improve maneuverability and controllability during braking. I.D.F. 45. Three expert witnesses with solid credentials and experience in testing and evaluating automotive braking systems testified as to the elements of an antilock system. James Hague works at NHTSA's Office of Defects Investigation and is an expert in passenger car and light truck brake systems and testing. I.D.F. 29-32; Tr. 742-1065, 1804-57. John Hinch is lead engineer in NHTSA's Office of Defects Investigation and is an expert in vehicle testing and test-data analysis. I.D.F. 33-39; 1866-2149. John Kourik, an engineer with a long history of designing and testing brake assemblies, participated in the development of the SAE J46 antilock brake test protocol. I.D.F. 25-28; Tr. 1071-1782.

¹⁵ On appeal, the Commission conducts a *de novo* review. 16 CFR 3.54(a) ("Upon appeal from or review of an initial decision, the Commission * * * will, to the extent necessary or desirable, exercise all the powers which it could have exercised if it had made the initial decision."); *The Coca Cola Bottling Co. of the Southwest*, 5 Trade Reg. Rep. (CCH) ¶ 23,681 at 23405 (FTC 1994) ("Our review of this matter is *de novo*.").

¹⁶ SAE J46 is a road test protocol widely recognized by automotive engineers. I.D.F. 59.

According to their expert testimony,¹⁷ the essential features of such systems are reflected in well-established and widely-accepted industry and governmental standards and definitions.¹⁸

In brief, an antilock braking system must automatically control the level or degree of rotational wheel slip -- that is, the proportional amount of wheel skidding relative to vehicle forward motion.¹⁹ I.D.F. 41, 45-46. To control wheel slip, the system must have components that will detect the rate of rotation of the wheel relative to vehicle speed and transmit signals regarding the rotation rate to a device that will interpret the signals and generate controlling signals to a device that will adjust brake pressure to reduce or prevent wheel slip. I.D.F. 47-50; CX 102; Tr. 801-02, 1120-21. Generally, the more brake pressure on the wheels, the more wheel slip is generated. I.D.F. 42.

The respondents' braking device does not satisfy these standards. It is a simple "accumulator," meaning that in a hard stop, a membrane in the device expands to accept, or accumulate, some brake fluid, thereby reducing brake pressure on the wheels; when the brake pedal is released somewhat, brake fluid returns to the brake lines. I.D.F. 52-54; Tr. 873. The respondents' device does not have the capacity to measure wheel speed, make error determinations, or issue control signals to adjust the braking response so as to control automatically the degree of rotational wheel slip. I.D.F. 52; Tr. 876, 880-81, 2575. Indeed, the respondents' expert, Robert Brinton, conceded that the Brake Guard device is incapable of measuring the rotation rate of the

¹⁷ The respondents cite no evidence, nor are we aware of any, in support of their assertion (R.A.B. at 6) that these experts have "vested interests" relative to electronic braking systems. The respondents' contention that the Administrative Law Judge "uncritically" accepted the credentials of complaint counsel's experts without regard to their "extensive connection with the government" (*id.*) is also without merit. An expert's association with, or employment by, the government by itself does not constitute adequate grounds for discrediting his or her testimony. *Cf. Strickland v. Francis*, 738 F.2d 1542, 1553 (11th Cir. 1984) (state employees able to offer impartial evaluations); *Proctor v. Harris*, 413 F.2d 383, 387-88 (D.C. Cir. 1969) (noting impartiality of government psychiatric experts). The Administrative Law Judge had the opportunity to view the demeanor of all the witnesses as well as to hear their testimony. In relying on the testimony of complaint counsel's experts, the Administrative Law Judge implicitly found that these experts were not biased or otherwise unqualified.

¹⁸ NHTSA has promulgated regulations that set forth the components of an antilock brake system. I.D.F. 45; CX 102; Tr. 1120. The fundamentals of an antilock system are also set forth in an SAE publication, "Antilock Brake System Review--SAE J2246." CX 103. Though SAE J2246 does not expressly cover aftermarket devices such as the Brake Guard device, the respondents' expert, Robert Brinton, testified that the same fundamentals apply to the Brake Guard device. Tr. 2532-33. SAE publications are regarded as authoritative by experts in the field. I.D.F. 46; Tr. 1125, 1909.

¹⁹ Skidding occurs when a wheel is not turning at the rate at which it should be turning, given the vehicle's speed. Skidding is a type of wheel slip. Tr. 2600, 2703. Although skidding generates sideways forces, the term does not necessarily imply sideways motion. Tr. 2600. A certain degree of wheel slip is necessary for braking, but when it reaches a certain point, braking ability and control begin to fall off. I.D.F. 41-42. At 100 percent wheel slip, wheel lockup occurs. I.D.F. 43.

wheels and of computing the difference between the speed of the braked and free-rolling wheels, functions that are essential to computing wheel slip. I.D.F. 52; Tr. 2574-75.

Besides lacking the components of an antilock system, the Brake Guard device does not provide the benefits of an antilock system. I.D.F. 106, 111-40. The 1993 NHTSA report of wheel slip testing on the Brake Guard product (CX 34)²⁰ provides competent and reliable evidence that the respondents' device does not control wheel slip, wheel lockup, or skidding, and does not give steering control benefits. The testing also demonstrates that the device is not an antilock braking system, and does not provide antilock benefits equivalent to an OEM antilock brake system.

To demonstrate control of wheel slip, competent and reliable scientific testing is necessary. Such testing must compare the performance of a vehicle equipped with the Brake Guard device to the performance of the same vehicle not equipped with the device, under controlled conditions, in driving tests where controllability during braking is at issue. I.D.F. 55; Tr. 802-812, 1127-31. The condition of the tires, brakes, and road surface, the velocity at the onset of braking, and the manner of brake application, all must be controlled. I.D.F. 56; Tr. 804-05, 1129-30. "[S]ufficient pedal force should be applied so that lockup would occur, but for the operation of the device." I.D.F. 55; Tr. 803-04, 1909-10. Proper instrumentation is required to measure variables such as velocity, brake pedal force, wheel slip, and wheel slip modulation, and the results of testing must be adequately documented to ensure proper methodology and application. I.D.F. 57-58.

The 1993 NHTSA test, a twenty-nine page report with thirty-one pages of charts and photographs,²¹ meets the testing requirements set forth above. NHTSA conducted four different road braking tests on the respondents' device: Low-friction Surface Lane Change, Changing Friction Surface, Split Friction Surface, and Low-friction Surface Curve. I.D.F. 118; CX 34-K to -L; Tr. 1137. The first three

²⁰ The respondents seem to argue that the Administrative Law Judge should not have considered CX 35, a report of NHTSA's 1991 testing of a device similar to the Brake Guard device. R.A.B. at 16. At trial, however, the respondents asserted that the tested device performed in the same manner as their product and that the CX 35 results applied to the Brake Guard device. I.D.F. 107; Tr. 1388-89. Still, because complaint counsel stated at trial that they were "not relying on the results of the * * * testing [of the similar product] with regard to the Brake Guard product," (Tr. 1388) we have not considered CX 35 in evaluating the ABS-related claims.

²¹ Quantity assuredly does not establish quality, but there is a bare minimum of information that must be conveyed if a test is to be deemed competent and reliable. As will be seen below, the respondents' test reports are deficient in this regard.

types of tests are based on SAE recommended practices. I.D.F. 122; CX 34-L. All the tests used panic stops²² with the same amount of brake pedal force, on medium to very-low-friction surfaces. I.D.F. 123; CX 34-K to -L. The vehicle was run through each test six times: three with the respondents' device installed and three without. I.D.F. 124; Tr. 1147. Each test of the respondents' device was compared to an identical test on the same vehicle, but without the device. I.D.F. 118; CX 34-G; Tr. 1138. A second vehicle, with OEM antilock brakes, was subjected to the same set of tests, to evaluate how an OEM antilock brake system would respond. *Id.* Before the tests, new tires and brakes were installed in the vehicle and the brakes were burnished. CX 34-J to -K; Tr. 834. Burnishing is an SAE-recommended procedure for standardizing the condition of brakes.²³ CX 40-C at ¶ 7.1; Tr. 834-35. Instruments were attached to the vehicles to measure and provide data on vehicle speed, applied brake pedal force, deceleration, stopping distance, and elapsed time of maneuver. I.D.F. 125; CX 34-I. The measuring instrumentation was appropriate and comprehensive. I.D.F. 125; Tr. 1147-48.

The NHTSA testing revealed that the Brake Guard device was not an ABS system because it does not detect wheel rotation or adjust brake force in response to wheel rotation. Tr. 880-81; 1149-51. The testing revealed that the respondents' device did not control wheel slip. I.D.F. 126-31; CX 34-Z-3 to -5, -7, -14 to -30.²⁴ The device therefore does not control lockup or skidding. *See* n.19, *supra*. The test driver lost control of the car during braking when the respondents' device was employed. The test did not establish any steering control benefits. CX 34-B. The competent and reliable NHTSA testing showed that the respondents' device does not meet the definition of ABS and does not provide ABS benefits.

There is no merit to the respondents' contention (R.A.B. at 17) that the NHTSA tests are not methodologically sound. Specifically,

²² Three methods of controlling brake application are to tell the driver to use: (1) a "best efforts stop," in which the driver uses whatever pedal force is necessary to bring the vehicle to a stop in the shortest possible distance; (2) a "panic stop," in which the driver is told to press on the pedal as hard as possible until the vehicle stops; or (3) a stop with a pre-determined pedal pressure, e.g., 100 pounds. I.D.F. 62; Tr. 822, 1910-11.

²³ SAE J46 describes the burnishing procedure for passenger cars: "[B]urnish brakes by making at least 200 stops from 40 mph (64 km/h) at 12 ft/s² (3.7 m/s²). Stop interval shall be as required to achieve 250°F (121° C) initial brake temperature or a maximum of 1 mile (1.6 km)." CX 40-C at ¶ 7.1.1.

²⁴ In I.D.F. 126, the ALJ failed to note the page of CX 34 on which the test data for the Brake Guard device appear. Because CX 34 contains testing on devices other than the Brake Guard device, Finding 126 should refer to CX 34-Z-14 to -15.

the fact that the tests of the Brake Guard device and OEM ABS were conducted on two different vehicles did not bias the outcome. The record shows that the only difference between the two vehicles (the OEM vehicle had rear disc brakes and the Brake Guard device vehicle had rear drum brakes) would not have affected the results. Tr. 833, 871. Indeed, the two vehicles performed in the same manner when the Brake Guard and OEM devices were disengaged. I.D.F. 121, 126-29. In addition, the vehicle with the Brake Guard device was tested with the device both engaged and disengaged, which provided a built-in control to test wheel lockup, skidding, or steering control benefits. I.D.F. 132; Tr. 881-82. Even without the comparison to the vehicle with the OEM ABS, the tests showed that the Brake Guard device had no effect on wheel slip.

The respondents' objection (R.A.B. at 17) to NHTSA's use of burnishing is also groundless. According to the respondents, NHTSA biased the results against Brake Guard when it burnished the brakes, thus eliminating any inconsistencies in the braking surfaces. R.A.B. at 17. Even the respondents' expert, Mr. Brinton, acknowledged that burnishing is simply a method of standardizing brake surfaces so that the tester can be sure that variations in the brake surfaces of the vehicles being tested are not responsible for differences in test data. Tr. 2526. There is no evidence in the record that burnishing has any impact on wheel slip. I.D.F. 41. As for the respondents' contention that the brake pressures applied in NHTSA's tests were "far in excess of those normally characteristic of panic stops" (R.A.B. at 17), the 112- and 200-pound brake pressures NHTSA used are within the levels permitted by the Federal Motor Vehicle Safety Standards, and were chosen with those standards in mind. CX 34-L; Tr. 838-40; 49 CFR 571.105 S4, S5.1.6.

In contrast to NHTSA's carefully controlled tests, the tests submitted by the respondents to substantiate their ABS-related claims were marred by numerous testing errors, including insufficient controls and bias in the presentation of data. I.D. at 40-41; I.D.F. 60-100. The Administrative Law Judge reviewed each of the respondents' tests in detail and correctly found that not one comes close to providing reliable data to support the respondents' claims. The deficiencies in the respondents' tests are even more conspicuous in light of the high level of substantiation the Commission requires when there are safety issues and given that the truth or falsity of the claims would be difficult for consumers to evaluate by themselves.

See *Thompson Medical Co.*, 104 FTC 648, 822 (1984), *aff'd*, 791 F.2d 189 (D.C. Cir. 1986), *cert. denied*, 479 U.S. 1086 (1987).

Only four of the respondents' test reports even purport to show that the Brake Guard device controls wheel slip or provides steering control. The first, a one page report and two-page letter prepared by mechanical engineering consultants Gerard & Associates, characterizes the reported results as "preliminary." RX 232-A; I.D.F. 73. Even the respondents do not rely on this test to substantiate their ABS-related claims, because, they explain, it was not designed to evaluate wheel slip control. R.A.B. at 11.

The second document, a one-page, eleven-line letter and a two page attachment from a company in Turkey purporting to find reduced lockup "at the beginning" and no skidding (RX 230), also fails to provide competent and reliable evidence in support of the respondents' claims. I.D.F. 82. The one page letter describing the test "findings" contains no information about the manner in which the testing was conducted, the qualifications of the testing organization, or a description of the vehicle tested. RX 230. The accompanying "test report," written in a foreign language (presumably Turkish),²⁵ contains only thirty lines of text, including the text of the cover page. RX 230-A to -B. Mr. Jones was not able to translate the document and did not have any information concerning the testing or the data used to generate the stated conclusions. I.D.F. 81; Tr. 3007-08. The document contains no evidence concerning the reliability of the testing and provides nothing on which the respondents legitimately can rely.

A third test report, describing tests performed by Cunningham Engineering in 1992 (RX 206-A to -M), states that with the respondents' device installed, the test driver experienced "non-skid stops," but without the device he experienced "skidding stops." RX 206-C. The report does not provide competent substantiation, however, because the underlying tests are inherently unreliable. Specifically, the driver used two different stopping techniques: "controlled" stops for testing the respondents' device, and "panic stops" for testing without the device. RX 206-E to -G; Tr. 1937. At trial, John Hinch, lead engineer in NHTSA's Office of Defects Investigation, explained that "[t]he basic difference between those two is * * * how hard you press on the brake pedal. * * * And that would generate a different type of stopping scenario and would not

²⁵ No translation was submitted for the record.

be proper [testing] procedure." Tr. 1938. *See also* I.D.F. 55, 79. The test report also failed to describe how the skidding was measured. I.D.F. 57-58.

The fourth test, an English language description of a report prepared by a technical institute in Slovenia (RX 2), similarly fails to provide competent and reliable evidence that the respondents' device improves a vehicle's braking abilities. Tr. 1983. The report states that there was no steering control loss with the Brake Guard device installed, but no comparison test was conducted with the device disengaged, so there is no evidence that there would have been loss of steering control without the device. I.D.F. 85; Tr. 1984, 1195-97, 1201. There was no indication of the brake pedal force that was applied during the test, which means that low pedal force, rather than the respondents' device, could have been responsible for allowing the driver to maintain steering control. *Id.* Because the test procedures used were seriously deficient, the reported steering control benefits are not reliable. Finally, respondent Jones testified that he did not rely on this test. Tr. 3012-13.

We conclude that the respondents' device does not satisfy NHTSA standards and that NHTSA's testing was competent and reliable and demonstrated that the respondents' device did not reduce wheel slip, lockup, skidding or loss of steering control. I.D. at 39; I.D.F. 106. The NHTSA testing and expert testimony also demonstrated that the respondents' device is not an ABS system because it does not detect wheel slip and adjust brake pressure accordingly. I.D. at 39; Tr. 880-81, 1149-51. We also conclude that the respondents did not have reliable tests or other evidence demonstrating that their device reduces wheel slip or provides steering control benefits. I.D. at 39. These claims are false and unsubstantiated. Also false and unsubstantiated is the claim that the device meets SAE performance standards. SAE J46 is a testing protocol and does not contain any performance standards or goals, so a claim that the respondents' device meets SAE J46 standards is false and unsubstantiated. I.D. at 40; Tr. 1136-37, 2582. Finally, because the claim that the device provides antilock benefits is false and unsubstantiated, the claim that it provides antilock benefits that are at least equivalent to those provided by OEM ABS is also false and unsubstantiated. I.D. at 39.

B. Stopping Distance and Safety Claims

A valid stopping distance test "requires competent and reliable testing that compares the performance of a vehicle with the device engaged to the performance of the same vehicle with the device disengaged." I.D.F. 60; Tr. 815-16. As the Administrative Law Judge found, "even minor variations in speed can result in significant differences in the distance traveled," so the speed at braking must be precisely measured. I.D.F. 60; Tr. 816. One technique approved by the SAE for measuring speed and stopping distance is the use of a "fifth wheel data acquisition system."²⁶ I.D.F. 60; Tr. 817-19, 2561-62. The tires, brakes, road surfaces, and brake application must be controlled, and tests with and without the device must be conducted at a point sufficiently close in time to eliminate or reduce impact from an independent variable. I.D.F. 61-62. As always, proper documentation of the testing is required. I.D.F. 63. Certain mathematical equations can be used to verify the accuracy of stopping distance data. I.D.F. 65; Tr. 1640-42, 1955-58. Competent and reliable testing, with appropriate controls, is also necessary to evaluate vehicle safety. I.D.F. 66; Tr. 1287, 2531.

We agree with the Administrative Law Judge that NHTSA's testing showed conclusively that the respondents' stopping distance and safety claims were false. I.D. at 40-41. NHTSA's stopping distance tests of 1991 (CX 36) and 1993 (CX 33) were competent, clear, and reliable. I.D.F. 116, 135-37; Tr. 890-92, 1166-70. The tests showed that the respondents' device did not shorten stopping distances, either generally or by 20 to 30 percent. CX 33-B, 36-B; I.D.F. 114, 116, 138.²⁷

In contrast, the respondents' stopping distance tests are seriously flawed.²⁸ The first test on which the respondents rely is the so-called ambulance test, reflected in an anonymous one-page report. RX 3. The report provides no information on the test's methodology, the

²⁶ A "fifth wheel data acquisition system" is an independent measuring device. It consists of a wheel, equipped with sensors, that is mounted on the rear of the testing vehicle. The sensors measure the speed of the vehicle and the distance from any point in time to any other point in time. Tr. 810-11.

²⁷ The 1991 testing of the respondents' device actually showed that "[s]topping distances were somewhat increased by the device." CX 36-B (emphasis added).

²⁸ The respondents submitted the following evidence: (1) an anonymous, one-page report of testing on two ambulances from 1987 (RX 3); (2) the Gerard & Associates tests, discussed above; (3) the 1992 Cunningham tests, discussed above; (4) the Turkey tests, discussed above; (5) the Slovenia tests, discussed above; (6) a 1994 report from Cunningham (RX 206-N to -T); (7) a 1995 report of testing conducted in Australia (RX 8); and (8) tests conducted by the respondents' expert, Mr. Brinton, after the Commission issued the complaint (RX 216).

controls employed, or how the vehicles' speeds and braking distances were measured. *Id.*; Tr. 1954-55. Mr. Hinch, lead engineer in NHTSA's Office of Defects Investigation, calculated that based on the test data from the report, the friction of a wet surface would be higher than that of a dry surface, "which * * * does not make * * * physical sense." Tr. 1958; I.D.F. 72. The Administrative Law Judge properly concluded that the data reported in RX 3 are not reliable. I.D.F. 71.

The Gerard test report stated that the results were "preliminary." RX 232. There were insufficient controls of vehicle speed, which was reported as "25 MPH \pm 2 MPH," and stopping distances were not corrected to account for variations in speed. I.D.F. 75. There is no indication in the report that the type of brake application was controlled or that appropriate measuring equipment was used. *Id.*; Tr. 2000-03. Testimony established that a tape measure was used to measure stopping distances. I.D.F. 75; Tr. 2982. This is an inadequate way to measure stopping distance because neither the point at which the brakes are applied nor the vehicle's speed at braking can be determined precisely with a tape measure. Tr. 824, 1164-65, 1918-19, 2530. Since the speed and point of braking are indeterminate, the stopping distance is indeterminate. Tr. 814-19, 1160-66, 1916-18, 2526. For example, as the Administrative Law Judge noted, if the brakes are applied just one-tenth of a second too late in a stopping distance test of a vehicle traveling 60 miles per hour, the stopping distance will be 8.8 feet longer. I.D.F. 64.

The respondents' reliance on the 1992 testing performed by Cunningham Engineering is likewise misplaced. I.D.F. 79-80. The reported stopping distances were inherently unreliable because of numerous deficiencies in the testing protocol, including the use of a tape measure to measure stopping distances. Tr. 1208-09, 1935-37. As discussed above in Part III.A, the braking technique used with the Brake Guard device employed differed from that used without the Brake Guard device. I.D.F. 79; RX 206-E to -G. Also, there is no indication how the tester measured the speed at which the brakes were applied. I.D.F. 79.

Most revealing, however, are the inconsistencies between the test data and the test reports, which show a strong bias in respondents' favor. For example, the report on tests conducted on a motor home equipped with the respondents' device failed to include the longest stopping distance in computing the average stopping distance. I.D.F.

80(a); compare RX 206-E with 206-J. Conversely, the report on tests conducted on a pickup truck without the device failed to include the shortest stopping distance in computing the average stopping distance. I.D.F. 80(b); compare RX 206-F with 206-K. The pickup truck report failed to include the results of five test runs with the device installed that resulted in longer stopping distances. I.D.F. 80(b); RX 206-K to -L. The pickup truck report also did not reveal that the son of respondent Jones was the driver on three out of the five stops using the respondents' device. I.D.F. 80(b); RX 206-L; Tr. 3000. As a final example of the inconsistencies, the report on tests conducted on a passenger car equipped with the respondents' device failed to include two longer stops in computing the average stopping distance. I.D.F. 80(c); compare RX 206-G with 206-M.

The deficiencies in the Turkey test are set forth above, in Part III.A and make the stopping distance data unreliable. I.D.F. 83; Tr. 1228-29. We agree with the Administrative Law Judge that the Slovenia test also cannot provide substantiation for the respondents' stopping distance claims. I.D.F. 86-87. The report does not identify the instrumentation used or the control procedures. RX 2; Tr. 1201-03, 1979. In any event, as noted earlier, Mr. Jones testified that he did not rely on the Slovenia test as substantiation. Tr. 3012-13.

The Administrative Law Judge properly rejected the 1994 Cunningham testing as substantiation for the respondents' claims. I.D.F. 89-93. First, stopping distance was measured by use of a measuring tape (Tr. 1209-10), an unreliable technique. I.D.F. 91. Neither was a reliable method used to control for speed.²⁹ Calculations by complaint counsel's expert, John Kourik, showed data discrepancies that were not explained by any evidence in the record. Tr. 1636-41. Finally, the Administrative Law Judge properly noted concerns about the impartiality of the testing because only selected data were provided and unfavorable information had been omitted from the reports of the 1992 Cunningham testing. *See* discussion at pp. 28-29, *supra*; I.D.F. 93; I.D.F. 80.

As for the Administrative Law Judge's refusal to credit the Australia test, the respondents are incorrect in asserting (R.A.B. at 14) that the Administrative Law Judge failed to understand that the test was intended to substantiate stopping distance claims. The Administrative Law Judge specifically noted that the report did not

²⁹ The vehicles' cruise controls were used to control speed, but cruise controls do not precisely control speed. Tr. 1210, 1932-33. In addition, the cruise control on one of the vehicles broke during the testing, leaving open how speed was measured. Tr. 1210-11, 1932-33.

indicate "what criteria * * * were used to measure the 'improved' [braking] performance," did not contain the underlying stopping distance data, and did not reflect testing under SAE J46 road conditions. I.D.F. 94. The testing organization stated that it was comparing the performance of a vehicle fitted with the Brake Guard device to that of a "standard vehicle" which had been tested "previously." RX 8. The Administrative Law Judge properly noted that "it is not clear when the prior testing was done, and there is no indication of an attempt to compare or control the test conditions (such as the conditions of the road surface)." I.D.F. 96. Although the Administrative Law Judge also noted the absence of wheel slip data from the test report, *see* I.D.F. 95, he clearly and correctly premised his rejection of the results on flaws that cast doubt on the reported stopping distance results.

Finally, there is no merit to the respondents' claim (R.A.B. at 14-15) that the Administrative Law Judge improperly failed to credit post-complaint test data generated by Mr. Brinton.³⁰ RX 216. Those tests had several testing deficiencies that may have biased the results in favor of Brake Guard: the length and weight of the tested vehicle, a motor home hauling a pickup truck, far exceeds the length and weight of the average passenger car (I.D.F. 97; RX 216; Tr. 2541); the respondent's son, a former Brake Guard employee and current distributor of the Brake Guard device, was the driver during the tests (I.D.F. 97; Tr. 2571); no two tests were conducted at the same speeds, and the report does not correct the stopping distances to a particular speed (I.D.F. 97-98; RX 216); brake pedal pressure was not controlled (I.D.F. 99; Tr. 2573); and the equipment used to measure speed and distance has an error rate that far exceeds that recommended by the SAE. I.D.F. 97-100. Under these circumstances, the decision of the Administrative Law Judge not to credit the data generated by Mr. Brinton was eminently reasonable.³¹

Additional testing of which Brake Guard was aware also shows that Brake Guard has no substantiation for its stopping distance claims. The Administrative Law Judge properly noted that a report

³⁰ Similarly, the Administrative Law Judge did not err in refusing to credit Mr. Brinton's testimony. Although on direct examination Mr. Brinton testified that the Brake Guard device controls rotational wheel slip and complies with the generally accepted industry definition of an antilock braking system, he testified to the contrary on cross-examination. Compare Tr. 2505-07 with Tr. 2574.

³¹ In any event, because the respondents did not actually use or rely on these tests at the time they made the disputed claims for their braking device, they may not rely on them in defending against charges that the claims were unsubstantiated. *See, e. g., Porter & Dietsch, Inc. v. FTC*, 605 F.2d 294, 302 n.6 (7th Cir. 1979); *Pfizer, Inc.*, 81 FTC 23, 67 (1972).

prepared by Southwest Research Institute ("SWRI"), CX 56, an independent test company hired by the respondents, "could not state that the [observed decrease in stopping distance was] due to the Brake Guard device, or simply to the position of each stop in the test sequence." I.D.F. 146. *See also* CX 56-R; Tr. 2188- 89. Even assuming that the Brake Guard device had the purported effect, SWRI did not determine whether the observed differences in stopping distances were statistically significant. I.D.F. 146; CX 56-H to -R; Tr. 2192-93.

The Administrative Law Judge correctly concluded that "competent and reliable testing performed by [NHTSA] on two separate occasions on the Brake Guard device * * * consistently demonstrated that no stopping distance enhancement results from installation of the Brake Guard device." I.D. at 40. The respondents' tests in support of the stopping distance claims were "not competent and reliable." *Id.* An additional test, commissioned by the respondents themselves, also failed adequately to substantiate either stopping distance claim. We find that both the general and specific stopping distance claims are false and unsubstantiated. Since the respondents can point to no competent and reliable testing that shows that their device improves either steering control (*see* Part III.A, *supra*) or stopping distances, the claim that their device makes vehicles safer is unsubstantiated. *See* I.D. at 41.

IV. TESTIMONIAL TYPICALITY CLAIM

We agree with the Administrative Law Judge that the testimonials included in the respondents' advertising made unsubstantiated claims that reduced stopping distances and wheel lockup were typically experienced by consumers. For substantiation, the respondents appear to rely on 81 or 82 submitted testimonials as well as testimony by Mr. Jones that he and his company received "hundreds and hundreds" of letters from satisfied customers.³² Tr. 2941-42. There is no evidence, however, that these testimonials represent a scientific sample of Brake Guard consumers sufficient to substantiate the testimonials' typicality. In any event, as the Administrative Law Judge found, "consumers do not have the competence to evaluate whether stopping distance improvements or wheel lockup control have occurred" (I.D. at 41, citing I.D.F. 58, 64), so consumers' perceptions of improved

³² The respondent do not clearly identify their substantiation for the testimonial typicality claim.

braking performance cannot substantiate the respondents' claim. We find that the reports of consumer experiences are not adequate to substantiate the respondents' claim that the testimonials reflect the typical experience of a Brake Guard consumer.

We also agree with the Administrative Law Judge that the experiences related in the respondents' testimonials cannot accurately reflect typical consumer experience with the Brake Guard device. I.D. at 41. We find that the respondents' typicality claim is false as well as unsubstantiated. Carefully controlled road testing conducted by NHTSA demonstrates that, contrary to what is claimed in the respondents' testimonials, the Brake Guard device does not reduce stopping distances and wheel lockup. *See* discussion at pp. 15-19, 26, *supra*. The favorable experiences related in the respondents' testimonials are inconsistent with reliable test results and cannot reflect the typical experiences of consumers. I.D. at 41. Even if the individual experiences of the consumers whose letters were used in the respondents' advertising were accurate, they cannot be typical experiences and are at best statistical outliers. *See Cliffdale Associates, Inc.*, 103 FTC 110, 173 (1984).

V. INSURANCE DISCOUNT CLAIM

We next consider whether the respondents made false and unsubstantiated representations that installation of their braking device qualifies a vehicle for an insurance discount in a significant proportion of cases. The Administrative Law Judge concluded that affidavits submitted with complaint counsel's motion for summary decision established that installation of the respondents' braking device will not qualify a vehicle for a discount in a significant proportion of cases, and that at the times the respondents disseminated their advertisements, they had no reasonable basis for their claim. Partial Summary Dec. (Ins. Discount) at 10-12. We agree.

Sworn affidavits from representatives of five large auto insurance companies (including State Farm, the largest in the United States) and others thoroughly familiar with industry practice, such as representatives of Insurance Services Office, Inc. ("ISO"),³³ a major insurance industry rating organization, and the National Association

³³ ISO develops multi-state manuals for insurance companies regarding calculation of discounts for safety equipment on cars and makes state filings of the manuals on their behalf when it has been authorized to do so. ISO Aff., Attach. C, ¶¶ 2, 3-4.

of Insurance Commissioners ("NAIC"),³⁴ establish beyond question that not all companies provide a discount for antilock brakes. *Id.* To the extent any discount is available, it is industry practice to limit the discount to factory-installed systems. *Id.* F.2-7. These affidavits establish that it is highly unlikely that a vehicle could obtain a discount for after-market ABS in more than an insignificant proportion of cases, and the respondents' claim that installation of their braking device "will qualify a vehicle for an automobile insurance discount in a significant proportion of cases" (complaint ¶ 7(b)) is false and misleading.

In contrast to complaint counsel's sworn affidavits from industry and government officials, the respondents produced an unsworn, handwritten letter, dated November 3, 1995, from an insurance broker in Spokane, Washington. *Id.* F.9. The broker's letter stated that three insurance companies offered discounts for cars equipped with antilock brakes and accepted Brake Guard-equipped vehicles for the allowable discount. *Id.* F.15-16. We agree with the Administrative Law Judge that the post-claim evidence is not "significantly probative." Partial Summary Dec. (Ins. Discount) at 11, citing *SEC v. Murphy*, 626 F.2d 633, 640 (9th Cir. 1980). At best, the respondents' letter demonstrated that three insurance companies out of 1456 in the United States may have offered discounts for some period of time for vehicles equipped with the Brake Guard device. *Id.* at 10. Even at the time the claim was made, the letter does not substantiate the respondents' claim that a discount was available in a significant proportion of cases.

Even disregarding the limited scope of the document, a letter written in 1995, two years after the respondents disseminated their insurance discount claims (*id.* F.9), is not sufficient to substantiate the respondents' insurance discount claims. A firm's failure to possess and rely on a reasonable basis for an objective claim at the time the claim is made is an unfair or deceptive act or practice in violation of Section 5. *See, e.g., Pfizer, Inc.*, 81 FTC at 64; Advertising Substantiation Statement, 104 FTC at 840-41.

³⁴ NAIC is an association of the chief insurance supervisory officials in all 50 states, the District of Columbia, and territories of the United States. NAIC members, or their staff, review or approve insurance company rate filings. NAIC Aff., Attach. G, ¶ 1.

VI. OTHER ISSUES

The respondents assert that this proceeding is not in the public interest because they "have had few complaints" about their device. R.A.B. at 21. The number of consumer complaints has no bearing on whether the public is being harmed by the respondents' false or unsubstantiated claims. Expert testimony established that consumers are unable to determine by themselves whether the Brake Guard device performs as the respondents claimed in their promotional materials. I.D.F. 58, 64; Tr. 813, 823-24, 1132. The respondents have offered no other support for their implicit request that the Commission revisit its determination that this proceeding is in the public interest.³⁵ The Commission will revisit such a determination only in the most extraordinary circumstances. See *American Aluminum Corp.*, 84 FTC 21, 51 (1974); *Pepsico, Inc.*, 83 FTC 1716 (1974); *Exxon Corp.*, 83 FTC 1759, 1760 (1974). No such circumstances have been demonstrated here.

In addition to seeking dismissal of the case, the respondents seek other relief. See R.A.B. at 22. The respondents seek "acknowledgment and recognition of all of [their] claims by the Commission." *Id.* This opinion fully addresses the Commission's findings with respect to the respondents' claims. The respondents also seek an acknowledgment "that the NHTSA found Brake Guard to be free of safety-related defects." *Id.* This case does not present the issue whether the Brake Guard device has defects related to safety or otherwise. The case involves particular advertising claims, one of which is that the Brake Guard device makes a vehicle safer than a vehicle that is not equipped with the device. On that issue, discussed above,³⁶ the Commission has found that the respondents lacked substantiation for the claim. Even assuming that NHTSA found no safety defects in the Brake Guard device, that fact is irrelevant to evaluating the comparative safety claim at issue here.

The respondents also request that the Commission recommend that Congress investigate: (1) the "initial impetus for the investigation by NHTSA"; (2) the purported role of automobile manufacturers and respondents' competitors in instigating the case; (3) the relationship between NHTSA and FTC staff and the Southwest Research Institute; and (4) the relationship between FTC staff and the Administrative

³⁵ The Commission made a public interest determination at the time the complaint issued. See complaint; FTC Act Section 5(b).

³⁶ See discussion at p. 34, *supra*.

Law Judge. *Id.* The respondents cite no factual basis for these requests and for that reason alone, the respondents' request is properly denied.³⁷ *Cf. Hospital Corporation of America v. FTC*, 807 F.2d 1381, 1392 (7th Cir. 1986) (rejecting argument raised in "off-hand * * * manner").

For the reasons stated below, we deny the respondents' request of July 11, 1997, for permission to add two items to the record.³⁸ The first is an incomplete copy of a FAA Advisory Circular dated October 1991. The second is a report summarizing consumer complaints to NHTSA through March 1996.

The FAA Circular relates, *inter alia*, to procedures for reporting field conditions at airports during winter operations. In Appendix 4 to the Circular, an instrument known as the "Bowmonk Decelerometer" is listed as one of two FAA-approved decelerometers. According to Brake Guard, the fact that the Bowmonk Decelerometer is one of the decelerometers approved by the FAA is significant because it "refutes the ALJ's decision * * * dismissing the Bowmonk Decelerometer as non-acceptable."³⁹

The respondents do not attempt to explain their failure to come forward with this document earlier. There is no question that the respondents were on notice that the reliability of instrumentation used in testing braking devices would be at issue. In October and November 1996, two of complaint counsel's experts testified regarding the importance of appropriate instrumentation in stopping distance tests (Tr. 887-88 (Mr. Hague); Tr. 1201-04, 1225-27 (Mr. Kourik)), and on cross-examination, Mr. Kourik stated that it is not

³⁷ To the extent that the request for an investigation can be read to suggest that automobile manufacturers would have engaged in an impropriety in contacting the Commission with respect to the respondents' practices, it is important to note that in issuing the complaint the Commission made its own determinations of public interest and reason to believe the law had been violated. Whether automobile manufacturers or others contacted the Commission to complain about the respondents' claims has no bearing either on the public interest of the proceeding or on the merits of the case.

³⁸ In deciding whether to reopen the record to receive supplemental evidence, the Commission considers: (1) whether the moving party can demonstrate due diligence (that is, whether there is a bona fide explanation for the failure to introduce the evidence at trial); (2) the extent to which the proffered evidence is probative; (3) whether the proffered evidence is cumulative; and (4) whether reopening the record would prejudice the non-moving party. *See, e.g., Chrysler Corp. v. FTC*, 561 F.2d 357, 361-63 (D.C. Cir. 1977) (affirming admission of supplemental evidence by Commission in *Chrysler Corp.*, 87 FTC 719, 750 n.38 (1976)). *See also* 16 CFR 3.51(e)(1), 3.54(a) (Commission may reopen record to receive additional evidence).

³⁹ The respondents' expert, Mr. Brinton, used the Bowmonk Mark VI to measure deceleration in his stopping distance tests. RX216. The Administrative Law Judge found that the Bowmonk Mark VI had too large an error rate to be reliable for the respondents' purposes and that "Mr. Brinton's insistence that the Bowmonk is reliable is questionable because he is a distributor of this equipment." I.D.F. 99.

appropriate to convert deceleration data into stopping distances. Tr. 1279. The respondents' inquiry as to Mr. Kourik's familiarity with the Bowmonk VI decelerometer (Tr. 1279-81) demonstrates conclusively that the respondents knew that the reliability of the instrument would be at issue. Nonetheless, they did not attempt to introduce the FAA Circular when their own expert, Mr. Brinton, testified in February 1997 concerning his use of the Bowmonk VI in his post-complaint stopping distance tests. RX 216. The respondents have failed to demonstrate due diligence with respect to this document.

The FAA Circular also would have little, if any, probative value. Nothing in the FAA Circular undercuts the finding of the Administrative Law Judge that the Bowmonk Mark VI has an error rate of 2 percent, which does not satisfy SAE's recommendation that equipment used to measure stopping distances have an error rate of less than 0.5 percent for speed and 1 percent for distance. I.D.F. 99. In addition, the reliability of the measuring equipment was only one of many reasons for rejecting the stopping-distance data generated by the respondents' expert. *See* discussion at pp. 31-32, *supra*; I.D.F. 97-99.

The second item is a March 6, 1996, report summarizing consumer complaints to NHTSA regarding antilock brake problems. The respondents do not explain their delay in coming forward with the complaint summaries, except to refer to the "high cost of obtaining and copying the data" and "the time required for the Department of Transportation to provide the data." Although the respondents apparently were not aware of the existence of the complaint summaries until October 21, 1996, when they were offered in a companion case, Automotive Breakthrough Sciences, Inc., Docket No. 9275 (*see* Tr. 199), a NHTSA official, Robert Young, testified that the complaint summaries are publicly available and may be obtained easily at any time. *See* Tr. 226.

In any event, we find that the report lacks probative value. It consists of hearsay statements and does not refer to consumer experiences with the Brake Guard device. As stated by NHTSA on each page of the report: "The summaries are extracted from statements made by customers in letters and/or vehicle owner questionnaires which were forwarded to the agency. The statements allege problems that have not been verified by the agency." The summaries simply do not demonstrate either that Brake Guard is an ABS device, or that, as the respondents assert, the Administrative

Law Judge erred in concluding that consumers cannot accurately measure wheel slip or stopping distance.

We also deny the respondents' request by letter of November 18, 1997, that six items be added to the record.⁴⁰ The respondents state that the six items are submitted in "respon[se] to a request for information" by Chairman Pitofsky at oral argument. The Chairman asked the respondents to identify which tests "demonstrate no slippage, no sliding" of a vehicle when the Brake Guard device was installed. Oral Argument Tr. 34. Brake Guard's representative at oral argument stated that he could not identify these tests "at this moment" but that he would be able to do so "later on." *Id.* The Chairman said that would be "[f]ine." *Id.* at 35.

The Chairman's question referred to tests already in the record, not new evidence.⁴¹ Nonetheless, five of the six items are new.⁴² The respondents do not explain why these items were not offered in a timely fashion, or if duly proffered, whether or why the Administrative Law Judge declined to admit them into evidence. In any event, we have considered the new materials and conclude that they are not probative and otherwise do not satisfy the test for reopening the record for the purpose of receiving supplemental information. *See* discussion at n.38, *supra*.

One of the proffered items, a videotape of stopping distance tests conducted by Southwest Research Institute ("SWRI") in July 1992, shows SWRI conducting its tests, with occasional commentary on purported stopping distances by an off-camera, unidentified speaker. The report reflecting the results of these tests (CX 56) is already in evidence, and the videotape does not provide any additional probative evidence.

The videotapes, "1991 Caprice Classic" and "92 Caddy/Brooks A.F.B.," suffer from numerous deficiencies and omissions. They show road tests with commentary on stopping distances by an

⁴⁰ The items are: (1) a video tape entitled "Demo Q & A/Install"; (2) a video tape entitled "Brakeguard Test Texas SW Research"; (3) a video tape entitled "1991 Caprice Classic"; (4) a video tape entitled "92 Caddy/Brooks A.F.B."; (5) a document entitled "Slovenija Test Report"; and (6) a notebook with approximately 800 testimonials about the respondents' device.

⁴¹ Following the question raised by Chairman Pitofsky, Commissioner Azcuenaga stated: "I'd like my colleagues to correct me if I'm wrong. In response to Chairman Pitofsky's questions, Dr. Burzell said that he would follow up later on, and I'd simply like to mention because the respondents are appearing *pro se* that as I understand it that was a question seeking information with reference to the record, to the existing record, and that follow-up should be provided very expeditiously. Oral Argument Tr. 44.

⁴² The first item, a videotape with the caption "Demo Q & A/Install," is identical to CX 146.

unidentified speaker. The videotapes provide virtually no information about test protocol, and do not provide any information about the type of stop (e.g., "best efforts" or "panic"); how stopping distances were measured;⁴³ how speed was controlled; or how the test vehicles were instrumented. The videotape of the Caprice Classic shows the third and fourth test runs of what purports to be a stop without the Brake Guard device at 65 m.p.h., but does not show the first or second runs, or explain their absence. These videotapes do not meet the requirements for a valid wheel slip or stopping distance test. See discussion at pp. 15-16, 24-25, *supra*.

The fifth item proffered by the respondents consists of text and test data presented in a foreign language. The document appears to be the test report from a technical institute in Slovenia that is described in English in RX 2. Assuming that this is the case, the document does not address the deficiencies that we have noted with respect to RX 2, and therefore would not be probative. See discussion at p. 23, *supra*.

The sixth item, a collection of testimonials concerning the respondents' device, is also not probative. As discussed earlier, consumers lack sufficient expertise to quantify wheel slip or stopping distances accurately. See discussion at p. 34, *supra*; I.D.F. 58, 64.

VII. RELIEF

The Commission has wide discretion in its choice of a remedy, and it is authorized to enter an order that is sufficiently broad that it will ensure that the respondents will refrain from engaging in like or related law violations. See, e.g., *FTC v. Ruberoid Co.*, 343 U.S. 470, 473 (1952); *Jacob Siegel Co. v. FTC*, 327 U.S. 608, 611-13 (1946). The discretion of the Commission is limited by two constraints. First, the order must be sufficiently clear and precise that the requirements of the order can be understood. See *FTC v. Colgate-Palmolive Co.*, 380 U.S. 374, 392 (1965). Second, the order must bear a "reasonable relation" to the unlawful practices. *Jacob Siegel Co.*, 327 U.S. at 612. The Commission, therefore, may include in an order relief designed to enjoin the particular practices found unlawful as well as "fencing-in" provisions designed to deter the respondents from engaging in similar acts or practices in the future.

In determining whether fencing-in relief is appropriate, the Commission considers the seriousness and deliberateness of the

⁴³ For example, in the fourth video tape, the driver is told to "pace off the difference" between two stops.

violations; the ease with which the unlawful conduct can be transferred to other products; and whether the respondents have a history of past violations. See *Thompson Medical Co.*, 104 FTC at 833. The more egregious the facts with respect to one of these elements, the less important it is that other negative factors be present. See *Sears Roebuck & Co. v. FTC*, 676 F.2d 385, 392 (9th Cir. 1982); *Thompson Medical Co.*, 104 FTC at 833.

The Commission adopts paragraphs I and II of the order proposed by the Administrative Law Judge. These provisions prohibit the respondents from making the claims challenged in the complaint and found unlawful in this proceeding. In addition, we find that the serious and deliberate nature of the respondents' practices and their ready transferability to other products and claims justify fencing-in relief. We therefore extend paragraphs III, IV and V of our order beyond the products for which the challenged claims were made.

In connection with paragraph I, although the respondents have not appealed this issue directly, we have considered whether the deception inherent in the respondents' use of the acronym "ABS" is best remedied by prohibiting the respondents from using the term in conjunction with, or as part of, their trade name. Brand name excision is a remedy that is available to the Commission when a less restrictive remedy, such as a required affirmative disclosure, is insufficient to eliminate the deception conveyed by the name. See *Thompson Medical Co.*, 104 FTC at 837. The relevant question is whether any less restrictive means exists for eliminating the deception inherent in the respondents' use of "ABS" within their trade name or trademark or in advertising their Brake Guard product. See *Jacob Siegel Co. v. FTC*, 327 U.S. at 612; *FTC v. Algoma Lumber Co.*, 291 U.S. 67, 81-82 (1934); *Resort Car Systems, Inc. v. FTC*, 518 F.2d 962 (9th Cir.), cert. denied, 423 U.S. 827 (1975); *Continental Wax Corp. v. FTC*, 330 F.2d 475, 479-80 (2d Cir. 1964); *Bakers Franchise Corp. v. FTC*, 302 F.2d 258, 262 (3d Cir. 1962). In this connection, it is not dispositive that the trade name is registered as a trademark. See *Jacob Siegel Co.*, 327 U.S. at 612.

The Commission has recognized that trade names are valuable business assets. *Id.* We are persuaded here, however, that the record shows that the association of the acronym "ABS" with antilock brakes and their performance attributes "is sufficiently established that consumers are likely to assume mistakenly that the Brake Guard device is equivalent to and provides the same benefits advertised for

genuine ABS." I.D. at 46. The acronym "ABS" and the term "antilock brakes" are used interchangeably in advertising for new cars. *See* Mot. for Summary Dec. (Ad Meaning) Exh. 1, Attachs. 1, 4-7, 9-11, 13-18, 21; Exh. 2, Attachs. 1-2, 4-6, 8-9. Indeed, the record demonstrates that new car manufacturers are willing to use promotional materials in which the shorthand expression "ABS" appears without an accompanying explanation, which reflects a high degree of confidence among industry marketing personnel that the consuming public has a clear understanding of the meaning of the term. *See Id.* Exh. 1, Attachs. 12, 19, 21; Exh. Attachs. 3, 7, 10-12, 15-16, 18-19. The fact that consumers commonly use the "ABS" acronym to refer to antilock brakes in their contacts with NHTSA officials is another reliable indicator that consumers would assume that a product described as "ABS" is an antilock braking system. *See Id.* Exh. 1 ¶¶ 2-3.

In light of the strong association of the acronym "ABS" with antilock brakes and their performance attributes, adding a qualifying phrase would result in a contradiction in terms and would likely confuse consumers. *See Continental Wax Corp.*, 330 F.2d at 479-80 (holding that where "the offending deception is caused by a clear and unambiguous false representation implicit in the product's name," and therefore a qualifying phrase would lead to a confusing contradiction in terms, "no remedy short of complete excision of the trade name will suffice"). The potential for confusion is of particular concern to us here, where the product and claims relate to safety and performance of a motor vehicle.

Turning to the fencing-in provisions in paragraphs III, IV and V of the order, the serious and deliberate nature of the respondents' violations is reflected in their willingness to mount a broadly based campaign to market their braking device as an antilock system without regard to whether there was reliable information to support their claims and in the face of substantial information that the claims were false. I.D. at 43-45. They even manipulated a test in order to generate results that would support their claims, and they disseminated these test results in advertising. I.D. at 44; I.D.F. 80. When we take into account that these are "credence" claims that consumers cannot evaluate accurately on their own, when we consider the context, that the claims and product involve the performance and comparative safety of a motor vehicle, and when we

note the respondents' apparently deliberate disregard for testing results inconsistent with their claims, we readily conclude that strong fencing-in relief is required to prevent recurrence of the respondents' unlawful conduct. *See Kraft, Inc.*, 114 FTC 40, 140, 142 (1991), *aff'd*, 970 F.2d 311 (7th Cir. 1992), *cert. denied*, 507 U.S. 909 (1993); *Thompson Medical Co.*, 104 FTC at 832-33; *Sears, Roebuck*, 676 F.2d at 392; *Litton Indus., Inc. v. FTC*, 676 F.2d 364, 370-72 (9th Cir. 1982).

Although the respondents do not object directly to the scope of the relief ordered by the Administrative Law Judge, they contest his finding that adverse results of tests conducted by several organizations should have put them on notice that their claims were unsubstantiated and false. *See R.A.B.* at 16. The respondents' argument seems to be that because the Administrative Law Judge impeached the validity of the tests yielding the adverse results (and, indeed, all the testing other than that performed by NHTSA), those tests should have "no bearing on any scientific inquiry," and their adverse results, therefore, should not be held to have put Brake Guard on notice concerning possible deficiencies in their claims. *Id.*

The Commission does not believe it was reasonable for the respondents simply to disregard test results that were inconsistent with their product claims. Indeed, their apparent failure to obtain an independent and scientific assessment of the adverse test results before continuing their advertising campaign suggests that they did not want to discover the truth. In any event, as discussed above,⁴⁴ competent and reliable tests conducted by NHTSA (which the respondents also appear to have ignored) demonstrate clearly that the Brake Guard device does not reduce stopping-distance or control wheel slip, and that it is not the equivalent of OEM ABS. *See I.D.* at 43; *I.D.F.* 106-40.

We also find that the risk of transferability of the violation justifies limiting future claims regarding products in addition to the Brake Guard device. The respondents have demonstrated a lack of concern for proper scientific methodology in the serious context of motor vehicle safety and performance. They have shown a willingness to disregard the results of competent and reliable tests with respect to a product that is designed for use on a motor vehicle, reflecting a recklessness that could be transferred to the testing of other products. *Cf. American Home Products*, 98 FTC 136, 405

⁴⁴ *See* discussion at pp. 15-20, 26, *supra*.

(1981) ("effort to misrepresent the nature of a quite ordinary ingredient is a technique that could easily be applied to advertising of * * * products other than [this one]"). For these reasons, we conclude that the appropriate scope for fencing-in relief is "any braking system, accessory, or device, or any other system, accessory, or device designed to be used in, on, or in conjunction with any motor vehicle."

The order proposed by the Administrative Law Judge applies three different levels of coverage.⁴⁵ All-product coverage, in our view, is overly broad, because the record does not show that the respondents' business has extended beyond manufacturing and promoting one or more versions of the Brake Guard device. On the other hand, coverage limited to any braking system, accessory or device appears less than adequate to protect against future related violations.

In view of the respondents' limited product line and of the absence in the record of evidence showing that the respondents are likely to expand their areas of endeavor beyond automobile and other motor vehicle accessories and devices, we do not believe that all-products coverage is necessary. *Cf. Kraft, Inc.*, 970 F.2d at 327 (violations with respect to Kraft Singles found transferable only to other Kraft cheese products). Therefore, paragraphs III, IV, and V of the final order apply to "any braking system, accessory, or device, or any other system, accessory, or device designed to be used in, on, or in conjunction with any motor vehicle." The fencing-in coverage in paragraphs III, IV and V is consistent and, we believe, appropriately tailored.

VIII. CONCLUSION

On the basis of these facts and for the reasons set forth in this opinion, the Commission concludes that the respondents have engaged in unfair or deceptive acts or practices in violation of Section 5 of the Federal Trade Commission Act. The Commission issues the attached final order.

⁴⁵ Compare ALJ order ¶ III ("any braking system, accessory, or device"); with ALJ order ¶ IV ("any product in or affecting commerce"); and ALJ order ¶ V ("any braking system, accessory, or device, or any other system, accessory, or device designed to be used in, on, or in conjunction with any motor vehicle").

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FINAL ORDER

DEFINITIONS

For the purposes of this order:

1. "*Competent and reliable scientific evidence*" shall mean tests, analyses, research, studies, or other evidence based upon the expertise of professionals in the relevant area, that has been conducted and evaluated in an objective manner by persons qualified to do so, procedures generally accepted in the profession to yield accurate and reliable results; and

2. "*Purchasers for resale*" shall mean all purchasers of the Brake Guard Safety System, Advanced Braking System, or Brake Guard ABS for resale to the public, including but not limited to franchisees, wholesalers, distributors, retailers, installers, and jobbers.

I.

It is ordered, That respondents, Brake Guard Products Inc., a corporation, its successors and assigns, and its officers, and Ed F. Jones, individually and as an officer and director of said corporation, and respondents' agents, representatives, and employees, directly or through any partnership, corporation, subsidiary, division, or other device, in connection with the manufacturing, labeling, advertising, promotion, offering for sale, sale, or distribution of the Brake Guard Safety System, Advanced Braking System, or Brake Guard ABS or any substantially similar product in or affecting commerce, as "commerce" is defined in the Federal Trade Commission Act, do forthwith cease and desist from employing the initials or term ABS in conjunction with or as part of the name for such product or the product logo.

II.

It is further ordered, That respondents, Brake Guard Products, Inc., a corporation, its successors and assigns, and its officers, and Ed F. Jones, individually and as an officer and director of said corporation, and respondents' agents, representatives, and employees, directly or through any partnership, corporation, subsidiary, division, or other device, in connection with the manufacturing, labeling, advertising, promotion, offering for sale, sale, or distribution of the Brake Guard Safety System, Advanced Braking System, or Brake

Guard ABS or any substantially similar product in or affecting commerce, as "commerce" is defined in the Federal Trade Commission Act, do forthwith cease and desist from representing, in any manner, directly or by implication, that such product:

- A. Is an antilock braking system;
- B. Prevents or substantially reduces wheel lock-up, skidding, or loss of steering control in emergency stopping situations;
- C. Will qualify a vehicle for an automobile insurance discount in a significant proportion of cases;
- D. Complies with a performance standard set forth in Wheel Slip Brake Control System Road Test Code SAE J46;
- E. Complies with a standard pertaining to antilock braking systems set forth by the National Highway Traffic Safety Administration;
- F. Reduces stopping distances by 20 to 30% or by up to 30%;
- G. Provides antilock braking system benefits, including wheel lock-up control benefits, that are at least equivalent to those provided by original equipment manufacturer electronic antilock braking systems; or
- H. Will stop a vehicle in a shorter distance than a vehicle that is not equipped with the product, in emergency stopping situations.

III.

It is further ordered, That respondents Brake Guard Products, Inc., a corporation, its successors and assigns, and its officers, and Ed F. Jones, individually and as an officer and director of said corporation, and respondents' agents, representatives, and employees, directly or through any partnership, corporation, subsidiary, division, or other device, in connection with the manufacturing, labeling, advertising, promotion, offering for sale, sale, or distribution of any braking system, accessory, or device, or any other system, accessory, or device designed to be used in, on, or in conjunction with any motor vehicle, in or affecting commerce, as "commerce" is defined in the Federal Trade Commission Act, do forthwith cease and desist from representing, in any manner, directly or by implication, that installation of the system, accessory, or device will make operation of a vehicle safer than a vehicle that is not equipped with the system, accessory or device, unless, at the time of making such

representation, respondents possess and rely upon competent and reliable scientific evidence that substantiates the representation.

IV.

It is further ordered, That respondents Brake Guard Products, Inc., a corporation, its successors and assigns, and its officers, and Ed F. Jones, individually and as an officer and director of said corporation, and respondents' agents, representatives, and employees, directly or through any partnership, corporation, subsidiary, division, or other device, in connection with the manufacturing, labeling, advertising, promotion, offering for sale, sale, or distribution of any braking system, accessory, or device, or any other system, accessory, or device designed to be used in, on, or in conjunction with any motor vehicle, in or affecting commerce, as "commerce" is defined in the Federal Trade Commission Act, do forthwith cease and desist from misrepresenting, in any manner, directly or by implication:

A. That any such product complies with any standard, definition, regulation, or any other provision of any governmental entity or unit, or of any other organization, or the extent of such compliance;

B. That insurance benefits or discounts arising from the use of such product are available or the extent of such availability; or

C. That any endorsement (as "endorsement" is defined in 16 CFR 255.0(b)) of such a product represents the typical or ordinary experience of members of the public who use the product, unless:

(1) Such representation is true; or

(2) Respondent discloses clearly, prominently, and in close proximity to the endorsement or testimonial the generally expected results for users of such product, or the limited applicability of the endorser's experience to what consumers may generally expect to achieve and the possibility that consumers may not experience similar results.

V.

It is further ordered, That respondents Brake Guard Products, Inc., a corporation, its successors and assigns, and its officers, and Ed F. Jones, individually and as an officer and director of said corporation, and respondents' agents, representatives, and employees, directly or through any partnership, corporation, subsidiary, division,

or other device, in connection with the manufacturing, labeling, advertising, promotion, offering for sale, sale, or distribution of any braking system, accessory, or device, or any other system, accessory, or device designed to be used in, on, or in conjunction with any motor vehicle, in or affecting commerce, as "commerce" is defined in the Federal Trade Commission Act, do forthwith cease and desist from making any representation, directly or by implication, regarding the absolute or comparative attributes, efficacy, performance, safety, or benefits of such system, accessory, or device, unless such representation is true and, at the time of making such representation, respondents possess and rely upon competent and reliable evidence, which when appropriate shall be competent and reliable scientific evidence, that substantiates the representation.

VI.

It is further ordered, That respondents Brake Guard Products, Inc., a corporation, its successors and assigns, and Ed F. Jones shall:

A. Within forty-five (45) days after the date of service of this order, compile a current mailing list containing the names and last known addresses of all purchasers of the Brake Guard Safety System, Advanced Braking System, or Brake Guard ABS since January 1, 1990. Respondents shall compile the list by:

(1) Searching their own files for the names and addresses of such purchasers; and

(2) Using their best efforts to identify any other such purchasers, including but not limited to sending by first class certified mail, return receipt requested, within five (5) days after the date of service of this order, to all of the purchasers for resale with which respondents have done business since January 1, 1990, an exact copy of the notice attached hereto as Appendix A. The mailing shall not include any other documents. In the event that any such purchaser for resale fails to provide any names or addresses of purchasers in its possession, respondent shall provide the names and addresses of all such purchasers for resale to the Federal Trade Commission within forty-five (45) days after the date of service of this order.

(3) In addition, respondents shall retain a National Change of Address System ("NCOA") licensee to update this list by processing the list through the NCOA database.

B. Within sixty (60) days after the date of service of this order, send by first class mail, postage prepaid, to the last address known to respondents of each purchaser of the Brake Guard Safety System, Advanced Braking System, or Brake Guard ABS identified on the mailing list compiled pursuant to subparagraph A of this Part, an exact copy of the notice attached hereto as Appendix B. The mailing shall not include any other documents. The envelope enclosing the notice shall have printed thereon in a prominent fashion the phrases "FORWARDING AND RETURN POSTAGE GUARANTEED" and "IMPORTANT NOTICE--U.S. GOVERNMENT ORDER ABOUT BRAKE GUARD OR ADVANCED BRAKING SYSTEM DEVICE."

C. Send the mailing described in subparagraph B of this Part to any person or organization not on the mailing list prescribed in subparagraph A of this Part about whom respondents later receive information indicating that the person or organization is likely to have been a purchaser of the Brake Guard Safety System, Advanced Braking System, or Brake Guard ABS, and to any purchaser whose notification letter is returned by the U.S. Postal Service as undeliverable and for whom respondents thereafter obtain a corrected address. The mailing required by this subpart shall be made within ten (10) days of respondents' receipt of a corrected address or information identifying each such purchaser.

D. In the event respondents receive any information that, subsequent to its receipt of Appendix A, any purchaser for resale is using or disseminating any advertisement or promotional material that contains any representation prohibited by this order, immediately notify the purchaser for resale that respondents will terminate the use of said purchaser for resale if it continues to use such advertisement or promotional material.

E. Terminate within ten (10) days the use of any purchaser for resale about whom respondents receive any information that such purchaser for resale has continued to use any advertisement or promotional material that contains any representation prohibited by this order after receipt of the notice required by subparagraph A of this Part.

VII.

It is further ordered, That respondents Brake Guard Products, Inc., a corporation, and Ed F. Jones shall for five (5) years after the last correspondence to which they pertain, maintain and upon request

make available to the Federal Trade Commission or its staff for inspection and copying:

A. The list compiled pursuant to subparagraph A of Part VI of this order;

B. Copies of notification letters sent to purchasers pursuant to subparagraphs B and C of Part VI of this order; and

C. Copies of notification letters sent to purchasers for resale pursuant to subparagraphs A and D of Part VI of this order, and all other communications with purchasers for resale relating to the notices required by Part VI of this order.

VIII.

It is further ordered, That for five (5) years after the last date of dissemination of any representation covered by this order, respondents, or their successors or assigns, shall maintain and upon request make available to the Federal Trade Commission or its staff for inspection and copying:

A. All materials that were relied upon in disseminating such representation; and

B. All tests, reports, studies, surveys, demonstrations, or other evidence in their possession or control that contradict, qualify, or call into question such representation, or the basis relied upon for such representation, including complaints from consumers, and complaints or inquiries from governmental organizations.

IX.

It is further ordered, That respondent Brake Guard Products, Inc., its successors and assigns, shall:

A. Within thirty (30) days after the date of service of this order, provide a copy of this order to each of respondent's current principals, officers, directors, and managers, and to all personnel, agents, and representatives having sales, advertising, or policy responsibility with respect to the subject matter of this order; and

B. For a period of ten (10) years from the date of service of this order, provide a copy of this order to each of respondent's future principals, officers, directors, and managers, and to all personnel, agents, and representatives having sales, advertising, or policy

responsibility with respect to the subject matter of this order, within three (3) days after the person assumes his or her position.

X.

It is further ordered, That respondent Brake Guard Products, Inc., its successors and assigns, shall notify the Commission at least thirty (30) days prior to any proposed change in the corporation such as a dissolution, assignment, or sale resulting in the emergence of a successor corporation, the creation or dissolution of subsidiaries, or any other change in the corporation which may affect compliance obligations under this order.

XI.

It is further ordered, That respondent Ed F. Jones shall, for a period of ten (10) years from the date of entry of this order, notify the Commission within thirty (30) days of the discontinuance of his present business or employment and of his affiliation with any new business or employment. Each notice of affiliation with any new business or employment shall include the respondent's new business address and telephone number, current home address, and a statement describing the nature of the business or employment and his duties and responsibilities.

XII.

It is further ordered, That this order will terminate on January 15, 2018, or twenty years from the most recent date that the United States or the Federal Trade Commission files a complaint (with or without an accompanying consent decree) in federal court alleging any violation of the order, whichever comes later; provided, however, that the filing of such a complaint will not affect the duration of:

- A. Any paragraph in this order that terminates in less than twenty years;
- B. The application of this order to any respondent that is not named as a defendant in such complaint; and
- C. Any provision of this order if such complaint is filed after the order has terminated pursuant to this paragraph.

Provided further, that if such complaint is dismissed, or a federal court rules that the respondent did not violate any provision of the order, and the dismissal or ruling is either not appealed or upheld on appeal, the order will terminate according to this paragraph as though the complaint was never filed, except that the order will not terminate between the date such complaint is filed and the later of the deadline for appealing such dismissal or ruling and the date such dismissal or ruling is upheld on appeal.

XIII.

It is further ordered, That respondents shall, within sixty (60) days after service of this order upon them, and at such other times as the Commission may require, file with the Commission a report, in writing, setting forth in detail the manner and form in which they have complied with this order.

Commissioner Thompson and Commissioner Swindle not participating.

APPENDIX A

[Brake Guard Products, Inc. letterhead]

Dear Brake Guard Reseller:

Our records indicate that you are or have been a distributor or retailer of the Brake Guard Safety System, Advanced Braking System, or Brake Guard ABS (hereinafter "Brake Guard"), a brake product. This letter is to advise you that the Federal Trade Commission ("FTC") recently obtained an order against Brake Guard Products, Inc. regarding certain claims made for the Brake Guard device. Under that order, we are required to notify our distributors, wholesalers and others who have sold the Brake Guard to stop using or distributing advertisements or promotional materials containing these claims. We are also asking for your assistance in compiling a list of Brake Guard purchasers, so that we may contact them directly. Please read this letter in its entirety and comply with all parts.

The FTC's Decision and Order

The Federal Trade Commission has determined that the following claims made for the Brake Guard device in Brake Guard Products, Inc.'s advertisements, logos and promotional material are FALSE and MISLEADING:

- (a) The Brake Guard is an antilock braking system;
- (b) The Brake Guard prevents or substantially reduces wheel lock-up, skidding, or loss of steering control in emergency stopping situations;

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(c) The Brake Guard will qualify a vehicle for an automobile insurance discount in a significant proportion of cases;

(d) The Brake Guard complies with a performance standard set forth in Wheel Slip Brake Control System Road Test Code SAE J46;

(e) The Brake Guard complies with a standard pertaining to antilock braking systems set forth by the National Highway Traffic Safety Administration;

(f) The Brake Guard reduces stopping distances by 20 to 30% or by up to 30%;

(g) The Brake Guard provides antilock braking system benefits, including wheel lock-up control benefits, that are at least equivalent to those provided by original equipment manufacturer electronic antilock braking systems; and

(h) The Brake Guard will stop a vehicle in a shorter distance than a vehicle that is not equipped with the product, in emergency stopping situations.

The FTC order requires Brake Guard Products, Inc. to cease and desist from making these false claims for the Brake Guard device.

In addition, the FTC order requires Brake Guard Products, Inc. to cease and desist from making claims that the Brake Guard will make a vehicle safer, unless at the time of making such representation it possesses competent and reliable scientific evidence substantiating the representation.

We need your assistance in complying with this order.

Please immediately send us the names and last known addresses of all persons or businesses, including other resellers, to whom you have sold a Brake Guard Safety System, Advanced Braking System, or Brake Guard ABS since January 1, 1990. We need this information in order to provide the notification required by the FTC order. If you do not provide this information, we are required to provide your name and address to the FTC.

Please stop using the Brake Guard Safety System, Advanced Braking System, or Brake Guard ABS promotional materials currently in your possession. These materials may contain claims that the FTC has determined to be false or unsubstantiated. You also should avoid making any of the representations as described in this letter. Under the FTC order, we must stop doing business with you if you continue to use the prohibited materials or make the prohibited representations.

If you have any questions, you may call Deborah Kelly of the Federal Trade Commission at (202) 326-3004. Thank you for your cooperation.

Very truly yours,

Ed F. Jones
President
Brake Guard Products, Inc.

APPENDIX B

[Brake Guard Products, Inc. letterhead]

Dear Brake Guard customer:

Our records indicate that you previously purchased a Brake Guard Safety System, Advanced Braking System, or Brake Guard ABS (hereinafter "Brake Guard"), a brake product. This letter is to advise you that the Federal Trade Commission ("FTC") recently obtained an Order against Brake Guard Products, Inc. regarding certain claims made for the Brake Guard device. Please read this letter in its entirety.

The FTC's Decision and Order

The Federal Trade Commission has determined that the following claims made for the Brake Guard device in Brake Guard Products, Inc.'s advertisements, logos and promotional material are FALSE and MISLEADING:

- (a) The Brake Guard is an antilock braking system;
- (b) The Brake Guard prevents or substantially reduces wheel lock-up, skidding, or loss of steering control in emergency stopping situations;
- (c) The Brake Guard will qualify a vehicle for an automobile insurance discount in a significant proportion of cases;
- (d) The Brake Guard complies with a performance standard set forth in Wheel Slip Brake Control System Road Test Code SAE J46;
- (e) The Brake Guard complies with a standard pertaining to antilock braking systems set forth by the National Highway Traffic Safety Administration;
- (f) The Brake Guard reduces stopping distances by 20 to 30% or by up to 30%;
- (g) The Brake Guard provides antilock braking system benefits, including wheel lock-up control benefits, that are at least equivalent to those provided by original equipment manufacturer electronic antilock braking systems; and
- (h) The Brake Guard will stop a vehicle in a shorter distance than a vehicle that is not equipped with the product in emergency stopping situations.

The FTC order requires Brake Guard Products, Inc. to cease and desist from making these false claims for the Brake Guard device.

In addition, the FTC order requires Brake Guard Products, Inc. to cease and desist from making claims that the Brake Guard will make a vehicle safer, unless at the time of making such representation it possesses competent and reliable scientific evidence substantiating the representation.

If you have any questions, you may call Deborah Kelly of the Federal Trade Commission at (202) 326-3004. Thank you for your cooperation.

Very truly yours,

Ed F. Jones
President
Brake Guard Products, Inc.