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An Evaluation Of The Uniform Tire Quality Grading Standards And Other Tire Labeling Requirements

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16. Abstract

The Uniform Tire Quality Grading Standards (UTQGS) (575.104) were designed to assist consumers in making informed choices by requiring information be provided on passenger car tires about their relative performance in the areas of treadwear, traction, and temperature resistance. Federal Motor Vehicle Safety Standards (FMVSS) 109, 117, and 119 require size, content, care, and certification information be molded into pneumatic tires and retreads. This study evaluates whether four groups of potential information users knew about, understood, and used the information. The study was based on telephone surveys of individuals who buy tires for their own vehicles, individuals who buy tires for fleets of vehicles, tire sellers, and tire repairers. The individual consumers had either bought tires six or less months prior to the contact (recent consumers) or planned a purchase within two months of the contact (prospective consumers). The principal findings follow.

- Most consumers knew FMVSS, but not UTQGS, information is found on tires. Most sellers and repairers knew the location of both.
- When presented with multiple choice questions, most respondents in all groups chose the correct definition of temperature resistance rating and the relative ranking of two traction grades. Less than half the consumers chose the correct definition of traction rating.
- Prospective consumers rated significantly more UTQGS and FMVSS items important in influencing their tire choices than recent consumers (three UTQGS and eight FMVSS items vs one FMVSS item).

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Executive Summary

To aid consumers in making informed choices when purchasing passenger car tires, information about their relative performances in the areas of treadwear, traction, and temperature resistance is required on new pneumatic tires. The Uniform Tire Quality Grading Standards (UTQGS), Part 575.104 of the Consumer Information Regulations, set forth the grading conditions and procedures and labeling requirements that indicate the relative performances of passenger car tires concerning treadwear, traction, and temperature resistance. The information must be permanently molded into the tire sidewalls, indelibly stamped on a label or labels affixed to the tire tread surface, and made available in consumer brochures. The UTQGS apply to all passenger car tires except deep tread, winter type snow tires, space-saver or temporary-use spare tires, and limited production tires. The definitions and grades for the UTQGS characteristics follow.

- *Treadwear is the wear rate of a tire when tested under controlled conditions.* The codes set forth in the UTQGS are two- or three- digit numbers representing a percentage of a standard value when a tire is tested in accordance with specified procedures. The higher the number, the better the treadwear.

- Traction is a tire's ability to stop on wet pavement under controlled conditions. The codes are one of the letters, "A," "B," or "C", with "A" signifying the highest traction coefficient.

- Temperature resistance is a tire's resistance to the generation of heat and its ability to dissipate heat when tested under controlled conditions. The codes are one of the letters "A," "B," or "C," with "A" signifying the highest level of performance.

Tire manufacturers test and grade their own tires according to procedures specified in the UTQGS.

The Federal Motor Vehicle Safety Standards (FMVSS) specify other labeling requirements similar to contents and care labels for new pneumatic passenger car tires (FMVSS 109), pneumatic retreaded tires (FMVSS 117), and new pneumatic tires for vehicles other than passenger cars (FMVSS 119). Standard 109 mandates that each passenger car tire have permanently molded into both sidewalls information regarding:

- size,
- maximum permissible inflation pressure,
- maximum load rating,
- cord material,
- number of plies in the sidewall and tread area,
- "tubeless" or "tube-type,"
- "radial," if appropriate,
- DOT certification symbol,
- manufacturer name or brand name and number.

In addition to Standard 109 requirements, Standard 117 requires each new retreaded tire have molded into its sidewalls the words "bias," or "bias belted" as applicable. In addition to Standard 109 requirements, Standard 119 mandates that each new pneumatic tire for vehicles other than passenger cars, namely, multipurpose passenger vehicles, trucks, buses, trailers, and motorcycles, have molded into both sidewalls the following information:

- speed restriction if less than 55 mph,
- regroovable if designed for regrooving,
- a letter designating load range rating.

Executive Order 12291, (February 1981) requires agencies to evaluate their existing regulations. The objectives of an evaluation are to determine the benefits of a regulation and to compare the regulation's effectiveness with the goals that may have been specified when the rule was initially promulgated.

The purpose of this report is to determine the extent to which tire labeling requirements are assisting individual and occupational consumers such as buyers of tires for fleets of vehicles, in making informed choices; assisting sales people in selecting tires appropriate for customer vehicles; and aiding repairers and retreaders in knowing if, when, and how to repair or retread tires.

To evaluate how the labeling information is understood and applied, four statistically representative groups of possible users of the information were surveyed by telephone. The groups were comprised of:

- o consumers who buy tires for their privately owned passenger cars (n = 509),
- o individuals who purchase tires for fleets of passenger cars (n = 100), individuals who sell tires for passenger cars (n = 108), and
- o individuals who repair and/or retread tires for passenger cars (n = 100).

Of the consumers who buy tires for their own vehicles, 369 had purchased tires less than six months before being interviewed (recent consumers) and 140 planned to purchase tires less than two months after being interviewed (potential consumers). The surveys were designed to ascertain whether the members of the respondent groups:

- o knew what information is molded into tires,
- o understood the meaning of UTQGS terms and codes, and
- o used tire labeling information when purchasing, selling, or repairing tires.

Principal Findings

Knowledge of UTQGS Terms and Codes

- Seventy four percent of the individual consumers reported having heard of the treadwear rating; 22 percent of the individual consumers reported they would look for information about treadwear ratings on tires, 16 percent in brochures, and 5 percent on tags or labels attached to tires. (None of the percents relating to location of information can be totaled because some individuals knew information was available from more than one source.)

- Sixty five percent of the individual consumers reported having heard of the traction rating; 26 percent of the individual consumers reported they would look for information about traction ratings on tires, 12 percent in brochures, and 3 percent on tags or labels attached to tires.

- Thirty eight percent of the individual consumers reported having heard of the temperature resistance rating; 15 percent of the individual consumers reported they would look for information about temperature resistance ratings on tires, 8 percent in brochures, and 3 percent on tags or labels attached to tires.

- When presented with multiple choice questions regarding the definitions of traction and temperature resistance ratings, 43 and 64 percents of the individual consumers and 34 and 69 percents of the buyers for fleets chose the correct definitions.

- When presented with a multiple choice question regarding the relative ranking of a traction rating of "A" or "C," approximately 60 percent of both consumer groups chose the correct ranking.

- Seventy eight percent of the tire sales people and 87 percent of the repairers/retreaders chose the correct definition of temperature resistance rating; 84 percent of the tire sellers and 86 percent of the repairers/retreaders chose the correct statement about the relative rankings of the traction code.

Knowledge of Where to Locate Information

- Of the individual consumers who reported they had heard of the UTQGS terms: 30 to 41 percent, depending on the item, reported they would look for information about it on tires, 18 to 23 percent in brochures and 5 to 7 percent on tags or labels attached to tires.

- Of the individual consumers who reported they had heard of the FMVSS terms relating to new pneumatic tires for passenger cars, 67 to 97 percent, depending on the item, reported they would look for information about it on tires.

- Depending on the item, 78 to 100 percent of the tire sellers and tire repairers/retreaders reported that information about all UTQGS and most FMVSS items (tube type/tubeless, radial, cord material, number of plies, speed restriction, maximum load range rating, and DOT certification) can be found on tires.

Importance and Use of Tire Information

- More than 50 percent of the surveyed potential consumers rated information about all three UTQGS items important in tire purchase decisions (treadwear rating - 83 percent, traction rating - 79 percent, and temperature resistance rating - 54 percent).

- Less than 50 percent of the surveyed recent consumers rated information about the UTQGS items important in influencing their last tire purchase decision (treadwear rating - 29 percent, traction rating - 27 percent, and temperature resistance rating -12 percent).

- More than 50 percent of the potential consumers rated information about 10 FMVSS items important in tire purchase decisions (radial, belt and tire body material, number of plies, manufacturer, speed restriction, maximum load rating, load range, tube type/tubeless, and DOT certification). The percents ranged from 52 percent for load range rating (information not required on new pneumatic tires for passenger cars) to 83 percent for radial.

- More than 50 percent of the recent consumers rated information about one FMVSS item important in influencing their last tire purchase decision (radial - 57 percent).

- More than 50 percent of the buyers for fleets rated information about two UTQGS items (treadwear and traction ratings) and most of the same FMVSS items as the potential consumers, as being important in tire purchase decisions.

- Before buying tires, 72 percent of the recent consumers reported examining the old tires already on their vehicles for information to help in purchase decisions. Seventy-two percent of recent consumers also reported looking at tires identical to the ones they were about to purchase before they were put on their cars.

- More than 50 percent of the tire sellers perceived information about two UTQGS items (treadwear - 59 percent and traction - 57 percent), and two FMVSS items (radial - 89 percent and tubeless/tube type - 56 percent) as being important to consumers.

- More than 50 percent of the tire sellers reported <u>never</u> advertising information about two UTQGS ratings (traction and temperature resistance) or the fact a tire is DOT certified, and <u>always</u> advertising a tire's manufacturer or brand name and if a tire is radial.

- More than 50 percent of the tire repairers/retreaders considered information about three of the FMVSS items important in the repair of tires. The three FMVSS items were tire body material, maximum load rating, and speed restrictions.

CHAPTER 1

INTRODUCTION

To reduce traffic accidents and deaths and injuries to persons resulting from traffic accidents, Congress passed the "National Traffic and Motor Vehicle Safety Act of 1966." "Title II - Tire Safety" (9) mandates the development and promulgation of standards concerned with the labeling and grading of pneumatic tires for motor vehicles. The Act requires that tires be labeled with safety and other information that can assist consumers in making informed choices when purchasing motor vehicle tires. The Act also directs that efforts be made to eliminate deceptive and confusing tire nomenclature and marketing practices. The National Highway Traffic Safety Administration (NHTSA) of the U.S. Department of Transportation, in compliance with the Act, produced the Consumer Information Regulations (5) and the Federal Motor Vehicle Safety Standards (4). This report evaluates the Uniform Tire Quality Grading Standards (UTQGS) section of the Consumer Information Regulations and provides a brief review of the tire labeling sections of the Federal Motor Vehicle Safety Standards (FMVSS).

1.1 Tire Standards

To aid consumers in making informed choices when purchasing passenger car tires, information about their relative performances in the areas of treadwear, traction, and temperature resistance is required on new pneumatic tires. The Uniform Tire Quality Grading Standards, Part 575.104 of the Consumer Information Regulations, sets forth the grading conditions and procedures and labeling requirements that indicate the

relative performances of passenger car tires concerning treadwear, traction, and temperature resistance. The information must be permanently molded into the tire sidewalls, indelibly stamped on a label or labels affixed to the tire tread surface, and made available in consumer brochures. The UTQGS apply to all passenger car tires except deep tread, winter type snow tires, space-saver or temporary use spare tires, and limited production tires. The definitions and grades for the UTQGS characteristics follow:

- Treadwear is the wear rate of a tire when tested under controlled conditions. The codes set forth in the UTQGS are two or three digit numbers that are multiples of 10. The numbers represent a percentage of a standard value when a tire is tested in accordance with specified procedures, with higher numbers indicating better treadwear. For example, a tire graded 150 would wear one and a-half times as well on the government course as a tire graded 100.

- Traction is a tire's ability to stop on wet pavement under controlled conditions. The codes are one of the letters, "A," "B," or "C." Each letter represents a range of adjusted traction coefficients when a tire is tested in accordance with procedures designated in the UTQGS. "A" signifies the highest traction coefficient.

- Temperature resistance is a tire's resistance to the generation of heat and its ability to dissipate heat when tested under controlled conditions. Sustained high temperatures can cause the material of a tire to degenerate and reduce tire life. Excessive temperature can also lead to sudden tire failure. The codes are one of the letters "A," "B," or "C" which represent three levels of performance on a laboratory test wheel. "A" signifies the highest level of performance.

Tire manufacturers test and grade their own tires according to procedures specified in the UTQGS. NHTSA verifies treadwear grades by checking manufacturers' test

data and monitoring a sample of manufacturers' treadwear tests. NHTSA checks traction grades by testing tires bought off the shelf from various locations. Temperature resistance checks are based on tests performed under FMVSS 109.

The National Traffic and Motor Vehicle Safety Act requires that pneumatic tires be "permanently and conspicuously labeled" with safety information. To comply with the Act, NHTSA promulgated Federal Motor Vehicle Safety Standards (FMVSS) which specify labeling requirements for new pneumatic passenger car tires (FMVSS 109), pneumatic retreaded tires (FMVSS 117), and new pneumatic tires for vehicles other than passenger cars (FMVSS 119). Standard 109 mandates that each passenger car tire have permanently molded into both sidewalls information regarding:

- o size,
- o maximum permissible inflation pressure,
- o maximum load rating,
- o cord material,
- o number of plies in the sidewall and tread area,
- o "tubeless" or "tube-type,"
- o "radial," if appropriate,
- o DOT certification symbol,
- o manufacturer name or brand name and number.

In addition to Standard 109 requirements, Standard 117 requires each new retreaded tire have molded into its sidewalls the words "bias," or "bias belted," as applicable. In addition to Standard 109 requirements, Standard 119 mandates that each new pneumatic tire for vehicles other than passenger cars, namely, multipurpose passenger vehicles, trucks, buses, trailers, and motorcycles, have molded into both sidewalls the following information:

- o speed restriction if less than 55 mph,

- o regroovable if designed for regrooving,
- o a letter designating load range rating.

1.2 Objectives of the Evaluation

Executive Order 12291, (February 1981) requires agencies to evaluate their existing regulations (6). The objectives of an evaluation are to determine the benefits of a regulation and to compare the regulation's effectiveness with the goals that may have been specified when the rule was initially promulgated.

The purpose of this report is to determine if the labeling requirements assist individual and occupational consumers in making informed choices; assist sales people in selecting tires appropriate for customer vehicles; and aid repairers and retreaders in knowing if, when, and how to repair or retread tires.

To evaluate how the labeling information is understood and applied, four groups of potential users of the information were surveyed by telephone. The groups were comprised of consumers who buy tires for their privately owned vehicles, individuals who purchase tires for fleets of vehicles, individuals who sell tires, and individuals who repair and/or retread tires. Data were collected by questioning a representative sample of people from each group. The surveys were designed to ascertain whether the members of the respondent groups:

- o knew what information is molded into tires,
- o understood the meaning of UTQGS terms and codes, and
- o used tire labeling information when purchasing, selling, or repairing tires.

CHAPTER 2

SURVEY PROCEDURE

Telephone surveys were made of four population classes, namely, purchasers of replacement tires for consumer-owned passenger cars, light trucks, and vans, purchasers of replacement tires for fleets of passenger cars, light trucks, and vans, sellers of tires for passenger cars, light trucks and vans, and repairers and retreaders of tires for passenger cars, light trucks and vans. Telephone numbers were chosen using the random-digit-dialing of active blocks method.

The four surveyed samples differed in targeted size. A goal of 500 completed interviews was originally targeted for the individual consumer group, and 100 completed interviews for each of the other groups. A random sample of 500 results in a sampling error of plus-or-minus 4.4 percent at the 95 percent level of confidence. A random sample of 100 results in a sampling error of plus-or-minus 9.8 percent at the 95 percent level of confidence (3, p. 11). Larger numbers of individuals were actually interviewed in two of the groups for technical reasons related to sample bias (see 3, p. 16).

This chapter describes the characteristics of the respondent groups, the survey instruments, and the data collection procedures.

2.1 Purchasers for Consumer-Owned Vehicles

2.1.1 Subjects

The population from which the sample was drawn was composed of members of the general public who either recently purchased or soon planned to purchase tires for their privately owned vehicles. Of the 509 respondents who successfully completed the interviews, 369 purchased tires six or less months prior to being surveyed, and 140 planned to purchase tires two or less months after being surveyed.

Households were chosen from a list of telephone numbers in all 50 states and the District of Columbia. The list was supplied by a vendor (8) who generated the numbers by using a random-digit-dialing of active blocks method (3, pp. 15-16).

The respondents were broadly representative of the driving public in terms of demography and geography. Approximately 52 percent of the respondents had schooling beyond high school, 49 percent were between the ages of 25 and 44 years, and 34 percent lived in households where incomes ranged from $10,000 to $29,000 a year. (See Table 2-1.) Approximately 35 percent of the respondents lived in the Mid-Atlantic/Midwest region of the United States. (See Table 2-2.)

The proportion of respondents which came from households owning more than one vehicle was probably greater in this sample than in the general public. Approximately 89 percent of the individuals surveyed lived in households having two or more vehicles (3, p. 44). The national average of licensed drivers per private and commercial motor vehicles in 1989 was .90 (10). The reasons for the high proportion of multi-vehicle households in this sample probably relate to the more frequent need for and consequent purchase of replacement tires in such households. In addition, people who purchase tires relatively frequently are more likely than others to be interested in participating in a survey about replacement tires.

TABLE 2-1

EDUCATION, AGE, AND INCOME DISTRIBUTIONS
OF THE INDIVIDUAL CONSUMER SAMPLE

GROUP	RECENT' CONSUMERS (n = 369) N (%)'''	POTENTIAL'' CONSUMERS (n = 140) N (%)'''	TOTAL (n = 509) N (%)'''
EDUCATION			
Less than H.S.	33 (9)	15 (11)	48 (19)
H.S.Grad or GED	135 (37)	57 (41)	192 (38)
Beyond H.S.	198 (54)	67 (48)	265 (52)
Missing	3 (1)	1 (1)	4 (1)
AGE			
Under 25	36 (10)	18 (13)	54 (11)
25-44	176 (48)	75 (54)	251 (49)
45-64	112 (31)	38 (27)	150 (30)
Over 65	41 (11)	8 (6)	49 (10)
Missing	4 (1)	1 (1)	5 (1)
INCOME ($)			
Under 10K	19 (5)	6 (4)	25 (5)
10K-29K	127 (34)	47 (34)	174 (34)
30K-49K	99 (27)	39 (28)	138 (27)
50K-69K	54 (15)	15 (11)	69 (14)
Over 69K	35 (9)	16 (11)	51 (10)
Missing	35 (9)	17 (12)	52 (10)

' Respondents who purchased tires within 6 months of the interview.
'' Respondents who planned to purchase tires within 2 months after the interview.
''' Rounded to the nearest whole number.

TABLE 2-2

GEOGRAPHIC DISTRIBUTION OF THE INDIVIDUAL CONSUMER SAMPLE COMPARED TO THE NATIONAL POPULATION

REGION	PERCENT IN SAMPLE (n = 509)	PROPORTION OF NATIONAL POPULATION'
NE/Upper Midwest	16.2	19.8
Mid-Atlantic/Midwest	35.0	29.9
Rockies/Alaska	5.9	5.4
Pacific/Nevada	4.3	7.3
Southwest/Hawaii	16.1	18.4
Southeast	22.5	19.2

' Based on 1988 Census Data.

2.1.2 Survey Instrument

The survey instrument contained 35 questions which took approximately 15 minutes to administer. The instruments for recent and future purchasers of tires varied on five questions regarding activities actually performed and activities likely to be performed prior to purchasing replacement tires. (See Appendix A.) Respondents were queried about the three UTQGS terms, eight FMVSS terms, other information likely to be important to consumers, and two fabricated terms. Two of the FMVSS terms did not apply to new pneumatic tires for passenger cars. To control for order biases, terms were rotated for successive interviewees.

The use of fabricated terms in surveys of this kind is standard operating procedure. The responses made to fabricated terms enable the surveyor to determine the approximate number of respondents who are giving socially desirable answers or are uninformed. For instance, if a high number of respondents claim to recognize bogus terms made up of uncommon words, the surveyor would be concerned about how truthfully respondents were answering other questions. However, if similar patterns of responses emerge for different questions about both fabricated terms and terms targeted for study, then it can be assumed respondents are likewise informed or misinformed about both.

This survey included two fabricated terms. One, "consolidation ratio," was designed to test for respondent veracity because it was composed of relatively uncommon words respondents were not expected to recognize. The second, "safety rating," was designed to test for respondent confusion because it was composed of very familiar words that many respondents could reasonably think they recognized. Irrespective of a high or low recognition rate for "safety rating," if the respondent recognition rate was low for the term "consolidation ratio," the surveyor would conclude that most respondents answered the survey truthfully and to the best of their abilities; if the respondent recognition rate was high for the term "consolidation ratio," the surveyor would mistrust the responses to other questions in the survey because of the high probability respondents were dissembling about this obscure fabricated term. However, if the recognition rates of the terms "safety rating" and "consolidation ratio" were both low, the conclusion would be that most respondents were very knowledgeable. If recognition rates were high for "safety rating" and low for "consolidation ratio," the conclusion would be that most respondents truly believed they had heard of the term "safety rating." Although the term "safety rating" is nonexistent, this particular combination reflects attempts to respond truthfully.

An overview of the interview questions for recent and future individual consumers follows.

CATEGORY	ITEM NUMBER	ITEM
Respondents	1	Month of Purchase
Who Had Purchased	2	Types of Tires Purchased
Tires Within	3	Number of Tires Purchased
6 Months of the	4	Type of Passenger Vehicle
Interview	5	Model Year of Vehicle
	6	Vehicle Miles at Time of Purchase
(n = 369)	7	Driving Conditions (Paved/Unpaved Roads)
	8	(Stop & Go/Highway)
	9	Store Type at Which Purchased
	10	Reason For Tire Purchase
	11	Activities Prior to Purchase
	12	Examination of Old Tire
	16	Information Used Prior to Purchase (Unaided Recall)
	17	Information Provided by Seller
	18	Information Used Prior to Purchase (Aided Recall)
	19	Source of Prior Information
	20	Importance of Tire Traits
(n = 509)	13	Familiarity with Selected Tire Characteristics
	14	Source of Information
	15	Tire as Source of Information
	25	Definition of Temperature Resistance Rating
	26	Definition of Traction Rating
	27	Relative Rank of Traction Code
	28	Frequency of Tire Check
	29	Number of Vehicles in Household
	30	Number of Drivers in Household
	31	Age
	32	Employment Status
	33	Education
	34	Racial/Ethnic Background
	35	Income
Respondents Who Were	21	Desirable Information
Likely to Purchase	22	Importance of Tire Traits
Tires 2 Months	23	Source of Information
After the Interview	24	Tire As Source of Information
(n = 140)		

2.2 Purchasers of Tires for Fleets of Vehicles

2.2.1 Subjects

The sample was drawn from the membership list of the National Association of Fleet Administrators (NAFA), a trade association of vehicle fleet administrators. The list, which includes public utilities and government agencies as well as commercial and industrial firms, contained approximately 3,200 names of fleets consisting of 500 or more cars. (There was no frame available for smaller sized fleets.) Government agencies were excluded from the contact list. Contact choices were made by using a systematic non-replacement sampling technique beginning with a randomly chosen company (3, p.16).

Interviews were successfully completed with 100 individuals who buy tires for fleets of passenger and other vehicles. Fleets were comprised of vehicles owned or leased by employers for their own employees or rented or leased to other individuals or organizations. The number and kinds of vehicles in individual fleets varied widely as indicated by the following information.

Vehicle Type	Number of Respondents	Average Number Vehicles/Fleet	Median Number Vehicles/Fleet	Range of Vehicles/Fleet
Passenger Cars	99	808	280	9-10,600
Light Trucks	78	629	50	1-18,000
Full Size Pass Vans	66	121	10	1- 2,000
Mini-Vans	79	181	12	1- 8,000

2.2.2 Survey Instrument

The survey instrument contained 14 questions which took approximately 10 minutes to administer. (See Appendix A.) Respondents were queried about the UTQGS terms,

eleven FMVSS terms, and other information likely to be important to consumers. To control for order biases, terms were rotated for successive interviewees.

An overview of the interview questions for the buyers for fleets follows.

ITEM NUMBER	ITEM
1	Type of Vehicle(s) and Volume of Tires Purchased
2	Method and Source of Purchase
3	Purchase Contracts
4	Manner of Selecting Sellers
5	Reason(s) Tires Purchased
6	Requested Traits
7	Awareness of Traits Named in Item 6 Being On Tire
8	Importance of Tire Traits
9	Importance of Information Sources
10	Definition of Temperature Resistance Rating
11	Definition of Traction Rating
12	Relative Rank of Traction Code
13	Unnecessary/Misleading Information on Tire
14	Desirable Information Difficult to Locate

2.3 **Tire Sellers**

2.3.1 Subjects

Approximately 90 percent of all replacement tires for passenger vehicles are sold by general retail tire outlets, manufacturer retail outlets, department stores, and service stations. Their estimated market shares are 60, 14, 18, and 8 percents respectively (7). An attempt was made to divide the sample proportionately by the estimated market share of each business type.

The sample was drawn from three lists of tire retailers nationwide maintained by a vendor (1). Separate lists were acquired for general retail tire outlets and

manufacturer retail outlets, department stores, and service stations. For each list, the sample was chosen by using a systematic, non-replacement technique beginning with a randomly chosen firm (3, pp. 16-17).

Interviews were successfully completed with 108 individuals of whom 38 percent represented independent tire dealers, 18 percent manufacturer retail outlets, 25 percent service stations, 18 percent department stores, and 2 percent others.

2.3.2 Survey Instruments

The survey instrument contained 15 questions which took approximately 10 minutes to administer. (See Appendix A.) Respondents were queried about the UTQGS terms, ten FMVSS terms, and other information likely to be important to sales people and consumers. To control for order biases, terms were rotated for successive interviewees.

An overview of the interview questions for the tire sellers follows.

ITEM NUMBER	ITEM
1	Weekly Sales Volume
2	Proportion of Sales to Buyers for Fleets
3	Reliance of Buyers for Fleets on Sales Staff
4	Reliance of Individual Consumers on Sales Staff
5	Advertising Methods
6-7	Information Included in Advertisements
8	Sales Staff Training
9	Importance of Tire Traits to Consumers
10	Source of Information
11	Definition of Temperature Resistance Rating
12	Relative Rank of Traction Code
13	Unnecessary/Misleading Information on Tires
14	Desirable Information Difficult to Locate
15	Type of Dealer

2.4 Tire Repairers and Retreaders

2.4.1 Subjects

The number of tire repairers is much larger than the number of tire retreaders. Between 50,000 and 100,000 businesses repair tires for passenger vehicles in the United States. Between 400 and 720 businesses retread passenger vehicle tires, with most (85-95 percent) also engaging in other tire repair activities (2).

The sample was drawn from a nationwide directory of tire repairers and retreaders maintained by a vendor (1) using the same sampling techniques described previously.

Interviews were successfully concluded with 100 individuals of whom 70 percent represented tire repair firms, 4 percent tire retreading firms, and 26 percent firms that both repair and retread tires.

2.4.2 Survey Instrument

The survey instrument contained 15 questions which took approximately 10 minutes to administer. (See Appendix A.) Respondents were queried about the UTQGS terms and nine FMVSS terms. To control for order biases, terms were again rotated for successive interviewees.

An overview of the interview questions for the repairers and retreaders follow.

ITEM NUMBER	ITEM
3	Importance of Traits When Repairing Tires
4, 8	Source of Information
7	Importance of Traits When Retreading Tires
9, 10	Advertising
11	Sales Staff Training
12	Definition of Temperature Resistance Rating
13	Relative Rank of Traction Rating Code
14	Unnecessary/Misleading Information on Tire
15	Desirable Information Difficult to Locate

Items 1, 2, 5, and 6 related to characteristics of the businesses.

2.5 Data Collection

Data collection was conducted during the period July 26 through September 9, 1990. All calling was done from a subcontractor's (Decision DC) centralized telephone center in McLean, Virginia. All telephone interviewers received general instruction regarding interview techniques and specialized training on the survey instruments' contents and procedures.

Survey calling was conducted as follows:

- For ordinary consumers, calls were made between 5 pm EDT and 9 pm PDT on weekday evenings (or later in the case of Alaska and Hawaii), 10 am EDT to 6 pm PDT on Saturdays, and noon EDT to 6 pm PDT on Sundays. Callbacks were made at other times if requested by a potential respondent or if the number had been unsuccessfully attempted more than twice during regular calling hours.

- For the three business groups, calls were made during normal business hours.

Respondent telephone numbers were taken by the interviewer directly from the sample lists for each group and contacts were attempted for each number up to five times.

During a given interview, data were recorded directly on the survey form. (For the dialing results of the four samples, see 3, pp. 39, 117, 138, 161.)

CHAPTER 3

FINDINGS

Surveys of four groups of potential tire information users yielded an array of data about their knowledge of what is molded into tires. Cognizance of the UTQGS terms and codes as well as perceptions of the importance of that knowledge when purchasing, selling, or repairing tires were obtained. This chapter contains a summary of the major findings of the surveys followed by a detailed presentation of the data.

3.1 Summary of Findings

3.1.1 Knowledge of UTQGS Terms and Codes

When consumers were read a list of terms relating to FMVSS and UTQGS items, a large percentage said they had heard of them. More than 50 percent reported having heard of the treadwear and traction ratings as well as seven of the eight FMVSS terms. "Regroovable," a word not required on passenger car tires, was the only FMVSS term unfamiliar to more than 50 percent of the consumers.

Tire sellers, repairers, and retreaders were more knowledgeable about the meanings of UTQGS terms and codes than individual consumers and buyers of tires for fleets of vehicles. When presented with multiple choice questions regarding the definitions of UTQGS terms, 43 and 64 percents of the individual consumers and 34 and 69 percents of the buyers for fleets chose the correct definitions for traction rating and temperature resistance rating, respectively. Approximately 60 percent of both consumer groups chose the statement that tires with traction grades of "A" have better traction than tires rated "C." At least 78 percent of the sales people and repairers/retreaders chose the correct definition of temperature resistance rating and the correct statement about the relative ranking of codes.

A question about the definition of treadwear was not asked due to survey response time constraints and the belief that respondents would be more familiar with treadwear than any of the other UTQGS terms.

3.1.2 Knowledge of What Information Is Located On Tires

Knowledge of what information is molded into tires was different for the respondent groups. In general most consumers knew FMVSS information is molded into tires. These same consumers were, however, unaware that UTQGS information is found on tires as well. More than 65 percent of the consumers who had heard of the FMVSS terms knew that information about size, tube type/tubeless, radial, maximum inflation pressure, cord material, maximum load rating, and number of plies is located on tires. Less than 45 percent of the consumers who had heard of the UTQGS terms knew that information about any of them is located on tires.

Tire sellers, repairers, and retreaders usually knew that information about both FMVSS and UTQGS terms is located on tires. More than 75 percent of the tire sellers and tire repairers/retreaders asserted that information about most FMVSS items (tube type/tubeless, radial, cord material, number of plies, speed restriction, maximum load range rating, and DOT certification) and all UTQGS items can be found on tires. A majority of only one group, repairers/retreaders, knew information about tire regroovability (for non passenger car tires) was located on tires.

3.1.3 Importance and Use of Tire Information

Respondent groups differed in their perceptions of how important specific UTQGS and FMVSS information is when purchasing, selling, or repairing tires.

3.1.3.1 Consumers

Recent individual purchasers of tires differed from soon-to-be individual tire purchasers and buyers for fleets in the information they thought important in tire purchase decisions. More than 50 percent of the surveyed potential consumers rated as important all three UTQGS items plus radial, belt and tire body material, number of plies, manufacturer, speed restriction, maximum load rating, load range, tube

type/tubeless, and DOT certification. More than 50 percent of the buyers for fleets rated as important two UTQGS items (treadwear and traction ratings) plus many of the same FMVSS items as the potential consumers. In contrast, a majority of recent consumers rated only one FMVSS item (radial) and no UTQGS items as being important in influencing their latest purchase decisions.

Generally tire sellers perceived two UTQGS and two FMVSS items of information as being important to tire consumers. More than 50 percent of the sellers rated information about treadwear, traction, radial, and tubeless/tube type as being important to consumers.

3.1.3.2 Tire Sellers

Although most of the surveyed tire sellers perceived treadwear and traction ratings as being important to tire consumers, few habitually used them in their advertisements. A majority of sellers reported always advertising the manufacturer or brand name and if the tire was radial. A majority never advertised temperature resistance ratings, traction ratings or the fact the tire was DOT certified.

3.1.3.3 Tire Repairers and Retreaders

Few FMVSS and none of the UTQGS items were considered important by tire repairers and retreaders in the repair and retread of tires. Only three FMVSS items (tire body material, maximum load rating, and speed restrictions) were considered important in the repair of tires by more than 50 percent of the repairers.

The remainder of this chapter presents detailed findings separately for each of the surveyed groups.

3.2 Purchasers of Tires for Consumer-Owned Vehicles

3.2.1 General Information

Of the 369 respondents who had purchased replacement tires in the past six months,

- 79 percent purchased two or four tires;

- o 74 percent purchased tires for a car, sedan or station wagon;
- o 52 percent purchased tires for 1985 or later model year vehicles;
- o 51 percent purchased tires for vehicles driven between 25,000 and 75,000 miles;
- o 50 percent drove in town (stop and go) most of the time;
- o 31 percent inspect their tires one to three times a month.

The most frequently cited reason for purchasing replacement tires was that the tread was worn down (52 percent). Other reasons given for purchasing replacement tires were an emergency such as a flat (16 percent), slashed or vandalized tires (12 percent), tires due for a routine replacement (11 percent), safety considerations (6 percent), no special reason (2 percent), and State inspection failure (1 percent).

The buying patterns of the respondents were somewhat similar to those of the country at large. The proportions of respondents buying tires from specific kinds of tire outlets paralleled the estimated national market shares of the outlet types as shown below.

DISTRIBUTION OF INDIVIDUAL CONSUMER TIRE SALES BY OUTLET TYPE COMPARED TO THE U.S. MARKET SHARE' BY OUTLET TYPE''

Type of Outlet	Recent Consumers Percent	U.S. Market Share Percent
General Tire Store	47	60
Manufacturer Outlet	30	14
Department Store	14	18
Gas/Service Station	8	8

' Market shares accounted for nearly 90 percent of the tires sold in the U.S. during 1989.

'' Source: Modern Tire Dealer: Fact/Directory, 1990, Akron, Ohio.

3.2.2 Information Seeking Activities of Recent Tire Purchasers

Respondents who purchased one or more tires in the past six months were asked to indicate which of the activities read to them they had engaged in prior to purchasing the tire(s). Almost twice as many of the respondents examined the tires already on their vehicles than engaged in the second most prevalent activity, namely reading the vehicle owners' manuals. In addition, 72 percent of the respondents looked at the tire they had purchased, or one just like it, before it was put on their cars. Almost no respondents read a government pamphlet.

The number and percent of respondents engaging in specific activities follow.

ACTIVITY	NUMBER	PERCENT
Examined tires already on vehicle	267	72
Read vehicle owner's manual	160	43
Shopped at more than one store	124	34
Asked advice from a relative, friend, or co-worker	120	32
Read newspaper, magazine, or consumer publication articles	105	28
Read newspaper advertisements	103	28
Asked advice from a specialist such as a mechanic	90	24
Asked advice from more than one sales person	72	20
Asked advice from someone in the dealership where the vehicle was purchased	60	16
Read a manufacturer pamphlet	42	11
Listened to or watched a radio or television commercial	41	11
Read a government pamphlet	14	4

The average number of information-seeking activities respondents engaged in prior to purchasing tires was 3.2. Prepurchase activities in terms of respondent education, age, and income follow.

- Education is positively correlated with the number of information seeking activities consumers engaged in prior to purchasing replacement tires (3.5 vs 2.5 for the highest and lowest education groups, respectively).

- Consumers under age 25 appear to carry out more information seeking activities than any other age group (3.9 vs 2.9, 3.2, and 3.4).

- Consumers at both ends of the income scale generally engaged in fewer information search activities than consumers in the middle of the income scale (2.3 and 2.7 vs 3.0, 3.3, 3.4).

(For more detailed information, see 3, pp. 47-59.)

3.2.3 Awareness of Available Information

All interviewees (n = 509) were read a list of 13 terms relating to passenger vehicle tires (Q 13). The terms consisted of eight Federal Motor Vehicle Safety Standards (FMVSS), the three Uniform Tire Quality Grading Standards (UTQGS), and, to control for giving socially desirable answers and/or misinformation, two fabricated terms. The FMVSS terms were size, tube-type or tubeless, maximum inflation pressure, cord material, bias ply, radial ply, and regroovability. The UTQGS terms were traction, treadwear, and temperature resistance ratings. The fabricated terms were consolidation ratio and safety rating.

After reading a term, the interviewer asked respondents to indicate if they had ever heard the term used in regard to replacement tires for passenger vehicles. If a term was unfamiliar, the interviewer did not define or explain it.

At least 60 percent of the respondents reported having heard of all the FMVSS and UTQGS terms except the temperature resistance rating (38 percent) and whether a tire is regroovable (26 percent). However, 66 percent of the respondents also reported having heard of one of the fabricated terms, namely 'safety rating.' Less than seven percent thought they had heard of the second fabricated term. (See Table 3-1.)

TABLE 3-1

NUMBER AND PERCENT OF INDIVIDUAL CONSUMERS WHO HAD HEARD OF UTQGS, SELECTED FMVSS, AND FABRICATED TERMS
(n = 509)

TERMS	NUMBER	PERCENT'
UTQGS		
Treadwear Rating	378	74
Traction Rating	330	65
Temperature Resistance Rating	191	38
FMVSS		
Tire Size	487	96
Tube-Type or Tubeless	449	88
Radial	437	86
Maximum Inflation Pressure	402	79
Cord Material	399	78
Maximum Load Rating	357	70
Number of Plies	346	68
Regroovable	130	26
FABRICATED ITEMS		
Safety Rating	335	66
Consolidation Ratio	33	6

' Percents are rounded to the nearest whole number.

Tables 3-2 and 3-3 show the numbers and percents of respondents, categorized by age and education, who indicated they had heard of the FMVSS, UTQGS, and fabricated terms. The data suggest that the following is generally true.

- The youngest (under age 25) and oldest (over age 64) respondents reported having heard of the FMVSS terms a little less frequently than respondents aged 25 through 64. A notable exception was tire regroovability. The few individuals who recognized that term clustered in the age groups under 25 and over 64.

- Most people in most age and education groups thought they had heard of 'safety ratings.' The lowest percentages of individuals having heard of this fabricated term were in the 25-44 year age group (61 percent) and the more than high school education group (62 percent).

- Although most respondents said they had heard of most of the terms that were read to them, more individuals having less than a high school education reported having heard of slightly fewer FMVSS terms than individuals in the other education groups.

TABLE 3-2

PERCENT OF INDIVIDUAL CONSUMERS WHO HAD HEARD OF UTQGS, SELECTED FMVSS, AND FABRICATED TERMS CATEGORIZED BY AGE

TERMS	AGE				
	<25	25-44	45-64	>64	Total
UTQGS					
Treadwear Rating	76	76	71	69	74
Traction Rating	67	67	64	57	65
Temperature Resistance Rating	54	32	40	41	38
FMVSS					
Tire Size	98	98	94	88	96
Tube-Type or Tubeless	70	90	91	88	88
Radial	70	88	91	78	86
Maximum Inflation Pressure	74	83	80	65	79
Cord Material	56	78	87	78	78
Maximum Load Rating	63	76	69	57	70
Number of Plies	59	73	69	51	68
Regroovable	31	22	27	33	26
FABRICATED ITEMS					
Safety Rating	67	61	71	69	66
Consolidation Ratio	9	6	7	8	6

' Percents are rounded to the nearest whole number.

TABLE 3-3

PERCENT OF INDIVIDUAL CONSUMERS WHO HAD HEARD OF UTQGS, SELECTED FMVSS, AND FABRICATED TERMS CATEGORIZED BY EDUCATION

TERMS	EDUCATION			
	< H.S.	H.S. GRAD/ GED	> H.S.	Total
UTQGS				
Treadwear Rating	73	76	74	74
Traction Rating	54	67	66	65
Temperature Resistance Rating	38	43	34	38
FMVSS				
Tire Size	90	95	98	96
Tube-Type or Tubeless	81	88	89	88
Radial	79	88	86	86
Maximum Inflation Pressure	69	75	84	79
Cord Material	77	74	82	78
Maximum Load Rating	60	73	70	70
Number of Plies	56	70	69	68
Regroovable	38	27	22	26
FABRICATED ITEMS				
Safety Rating	71	70	62	66
Consolidation Ratio	12	8	5	6

' Percents are rounded to the nearest whole number.

3.2.4 Awareness of Location of Available Information

For each term recognized, respondents were asked where they would look for information about that term. The interviewer presented five sources of information, and respondents could choose as many of the five they thought correct. The sources of information were:

- o the tire,
- o a tag or label on the tire,
- o a brochure,
- o the tire seller,
- o other.

If respondents did not choose the tire as a source of information for a given term, the interviewer asked directly whether information about the term appeared on the tire itself. Respondents were required to give 'yes' or 'no' answers.

The following information emerged about the respondents' knowledge of the location of information.

- o When originally questioned about where they would look for information, more respondents said they would question tire sellers rather than look at the tires themselves for information about treadwear ratings (27% vs 16%) or traction ratings (25% vs 17%). (For more detailed findings, see 3, p. 66.)

- o When affirmative answers to the question, "Is the information located on the tire?" is added to spontaneous responses, except for regroovability, at least half the respondents knew information about the FMVSS terms was located on tires. (See Table 3-4.)

- o One quarter or less of the respondents knew that information about UTQGS terms was located on tires. (See Table 3-4.)

TABLE 3-4

PERCENT OF INDIVIDUAL CONSUMERS REPORTING WHERE THEY WOULD LOOK FOR INFORMATION ABOUT UTQGS, SELECTED FMVSS, AND FABRICATED TERMS (n = 509)

SOURCE OF INFORMATION'

TERM	TIRE''	TAG/ LABEL	BROCHURE	SELLER	OTHER
	PERCENT'''				
UTQGS					
Treadwear Rating	22	5	16	27	18
Traction Rating	26	3	12	25	15
Temperature Resistance Rating	15	3	8	12	8
FMVSS					
Tire Size	92	2	10	18	19
Tube-Type or Tubeless	65	2	11	27	18
Radial	72	2	11	29	15
Maximum Inflation Pressure	66	2	9	14	17
Cord Material	52	3	16	26	15
Maximum Load Rating	50	3	11	17	14
Number of Plies	50	2	9	21	12
Regroovable	8	1	3	8	6
FABRICATIONS					
Safety Rating	20	5	17	23	15
Consolidation Rating	2	0	1	2	2

' Some respondents cited more than one source.

'' Includes respondents who spontaneously cited tires and said 'yes' when questioned directly about information being on tires.

''' Percents are rounded to the nearest whole number.

- Of the consumers who reported having heard of the FMVSS terms, 67 to 97 percent, depending on the item, reported they would look for information about it on tires. Of the consumers who reported having heard of the UTQGS terms, 30 to 41 percent, depending on the item, reported they would look for information about it on tires (3, p. 66).

3.2.5 Information Known Prior to Making Tire Purchase Decisions

In regard to FMVSS, UTQGS, and other terms, respondents who had recently purchased tires were asked what information, if any, they had gotten from the body of the tire, the tag or label attached to the tire (Q 16), the tire seller (Q 17), and surveyed terms not mentioned spontaneously by individual respondents, to decide which tire to buy (Q 18). (See Section 2.1.2 and Appendix A.)

The items of information mentioned by the highest percentage of respondents were:

- price (86 percent),
- brand/manufacturer name (79 percent),
- warranty (78 percent),
- whether tire belts were radial (73 percent).

The items of information mentioned by the lowest percentage of respondents were:

- whether tire could be regrooved (9 percent),
- DOT certification (14 percent),
- speed restriction (17 percent),
- whether tire is self-sealing (19 percent),
- temperature resistance rating (19 percent).

(See Table 3-5.)

TABLE 3-5

NUMBER AND PERCENT OF RECENT CONSUMERS WHO HAD UTQGS, SELECTED FMVSS, AND OTHER INFORMATION PRIOR TO MAKING TIRE PURCHASE DECISIONS
(n = 369)

TERMS	NUMBER	PERCENT'
UTQGS		
Treadwear Rating	142	38
Traction Rating	116	31
Temperature Resistance Rating	70	19
FMVSS		
Tire Body Material	160	43
Radial	269	73
Belt Material	167	45
Number of Plies	185	50
Manufacturer/Brand	293	79
Speed Restriction	62	17
Maximum Load Rating	149	40
Load Range Rating	109	30
Tube-Type or Tubeless	239	65
DOT Certification	51	14
Regroovable	34	9
OTHER		
All-Weather	234	63
Puncture Resistance	87	24
Self-Sealing	69	19
Warranty	287	78
Price	319	86
Maintenance Information	233	63

' Percents are rounded to the nearest whole number.

Items not on the interview list, but cited as information respondents used before deciding which tire(s) to buy were size (n = 13), made in the U.S.A., performance, appearance, and profile (n = 1 each).

In general, when buying tires, individuals who had not graduated from high school used less information than individuals in the other two educational groups. (See Table 3-6.)

TABLE 3-6

PERCENT OF RECENT CONSUMERS WHO HAD UTQGS, SELECTED FMVSS, AND OTHER INFORMATION PRIOR TO MAKING TIRE PURCHASE DECISIONS CATEGORIZED BY EDUCATION
(n = 369)

TERM	EDUCATION			TOTAL
	<H.S.	H.S./GED	>H.S.	
		PERCENT'		
UTQGS				
Treadwear Rating	33	38	38	38
Traction Rating	18	35	30	31
Temperature Resistance Rating	12	22	17	19
FMVSS				
Tire Body Material	18	39	48	43
Radial	54	73	75	73
Belt Material	36	42	48	45
Number of Plies	54	57	44	50
Manufacturer/Brand	52	78	82	79
Speed Restriction	6	18	18	17
Maximum Load Rating	48	41	38	40
Load Range Rating	27	33	27	30
Tube-Type or Tubeless	52	65	66	65
DOT Certification	9	16	13	14
Regroovable	18	11	7	9
OTHER				
All-Weather	54	64	63	63
Puncture Resistance	21	26	22	24
Self-Sealing	6	16	22	19
Warranty	61	78	78	78
Price	70	87	87	86
Maintenance Information	48	65	63	63

' Percents are rounded to the nearest whole number.

There were no striking differences among age groups in their responses, except for the higher percentages of individuals in the less than 25 year age group who mentioned 'speed restriction,' 'traction rating,' and 'temperature resistance rating.' (See Table 3-7.)

TABLE 3-7

PERCENT OF RECENT CONSUMERS WHO HAD SELECTED FMVSS, UTQGS, AND OTHER INFORMATION PRIOR TO MAKING TIRE PURCHASE DECISIONS CATEGORIZED BY AGE
(n=369)

TERM	AGE				TOTAL
	<25	25-44	45-64	>64	
			PERCENT'		
UTQGS					
Treadwear Rating	47	37	34	44	38
Traction Rating	53	30	23	37	31
Temperature Resistance Rating	39	15	18	20	19
FMVSS					
Tire Body Material	33	44	46	27	43
Radial	61	75	78	56	73
Belt Material	42	44	48	39	45
Number of Plies	33	52	49	59	50
Manufacturer/Brand	72	81	75	76	79
Speed Restriction	39	16	12	17	17
Maximum Load Rating	42	41	39	37	40
Load Range Rating	33	28	29	29	30
Tube-Type or Tubeless	56	65	68	61	65
DOT Certification	25	12	9	20	14
Regroovable	11	10	8	7	9
OTHER					
All-Weather	50	64	63	63	63
Puncture Resistance	22	26	18	24	24
Self-Sealing	28	18	14	22	19
Warranty	72	77	77	76	78
Price	83	89	83	80	86
Maintenance Information	50	62	64	63	63

' Percents are rounded to the nearest whole number.

Larger proportions of individuals residing in households with incomes between $30,000 and $49,000, mentioned more items related to government standards than other income groups. (See Table 3-8.)

TABLE 3-8

PERCENT OF RECENT CONSUMERS WHO HAD UTQGS, SELECTED FMVSS AND OTHER INFORMATION PRIOR TO MAKING TIRE PURCHASE DECISIONS CATEGORIZED BY INCOME
(n=369)

TERM	INCOME (Thousands of Dollars)				
	<10	10-29	30-49	50-69	>69
	PERCENT'				
UTQGS					
Treadwear Rating	42	37	42	35	29
Traction Rating	37	36	29	20	20
Temperature Resistance Rating	21	19	19	15	17
FMVSS					
Tire Body Material	26	35	54	44	37
Radial	10	43	52	44	49
Belt Material	11	43	53	44	49
Number of Plies	47	49	58	48	34
Manufacturer/Brand	58	75	83	83	80
Speed Restriction	16	17	29	9	11
Maximum Load Rating	26	38	55	39	26
Load Range Rating	16	30	36	30	14
Tube-Type or Tubeless	37	58	81	61	11
DOT Certification	5	14	17	11	6
Regroovable	5	13	10	2	3
OTHER					
All-Weather	42	61	64	67	74
Puncture Resistance	32	18	29	24	14
Self-Sealing	21	19	18	22	14
Warranty	79	72	83	81	66
Price	68	84	91	93	74
Maintenance Information	34	65	63	70	49

' Percents are rounded to the nearest whole number.

3.2.6 Source of Information Actually Used in Making Tire Purchase Decisions

In addition to the sources of information recent consumers spontaneously mentioned as being used in tire purchase decisions, they were also queried about where information they used could be found about the terms they had not mentioned originally (Q 19).

- Although the numbers were low, more recent consumers reported relying on sales people for treadwear and traction information than any other source.

- More recent consumers used information on tires rather than relying on sales people for five FMVSS items, namely, manufacturer, tube-type/tubeless, number of plies, maximum load rating, and load range rating.

- More recent consumers relied on sales people than any other single source for two of the items of information which influenced their tire choice, namely, price and warranty.

- About the same numbers of consumers acquired information about a tire's being radial from tires and sales people. (See Table 3-9.)

TABLE 3-9

PERCENT OF RECENT CONSUMERS WHO REPORTED WHERE THEY LOOKED FOR INFORMATION ABOUT UTQGS, SELECTED FMVSS, AND OTHER ITEMS WHEN MAKING TIRE PURCHASE DECISIONS (n = 369)

INFORMATION	SOURCE OF INFORMATION'			
	TIRE''	TAG/ LABEL	SELLER	OTHER
	PERCENT'''			
UTQGS				
Treadwear Rating	8	9	20	8
Traction Rating	9	6	15	5
Temperature Resistance Rating	8	3	7	4
FMVSS				
Tire Body Material	15	8	22	6
Radial	30	12	32	7
Belt Material	17	7	21	7
Number of Plies	25	8	20	8
Manufacturer/Brand	38	8	30	12
Speed Restriction	5	4	6	4
Maximum Load Rating	23	4	11	6
Load Range Rating	19	3	8	4
Tube-Type or Tubeless	33	5	21	11
DOT Certification	5	2	4	3
Regroovable	1	1	5	2
OTHER				
All-Weather	18	10	34	12
Puncture Resistance	3	2	14	7
Self-Sealing	2	2	11	5
Warranty	3	12	67	12
Price	4	12	74	13
Maintenance Information	4	6	47	12

' Some respondents cited more than one source.
'' Includes respondents who spontaneously cited tires and said 'yes' when questioned directly about information being on tires.
''' Percents are rounded to the nearest whole number.

3.2.7 Information Desired by Individuals Planning to Buy Tires

In regard to FMVSS, UTQGS, and other terms, respondents who planned to purchase replacement tires within two months of the interview were asked to specify the kinds of information they would like to have to help them choose the tire to buy (Q 21), to rate the importance of different kinds of information (Q 22), to indicate where they would look for that information (Q 23), and to indicate whether the given information was on tires (Q 24). (See Section 2.1.2 and Appendix A.)

The information spontaneously mentioned (recalled without interviewer assistance) most frequently by likely consumers as that which they would like to have to assist them when selecting tires, was the UTQGS item 'treadwear rating.' Forty one percent of the respondents wanted to know the treadwear ratings of tires under consideration prior to deciding which tire(s) to purchase. (An additional respondent wanted information about 'wearability,' a term akin to 'treadwear rating'.) The next two most frequently spontaneously cited items were price (27 percent) and warranty (26 percent). (See Table 3-10.)

TABLE 3-10

NUMBER AND PERCENT OF POTENTIAL CONSUMERS WHO SPONTANEOUSLY MENTIONED UTQGS, FMVSS, AND OTHER INFORMATION THEY WOULD LIKE TO HAVE PRIOR TO MAKING PURCHASE DECISIONS (n = 140)

INFORMATION	NUMBER	PERCENT'
UTQGS		
Treadwear Rating	58	41
Traction Rating	16	11
Temperature Resistance Rating	6	4
FMVSS		
Tire Body Material	9	6
Radial	26	19
Belt Material	12	9
Number of Plies	12	9
Manufacturer/Brand	18	13
Speed Restriction	4	3
Maximum Load Rating	6	4
Load Range Rating	3	2
Tube-Type or Tubeless	6	4
DOT Certification	2	1
Regroovable	0	0
OTHER		
All-Weather	23	16
Puncture Resistance	4	3
Self-Sealing	3	2
Warranty	36	26
Price	38	27
Maintenance Information	7	5

' Percents are rounded to the nearest whole number.

3.2.8 Information Rated Important by Individuals Who Recently Purchased Tires

Respondents were asked to rate items of information on a five point scale of importance in regard to tire purchase decisions. (All ratings of importance in this report are five point scales.) Only one of the items of information mandated by NHTSA to appear on tires (type of belts in tire) was rated important or very important in purchase decisions by more than 50 percent of the respondents. The items of information rated in the top two importance categories by the highest percentage of respondents were:

- o price (70 percent),
- o warranty (61 percent),
- o type of belts in tire (57 percent),
- o all-weather designation (49 percent),
- o whether the tire was tube or tubeless (46 percent).

One of the UTQGS ratings, temperature resistance rating, was rated as being important or very important by fewer than 13 percent of the respondents. The items of information rated as being important or very important by the lowest percentage of respondents were:

- o whether tire can be regrooved (4 percent),
- o DOT certification (6 percent),
- o whether tire is self sealing (9 percent),
- o temperature resistance rating (12 percent),
- o speed restriction (12 percent).

(See Table 3-11.)

For the most part, factors considered important when deciding which tire(s) to buy were not very different in the various age, education, and income groups. One exception was the few individuals in the over $100,000 income group who considered price an important determinant (3, p. 97).

3.2.9 Information Rated Important by Individuals Planning to Buy Tires

Substantially more items of information were rated important or very important by substantially greater proportions of potential than recent consumers. Nineteen of the 20 items surveyed were rated as important or very important by over 50 percent of the probable consumers; only three of the 20 items surveyed were rated as important or very important by over 50 percent of the recent consumers. Furthermore, on average, 72 percent, 59 percent, and 83 percent of the potential consumers rated the UTQGS, FMVSS, and other items, respectively, in the two highest importance categories. For recent consumers, the comparable percents were 23, 28, and 42. (See Table 3-11.)

TABLE 3-11

PERCENT' OF RECENT AND POTENTIAL CONSUMERS WHO RATED UTQGS, SELECTED FMVSS, AND OTHER INFORMATION AS BEING IMPORTANT OR VERY IMPORTANT IN TIRE PURCHASE DECISIONS

	CONSUMERS	
	RECENT (n = 369)	POTENTIAL (n = 140)
INFORMATION	PERCENT	
UTQGS		
Treadwear Rating	29	83
Traction Rating	27	79
Temperature Resistance Rating	12	54
FMVSS		
Tire Body Material	31	75
Radial	57	83
Belt Material	35	67
Number of Plies	34	65
Manufacturer/Brand	42	55
Speed Restriction	12	57
Maximum Load Rating	25	55
Load Range Rating	18	52
Tube-Type or Tubeless	46	65
DOT Certification	6	54
Regroovable	4	24
OTHER		
All-Weather	49	90
Puncture Resistance	16	84
Self-Sealing	9	78
Warranty	61	88
Price	70	86
Maintenance Information	43	72

' Percents are rounded to the nearest whole number.

Individuals likely to buy tires in the near future mentioned as important some terms not on the interview list. Five respondents cited size, and four, safety or safety ratings.

The items of information rated in the top two importance categories by at least 75 percent of the prospective buyers were:

- o all weather designation (90 percent),
- o warranty (88 percent),
- o price (86 percent),
- o puncture resistance (84 percent),
- o treadwear rating (83 percent),
- o type of belts in tire (83 percent),
- o traction rating (79 percent),
- o whether tire is self-sealing (78 percent),
- o material in tire body (75 percent).

The item rated in the top two importance categories by the lowest percentage of potential consumers was whether the tire can by regrooved (24 percent).

3.2.10 Sources of Information For Individuals Planning To Buy Tires

Potential consumers were asked where they would look for information about selected FMVSS, UTQGS, and other items (Q 23). Few of the prospective buyers knew UTQGS information could be found on tires. Thirty five or less percent of the respondents knew that any of the UTQGS ratings was imprinted on tires. Fifty or more percent knew that information about seven of the eleven FMVSS items were on tires. More respondents said they would request information about UTQGS terms from sales people than would look for it on tires (40 percent vs 32 percent). See Table 3-12.

TABLE 3-12

PERCENT OF POTENTIAL CONSUMERS WHO REPORTED WHERE THEY WOULD LOOK FOR INFORMATION ABOUT SELECTED FMVSS, UTQGS, AND OTHER TERMS
(n = 140)

TERM	SOURCE OF INFORMATION'			
	TIRE''	TAG/ LABEL	SELLER	OTHER
	PERCENT'''			
UTQGS				
Treadwear Rating	33	11	39	34
Traction Rating	35	10	41	29
Temperature Resistance Rating	28	12	39	31
FMVSS				
Tire Body Material	45	11	41	26
Radial	73	7	34	20
Belt Material	54	9	41	24
Number of Plies	76	7	29	20
Manufacturer/Brand	94	4	30	18
Speed Restriction	27	9	40	26
Maximum Load Rating	59	8	30	24
Load Range Rating	51	8	31	21
Tube-Type or Tubeless	74	7	34	22
DOT Certification	44	10	27	21
Regroovable	14	10	40	26
OTHER				
All-Weather	72	10	41	21
Puncture Resistance	31	14	45	31
Self-Sealing	25	11	37	28
Warranty	14	13	60	29
Price	9	17	65	27
Maintenance Information	14	10	58	35

' Some respondents cited more than one source.

'' Includes respondents who spontaneously cited tires and said 'yes' when questioned directly about information being on tires.

''' Percents are rounded to the nearest whole number.

3.2.11 Knowledge of UTQGS Terms and Codes

All 509 respondents were asked to answer three multiple choice questions to determine if they knew the definitions of temperature resistance rating (Q 25), traction rating (Q 26), and the relative rankings of the traction rating codes "A" and "C." (See Appendix A.) Each question had four possible choices. Each question had four possible choices. Of the 509 interviewees,

- o 64 percent selected the correct definition of temperature resistance rating;
- o 43 percent selected the correct definition of traction rating;
- o 61 percent knew tires rated "A" would have better traction than tires rated "C."

3.3 Purchasers of Tires for Fleets of Motor Vehicles

3.3.1 Purchasing Practices

Of the 99 respondents who answered the question about the method used to purchase replacement tires for the fleets,

- o 66 percent purchased replacement tires for each vehicle individually, as needed;
- o 16 percent purchased replacement tires in wholesale quantities;
- o 15 percent purchased tires as needed and in wholesale quantities;
- o 3 percent purchased tires in some other way.

Of the 31 respondents who always or on occasion bought tires in wholesale quantities,

- o 61 percent always bought from tire wholesalers;
- o 23 percent always bought directly from the manufacturer;
- o 10 percent always bought from retail stores that specialized in tires;
- o 3 percent always bought from service stations.

Seventy four percent had contracts with one or more tire sellers who provided their firms with replacement tires.

All 100 buyers were asked how they picked tire sellers.

- o Forty three chose on the basis of competitive bidding on standard specifications.
- o Twenty allowed individual tire buyers to choose sellers.
- o Twelve rotated the sellers among a predetermined list.
- o Seven allowed leasing companies to choose sellers.
- o Five had national accounts.
- o Thirteen had other approaches.

3.3.2 Reasons for Purchasing Tires

The reason for purchasing replacement tires cited most frequently was excessive treadwear. Fifty two respondents purchased almost all their tires because of excessive treadwear; an additional 36 purchased more than half their tires because of excessive treadwear. (See 3, p. 120, for more detailed information.)

Q. 6 of the interview asks what, if any, instructions are given to tire dealers about the types of tire and tire characteristics, other than size, in which the respondent is interested. The types of tires and characteristics most frequently mentioned without interviewer assistance were all weather (n = 20), radial (n = 17), and treadwear rating (n = 14). (See Table 3-13.)

TABLE 3-13

PERCENT OF BUYERS OF TIRES FOR FLEETS OF VEHICLES WHO SPONTANEOUSLY MENTIONED UTQGS, FMVSS, AND OTHER INFORMATION THEY WANTED PRIOR TO PURCHASING TIRES AND WHO KNEW THE INFORMATION WAS LOCATED ON TIRES
($n = 100$)

TERM	INFORMATION	
	DESIRED	ON TIRE
	PERCENT'	
UTQGS		
Treadwear Rating	14	12
Traction Rating	0	0
Temperature Resistance Rating	2	2
FMVSS		
Tire Body Material	1	0
Radial	17	13
Belt Material	5	3
Number of Plies	8	8
Manufacturer/Brand	21	20
Speed Restriction	10	8
Maximum Load Rating	2	2
Load Range Rating	4	3
Tube-Type or Tubeless	2	2
DOT Certification	1	1
Regroovable	0	0
OTHER		
All-Weather	20	13
Puncture Resistance	0	0
Self-Sealing	1	1
Warranty	0	0
Price	5	0
Maintenance Information	2	1

' Percents are rounded to the nearest whole number.

3.3.3 Awareness of Information Molded Into Tires

The respondents who mentioned UTQGS, FMVSS, and other surveyed terms were further questioned about whether information about those terms is imprinted on tires (Q 7). Thirteen of the 17 respondents (76 percent) thought radial information was imprinted on tires; 12 of 14 (86 percent) thought treadwear rating was imprinted on tires. (See Table 3-13.)

3.3.4 Information Rated Important in Tire Purchase Decisions

Table 3-14 summarizes the items of information rated as being important or very important in tire purchase decisions. Two UTQGS ratings, namely traction and treadwear, were rated in the two highest importance categories by more than 60 percent of the respondents. Items of information rated in the top two importance categories by more than 60 percent of the tire buyers for fleets of passenger vehicles were:

- o whether the tire is radial (78 percent),
- o whether the tire is tube or tubeless (71 percent),
- o maximum load rating (68 percent),
- o traction rating (67 percent),
- o number of plies (64 percent),
- o material in belts (63 percent),
- o treadwear rating (62 percent).

TABLE 3-14

PERCENT OF BUYERS FOR FLEETS OF VEHICLES WHO RATED UTQGS AND SELECTED FMVSS INFORMATION AS BEING IMPORTANT IN TIRE PURCHASE DECISIONS
(n = 100)

INFORMATION	PERCENT'
UTQGS	
Treadwear Rating	62
Traction Rating	67
Temperature Resistance Rating	41
FMVSS	
Tire Body Material	57
Radial	78
Belt Material	63
Number of Plies	64
Speed Restriction	43
Maximum Load Rating	68
Load Range Rating	57
Tube-Type or Tubeless	71
DOT Certification	52
Regroovable	5

' Percents are rounded to the nearest whole number.

3.3.5 Sources of Information Rated Important in Tire Purchase Decisions

Respondents were asked to rate the importance of eight sources of information in deciding which tires were best for their purposes (Q 9). The two resources mentioned by the most respondents were:

- o prior personal experiences with specific brands or types of tires (79 percent),
- o publications circulated through fleet administrators' organizations (57 percent).

The sources rated in the two highest importance categories by the lowest percentages of respondents were tire catalogs distributed by publishers not affiliated with tire manufacturers (22 percent) and tire information published by individual tire manufacturers (28 percent). (See Table 3-15.)

TABLE 3-15

PERCENT' OF BUYERS FOR FLEETS OF VEHICLES WHO RATED SELECTED SOURCES OF INFORMATION AS BEING IMPORTANT IN LEARNING ABOUT TIRES
(n = 100)

SOURCE	PERCENT
Publication of Fleet Administrators' Organizations	57
Federal Government publications	47
Tire Evaluations Published by Consumer Organizations	49
In-House Reports	50
Tire Catalogs NOT from Tire Manufacturers	22
Tire Manufacturer Information	28
Information on Tire Body	46
Prior Personal Experience	79

' Percents are rounded to the nearest whole number.

3.3.6 Knowledge of UTQGS Terms and Codes

All respondents (buyers for fleets of vehicles, tire sales people, and tire repairers and retreaders) were asked to answer at least two multiple choice questions about the definitions of temperature resistance rating, traction rating, and the relative rankings of the traction rating codes "A" and "C." Of the 100 buyers of tires for fleets of passenger vehicles,

- o 69 percent selected the correct definition of temperature resistance rating;
- o 34 percent selected the correct definition of traction rating;
- o 58 percent knew tires rated "A" have better traction than tires rated "C."

3.3.7 Unnecessary and Misleading Information on Tires

Respondents were asked if there is unnecessary or misleading information imprinted on passenger car tires (Q 13). Twenty individuals responded 'yes.' (See Appendix B, pp. B-1, B-2.) Twelve of the comments concerned the difficulty of understanding the information imprinted on tires. For example, comments were made such as 'terms...are difficult to understand,' and '...spell out codes.' One respondent addressed the unreliability of ratings, another, manufacturer inconsistency, and a third, the difficulty of reading some of the information imprinted on tires.

3.3.8 Desirable Information

Respondents were asked if there is information they would like to have but have difficulty finding (Q 14). Thirteen individuals responded 'yes.' (See Appendix B, pp. B-1, B-2.) Three individuals said the tire pressure or plies are difficult to find and should be (written) bigger; two wanted information that would enable them to compare tires or brands; two mentioned DOT specifications or a Federal government

quality product list; one wanted to know tire performance related to specific types of vehicles.

3.4 Tire Sellers

3.4.1 General Information

Respondents were asked to estimate the number of passenger vehicle tires they sell in a typical week.

- Fifty two (48 percent) sold fewer than 50 a week.
- Forty two (39 percent) sold between 50 and 200 tires a week.
- Thirteen (12 percent) sold between 200 and 500 tires a week.
- One (1 percent) sold more than 500 tires a week.

In terms of outlet type,

- the greatest percentages of manufacturer retail outlets (63 percent), department stores (58 percent), and independent tire dealers (44 percent) sold between 50 and 200 tires a week;

- the greatest percentage of service stations (96 percent) sold less than 50 tires a week. (See Table 3-16.)

TABLE 3-16

PERCENT' OF OUTLET TYPES CATEGORIZED BY THE ESTIMATED NUMBER OF PASSENGER CAR TIRES SOLD IN A WEEK
(n = 108)

ESTIMATED NUMBER OF TIRES SOLD/WK	OUTLET TYPE				
	GENERAL TIRE STORE (n=41)	MFR OUTLET (n=19)	SERVICE STATION (n=27)	DEPT STORE (n=19)	OTHER (n=2)
	PERCENT				
Less Than 50	39	21	96	21	100
Between 50 and 200	44	63	4	58	0
Between 200 and 500	15	16	0	21	0
More than 500	2	0	0	0	0

' Percents are rounded to the nearest whole number.

In regard to the number of outlets selling tires to buyers for fleets of passenger vehicles,

- o 32 (30 percent) do not sell to buyers for fleets;

- o 59 (55 percent) reported that fleet sales account for less than 25 percent of total sales;

- o 17 (16 percent) reported that fleet sales account for more than 25 percent of their total sales. Their breakdown by outlet type is 8 (20 percent) of the independent tire dealers, 3 (16 percent) of the manufacturer outlets, 2 (10 percent) of the department stores, and 4 (15 percent) of the service stations.

3.4.2 Sales Staff Expertise

Respondent perception of consumer reliance on sales staffs' expertise is very high. Of the 76 individuals who sell tires to fleets, 56 (74 percent) thought professional buyers rely at least somewhat on staff expertise. Comparable numbers for nonprofessional buyers are even higher. Ninety six (89 percent) of the 108 respondents thought nonprofessional buyers rely at least somewhat on sales staff.

An effort was made to determine whether in fact sales staff had been educated about tires (Q 8). Eighty three (77 percent) of the respondents said that members of their sales staffs have received training related to tire quality, tire safety, or federal safety standards. Of the 83 respondents whose staffs received some instruction,

- 77 (93 percent) received training from a tire manufacturer;
- 32 (39 percent) received training from the respondent's firm;
- 5 (6 percent) received training from a technical school;
- 3 (4 percent) received training from a state agency;
- 1 (1 percent) received training from a federal agency;
- 7 (8 percent) received training from some other type of institution.

3.4.3 Advertising

The interviewer read aloud nine ways a retailer might advertise his tires to the public, and asked the respondents to indicate which of them were used by his company (Q 5).

- Sixty five (60 percent) advertised in newspapers.
- Forty one (38 percent) advertised in the yellow pages of phone books.
- Forty (37 percent) constructed floor displays in stores.

(Respondent numbers and percents add to more than 108 and 100 respectively because respondent firms engaged in more than one method of advertising.)

The lowest percentages of respondent firms engaged in the following advertising activities: newspaper inserts (14 percent), cross selling of tires to customers shopping for other items (15 percent), and direct mail advertising (18 percent).

Table 3-17 summarizes the advertising methods favored by different outlet types. The highest percentages of outlet types engaging in various advertising practices follow.

- The highest percentages of independent tire dealers and manufacturer retail outlets advertised in newspapers (66 percent and 68 percent respectively), and the yellow pages of telephone books (51 percent and 42 percent).

- The highest percentage of department stores advertised in newspapers (89 percent) and floor displays (84 percent).

TABLE 3-17

PERCENT' OF OUTLET TYPES WHICH USE SELECTED ADVERTISING METHODS
(n = 108)

ADVERTISING METHODS	OUTLET TYPE				
	GENERAL TIRE STORE (n=41)	MFR OUTLET (n=19)	SERVICE STATION (n=27)	DEPT STORE (n=19)	OTHER (n=2)
	PERCENT''				
Newspaper Ads	66	68	30	90	0
Radio	37	37	22	32	0
Television	20	16	4	42	0
Newspaper Inserts	5	21	0	47	0
Direct Mail	15	26	4	37	0
Yellow Pages	51	42	30	21	0
Store Floor Displays	24	32	30	84	0
Cross Selling to Shoppers Buying Other Items	7	5	18	32	50
Mfrs' Brochures	12	5	26	58	0
Other	34	32	22	21	0

' Percents are rounded to the nearest whole number.

'' Percents total more than 100 because individual firms engaged in more than one method of advertising.

As regards advertising methods by sales volume, the one firm which sells more than 500 tires a week does not use any of the advertising methods targeted for study. Fewer than 37 percent of the firms selling less than 50 tires a week engaged in any of the examined methods.

In regard to FMVSS, UTQGS, and other data, respondents were asked what information is always, sometimes, or never included in their firms' advertising. The items of information always mentioned by the highest percentage of respondents

were:

- o whether the tire is radial (86 percent),
- o price (78 percent),
- o brand or manufacturer name (77 percent),
- o whether the tire is all weather (75 percent).

The items of information never mentioned by the highest percentage of respondents were:

- o whether the tire can be regrooved (96 percent),
- o whether the tire is self-sealing (84 percent),
- o DOT certification (71 percent).

UTQGS ratings were mentioned in advertisements at least some of the time by 2between 41 percent (for temperature resistance rating) and 55 percent (for treadwear rating) of the respondents. (See Table 3-18.) Other nonmandated items of information regularly addressed in advertisements concerned tire appearance (11 firms) and quality, performance, and service (11 firms). (See Appendix B, pp. B-3, B-4.)

TABLE 3-18

PERCENT' OF TIRE SELLERS WHO ALWAYS, SOMETIMES, OR NEVER ADVERTISED UTQGS, SELECTED FMVSS AND OTHER INFORMATION (n = 97)

INFORMATION	FREQUENCY OF MENTION		
	ALWAYS	SOME TIMES	NEVER
	PERCENT		
UTQGS			
Treadwear Rating	23	32	45
Traction Rating	19	28	54
Temperature Resistance Rating	13	28	59
FMVSS			
Tire Body Material	24	35	40
Radial	86	8	6
Belt Material	41	31	28
Number of Plies	24	39	37
Manufacturer/Brand	77	18	5
Speed Restriction	25	32	43
Maximum Load Rating	10	40	50
Load Range Rating	24	38	38
DOT Certification	14	14	71
Regroovable	1	3	96
OTHER			
All-Weather	75	21	4
Self-Sealing	6	10	84
Warranty	56	32	12
Price	78	14	7

' Percents are rounded to the nearest whole number.

3.4.4 Information Perceived as Important to Consumers

Respondents were asked to rate the importance of 10 FMVSS and three UTQGS items in the typical tire buyer's purchase decision. Two of the UTQGS ratings were perceived as being important or very important to consumers by more than 50 percent of the tire sellers. The items rated in the top two importance categories by the highest percentage of respondents were:

- o whether the tire is radial (89 percent),
- o treadwear rating (59 percent),
- o traction rating (57 percent),
- o whether the tire is tube or tubeless (56 percent).

Table 3-19 enumerates selected FMVSS and UTQGS items rated as being important or very important to consumers in tire purchasing decisions.

TABLE 3-19

PERCENT' OF TIRE SELLERS WHO RATED UTQGS AND SELECTED FMVSS INFORMATION AS BEING IMPORTANT OR VERY IMPORTANT TO CONSUMERS (n = 108)

INFOMATION	PERCENT
UTQGS	
Treadwear Rating	59
Traction Rating	57
Temperature Resistance Rating	35
FMVSS	
Tire Body Material	45
Radial	90
Belt Material	44
Number of Plies	43
Speed Restriction	43
Maximum Load Rating	48
Load Range Rating	43
Tube-Type/Tubeless	56
DOT Certification	36
Regroovable	9

' Percents are rounded to the nearest whole number.

3.4.5 Awareness of Information Molded Onto Tires

Respondents were asked to state whether information about the previously mentioned FMVSS and UTQGS terms are imprinted on tires. With the exception of tire regroovability (20 percent) and speed restriction (65 percent), at least 80 percent of all respondents knew that information about the survey terms is imprinted on tires. (See Table 3-20.)

TABLE 3-20

PERCENT' OF TIRE SELLERS WHO KNEW UTQGS AND SELECTED FMVSS INFORMATION IS IMPRINTED ON TIRES
(n = 108)

INFORMATION	OUTLET TYPE				
	GENERAL TIRE STORE (n=41)	MFR OUTLET (n=19)	SERVICE STATION (n=27)	DEPT STORE (n=19)	TOTAL (n=108)
	PERCENT				
UTQGS					
Treadwear Rating	80	95	89	95	87
Traction Rating	80	100	78	79	82
Temperature Resistance Rating	80	100	82	79	83
FMVSS					
Tire Body Material	85	79	85	84	83
Radial	98	100	96	95	97
Belt Material	90	79	82	84	84
Number of Plies	100	100	100	95	99
Speed Restriction	71	74	56	63	65
Maximum Load Rating	98	100	100	90	97
Load Range Rating	100	95	96	95	97
Tube-Type/Tubeless	98	95	100	84	95
DOT Certification	83	95	82	90	86
Regroovable	24	32	15	10	20

' Percents are rounded to the nearest whole number.

3.4.6 Knowledge of UTQGS Terms and Codes

Of the 108 tire sellers,

- o 78 percent selected the correct definition of temperature resistance rating;

- o 84 percent knew tires rated "A: have better traction than tires rated "C."

3.4.7 Unnecessary and Misleading Information on Tires

Respondents were asked if there is unnecessary or misleading information imprinted on passenger car tires. Twenty four of 108 individuals responded 'yes.' (See Appendix B, pp. B-5, B-6.) Seventeen of the 24 thought one or more of the UTQGS ratings were misleading and two thought ply information was confusing. Specifically, four respondents characterized all three UTQGS ratings as being misleading; nine cited treadwear, two traction and temperature, and two unspecified ratings. Seven interviewees said tires should be rated according to industry wide standards so that (genuine) comparisons could be made among the products of different manufacturers. Two interviewees said consumers are being deceived into thinking tires are rated by the government rather than the manufacturers.

3.4.8 Desirable Information

Respondents were asked if there is information about tires they would like to have but have difficulty finding. Nine of the respondents answered in the affirmative. (See Appendix B, p. B-7.) Two wanted to know who made the tire; one each wanted a comparison of tire ratings, heat range and highest sustained speed, the minimum and maximum allowable tire pressures, overall diameter and width, tire weight, and more consumer analysis of tires for the public.

3.5 Repairers and Retreaders

3.5.1 General Information

Of the 100 firms who repair and/or retread tires for passenger cars,

- o 71 repair tires for both fleets and individuals;
- o 30 retread tires in their own shops;
- o 29 acquire retreaded tires from outside sources;
- o 52 sell retreaded tires to individuals;
- o 39 sell retreaded tires to buyers for fleets;
- o 26 sell retreaded tires to retail outlets.

3.5.2 Information Perceived Important In the Repair of Tires

The 96 individuals who worked for firms that repair tires were asked to rate the importance of nine FMVSS, three UTQGS, and three other items of information in determining whether a tire can be repaired safely. The items rated in the top two importance categories by the highest percentages of respondents were:

- o type of material in tire body (59 percent),
- o speed restrictions (58 percent),
- o maximum load rating (57 percent).

The items rated in the top two importance categories by the lowest percentage of respondents were:

- o all weather designation (14 percent),
- o whether the tire can be regrooved (21 percent),

- o treadwear rating (23 percent),
- o traction rating (24 percent),
- o temperature resistance rating (26 percent).

(See Table 3-21.)

Other items mentioned by respondents as being important in the determination of safe tire repairability concerned location of tire injury (n = 2), type of injury (n = 2), and the condition of the tire (n = 1).

3.5.3 Information Perceived Important in Retreading Tires

The 30 individuals who worked for firms that retread tires were asked to rate the importance of the same FMVSS, UTQGS, and other items of information rated by the tire repairers, in determining whether a tire can be retreaded safely. The items rated in the top two importance categories by the highest and lowest percentages of respondents were the same as those for repair, namely,

- o speed restrictions (60 percent),
- o type of material in body (57 percent),
- o maximum load rating (53 percent).

The items rated in the top two importance categories by the lowest percentage of respondents were:

- o all weather designation (7 percent),
- o whether the tire can be regrooved (13 percent),
- o traction rating (17 percent),
- o temperature resistance rating (17 percent),
- o treadwear rating (20 percent).

(See Table 3-21.)

Other items mentioned by respondents as being important in the determination of safe tire retreadability concerned tire condition (n = 3), and number, type, and location of punctures (n = 2).

TABLE 3-21

PERCENTS' OF TIRE REPAIRERS AND TIRE RETREADERS WHO PERCEIVED UTQGS, SELECTED FMVSS, AND OTHER INFORMATION IMPORTANT IN THE REPAIR OR RETREAD OF TIRES

INFORMATION	FOR REPAIR (n = 96)	FOR RETREAD (n = 30)
	PERCENT	
UTQGS		
Treadwear Rating	23	20
Traction Rating	24	17
Temperature Resistance Rating	26	17
FMVSS		
Tire Body Material	59	57
Radial	45	47
Belt Material	43	43
Number of Plies	41	37
Manufacturer/Brand	29	50
Speed Restriction	58	60
Maximum Load Rating	57	43
Load Range Rating	46	43
Regroovable	21	13
OTHER		
All Weather	14	7
Puncture Resistant	29	27
Self Sealing	35	30

' Percents are rounded to the nearest whole number.

3.5.4 Awareness of Information Molded Onto Tires

Respondents were asked to state whether information about the previously mentioned terms are imprinted on tires. With the exception of tire regroovability (59 percent), at least 75 percent of all respondents knew that information about the required items is imprinted on tires. (See Table 3-22.)

TABLE 3-22

PERCENT' OF TIRE REPAIRERS AND RETREADERS WHO KNEW UTQGS, SELECTED FMVSS, AND OTHER INFORMATION IS IMPRINTED ON TIRES
(n = 96)

INFORMATION	PERCENT
UTQGS	
Treadwear Rating	84
Traction Rating	78
Temperature Resistance Rating	78
FMVSS	
Tire Body Material	83
Radial	100
Belt Material	79
Number of Plies	98
Manufacturer/Brand	96
Speed Restriction	77
Maximum Load Rating	98
Load Range Rating	96
Regroovable	59
OTHER	
All Weather	97
Puncture Resistant	47
Self Sealing	56

' Percents are rounded to the nearest whole number.

3.5.5 Advertising

Respondents were asked if their advertisements deal specifically with retreaded tires. Twenty six (44 percent) of the 59 companies that sell retreaded tires answered in the affirmative. Respondents were then queried about the use of FMVSS, UTQGS, and other required information in their advertisements about retreaded tires.

- Six (12 percent) mentioned FMVSS.
- Four (8 percent) mentioned UTQGS.
- Five (10 percent) mentioned other state or federal standards, regulations, codes, approvals or requirements.

3.5.6 Sales Staff Training

Respondents were asked if any members of their sales staffs had received training related to tire quality or safety, or Federal quality or safety standards. Of the 84 respondents who answered in the affirmative,

- 72 (86 percent) were trained by tire manufacturers;
- 68 (81 percent) were trained by the respondent's firm;
- 36 (43 percent) were trained in a technical school;
- 2 (2 percent) were trained by a state agency;
- none were trained by a federal agency;
- 21 (25 percent) were trained in some other types of institutions such as tire associations (n = 10), and other businesses (n = 6).

3.5.7 Knowledge of UTQGS Terms and Codes

Of the 100 tire repairers and retreaders,

- o 87 percent selected the correct definition of temperature resistance rating;
- o 86 percent knew tires rated "A" have better traction than tires rated "C."

3.5.8 Unnecessary or Misleading Information on Tires

Fifty two respondents replied that there is unnecessary or misleading information imprinted on car tires. (See Appendix B, pp. B-8, B-9.) The greatest number of comments concerned one or more of the UTQGS ratings. Thirty four respondents commented on the non comparability, obscurity, or inaccuracy of the UTQGS ratings. Specifically, ten respondents characterized all three UTQGS ratings as being misleading, 16 treadwear, five temperature, four traction, and five unspecified ratings. (The sum is greater than 34 because some respondents named more than one item.) Statements were made such as the ratings were inaccurate, not standard, not equal, company tested, confusing (etc.). In addition, four respondents said the ply information was confusing or misunderstood.

3.5.9 Desirable Information

Respondents were asked if there is information about tire characteristics they would like to have but have difficulty finding. Eighteen individuals answered in the affirmative. (See Appendix B, p. B-10.) Four individuals were concerned with the incomprehensibility of different codes, three with the small size of the printing on tires, two with the country of manufacture, and one each with insufficient information about tire dimensions, construction, content, and lack of federal standards for retreaded tires.

CHAPTER 4

DISCUSSION OF FINDINGS

The Uniform Tire Quality Grading Standards of the Consumer Information Regulations (575.104) and the tire labeling sections of the Federal Motor Vehicle Safety Standards (109, 117, 119) require tire manufacturers to permanently mold into tires information related to relative tire performance and safety. To aid consumers in making informed choices when purchasing passenger car tires, the UTQGS sets forth grading procedures and labeling requirements that indicate the relative performance of passenger car tires in relation to treadwear, traction, and temperature resistance. The FMVSS sets forth labeling requirements about passenger car tire characteristics (size, cord material, number of plies in sidewall and tread area, tubeless or tube type, radial), conditions of use (maximum permissible inflation pressure, maximum load rating), plus the manufacturer or brand name and the DOT certification symbol.

The FMVSS labeling requirements for passenger car tires are akin to the contents labels on food, clothing, appliances, etc. FMVSS information enables consumers to verify that the representations being made about tires are true. The information further enables consumers to learn the proper conditions for use of the tires, and to make certain the tires meet federal safety standards.

The information required by the UTQGS is used by up to one fourth of the consumers in the manner specified by the regulation. That is, up to one fourth understand and use the UTQGS treadwear and traction codes to compare the relative performance of different tires. Still, many consumers consider information about treadwear and traction important and desirable.

The rest of this chapter contains more discussion about the effectiveness of the UTQGS and how it measures up to the goals specified in the regulation.

4.1 Perceived Importance of UTQGS Information

The UTQGS information addresses at least two consumer concerns, namely, tire wearability and safety. The treadwear and temperature resistance ratings address tire wear rates and safety; the traction ratings address tire safety. However, only two traits, treadwear and traction, were mentioned consistently by respondents as being important in assisting consumers in making informed choices.

Recent and soon-to-be purchasers of tires differed in the amounts of information they considered important when choosing the proper tire. Far greater proportions of potential, than recent, consumers rated substantially more items of information important (see Table 3-11). The reasons for the differences between recent and likely tire purchasers may be deduced as follows. Given that the only difference between the groups was temporal tire needs vis-a-vis the NHTSA-contracted survey, a large proportion of the recent consumers did not have information they originally wanted at the time of tire purchase. Because the recent buyers apparently made their decisions based on information that was easy to understand and readily available at the time of purchase, relatively few factors influenced their choices.

The surveyed tire sellers thought traction and treadwear ratings were important to consumers. Between 13 and 23 percent of the respondents reported advertising UTQGS grades all the time, while between 45 and 59 percent reported never advertising them (Table 3-18). However, dealers sometimes publicize other kinds of information pertaining to tire wear. For example, in the April 28, 1991 edition of The Washington Post, three companies published one of the following dealer warranties related to treadwear expressed in miles, namely, "tread wear" warranty, "wearout" warranty, and "miles" warranty. (See Appendix C.)

It is interesting to note that much of the information sellers reported advertising all the time was frequently cited as having been important in recent tire purchase decisions. Three of the four items of information regularly appearing in advertisements were rated in the two highest importance categories by approximately half or more of the recent tire purchasers. The items were radial, price, and all weather designation (Tables 3-11, 3-18).

4.2 Location and Recognition of UTQGS Codes

Requiring information to be on tires assures that the information is located where consumers normally look. Consumers use the tires themselves as sources of information about tires more frequently than they use any other source. Almost three quarters of the individual consumers examined the old tires already on their vehicles as well as tires like the new ones they were about to purchase. Only 43 percent of recent consumers engaged in the second most frequent information seeking behavior prior to purchasing tires, namely, reading the vehicle owner's manual (Section 3.2.2). Thus, if consumers know what information they want and how to interpret it, they are most likely to see it if it is on tires.

Between 15 and 26 percent of the surveyed consumers (recent and likely), knew that one or more UTQGS ratings is imprinted on tires (Section 3.2.4). It is assumed that the remaining consumers do not recognize that information about tire traits they desire (treadwear and traction) is available to them in the place where they normally look, even though about half of the individual consumers identified the correct definitions of UTQGS terms and codes in a multiple choice situation (Section 3.2.11).

Using fabricated terms in surveys of this kind is standard operating procedure (Section 2.1.2). The responses made to fabricated terms enable the surveyor to determine approximately how many respondents are giving a socially desirable answer or are

uninformed. The findings that 66 percent of the respondents thought they recognized a term consisting of two familiar words ("safety" and "rating"), while only 6 percent recognized the other term consisting of more obscure words ("consolidation" and "ratio"), indicate most respondents answered questions truthfully.

Although most individual consumers said they had heard of treadwear and traction ratings, most also said they had heard of the fabricated term "safety rating" (Section 3.2.3, Table 3-1). Therefore, consumer recognition of the UTQGS terms "treadwear rating" and "traction rating" is questionable.

Seventy four and sixty five percent of consumers claimed to recognize treadwear and traction ratings, respectively. The numbers of respondents reporting they would look for information about the two UTQGS and one fabricated ratings on tires was treadwear rating - 22 percent, traction rating - 26 percent, and safety rating - 20 percent. (See Section 3.2.4, Table 3-4.) On the other hand, a majority of the consumers who had heard of the FMVSS terms also knew information about them is imprinted on tires (Sections 3.2.3, 3.2.4, Tables 3-1, 3-4).

If respondents had both heard of a term and knew information about it is found on tires, they probably were familiar with that term. If respondents thought they had heard of a term, but did not know information about it is found on tires, they probably were not familiar with the term. Thus, it can by hypothesized the most consumers recognized the terms "treadwear," "traction," and "safety," while possibly not comprehending their significance as UTQGS terms when the word "rating" was attached to them.

4.3 Use of UTQGS Information

Up to one fourth of the individual and occupational consumers used UTQGS information when choosing tires (Sections 3.2.5 and 3.3.4). When consumers did not understand something, they tended to seek guidance from sales people (Sections 3.2.4, 3.4.2), of whom 16 percent stated that UTQGS grades are unreliable or misleading (Section 3.4.7).

UTQGS ratings are not used by tire repairers and retreaders. Only 26 percent or less of those surveyed thought any of the UTQGS grades would assist them to either repair or retread tires (Sections 3.5.2 and 3.5.3).

Appendices

An Evaluation of the Uniform Tire Quality Grading Standards and other Tire Labeling Requirements

Appendices

Appendix A

Survey Instruments

Appendix A-1

Survey Instrument

Individual Tire Consumers

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION OMB CONTROL NO.
U.S. DEPARTMENT OF TRANSPORTATION EXPIRATION DATE:
TIRE PURCHASERS SURVEY:MVSS AND UTQGS CONTRACT # DTNH22-88-R-06007

INT:_____ TALLY:_____ RESPID_____
DATE:_____ EDIT:_____
START:_____ CODE:_____ AREA CODE:_____
END:_____ ENTER:_____

Hello, my name is _____, and I'm calling on behalf of the United States Department of Transportation. We are conducting a national survey concerning passenger car and light truck tires.

A. Does your household have a passenger vehicle, that is, a car or station wagon, a sports car, a van or mini-van, a light truck, or a 4-wheel drive or off-road vehicle designed to carry passengers?

CRITERION FOR "LIGHT TRUCK" IS LESS THAN 10,000 POUNDS GROSS VEHICLE WEIGHT.

IF NO, THANK AND TERMINATE; RECORD AS "NQ-A" ON SAMPLE SHEET.

I'd like to speak to the person who is responsible for buying tires for the vehicles in your household. Would that be you?

IF NO, ASK TO SPEAK WITH THAT PERSON; IF NOT AT HOME ARRANGE A CALLBACK.
IF MORE THAN ONE, ANY OF THE TIRE DECISIONMAKERS MAY BE INTERVIEWED.

WHEN THE TIRE-BUYING DECISIONMAKER IS ON THE PHONE, REPEAT INTRO AND PROCEED.

B. Do you or does anyone else in your household work for.. .
- a tire manufacturer, wholesaler or retailer
- a tire repairer or retreader
- a service station or auto repair shop
- a department store which sells tires
- the U.S. Department of Transportation
- a consulting firm dealing with the subject of tires

IF YES TO ANY OF THE ABOVE, THANK AND TERMINATE; RECORD AS "NQ-B" ON SAMPLE.

C. Have you purchased one or more replacement tires for a passenger vehicle within the last six months?

YES.....SKIP TO Q.1, NEXT PAGE NO.....CONTINUE WITH D

D. How likely are you to purchase one or more passenger car replacement tires in the next two months? Are you ...

very likely somewhat likely	---------->**SKIP TO Q.13**
not very likely or not at all likely	---------->**TERMINATE, RECORD AS NQ-D**

1. In what month did you last purchase a tire for a passenger vehicle?

MONTH...JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
01	02	03	04	05	06	07	08	09	10	11	12

2. Were the tires you bought at that time...
   new tires.....1
   retreaded tires.....2
   used tires, but not retreads..3
   or something else_____4

3. How many tires did you buy at the time of your most recent tire purchase?
   CIRCLE ONE: 1 2 3 4 5 (or more)

4. For what type of passenger vehicle did you last buy tires?
   STANDARD PASSENGER CAR, SEDAN, CONVERT, STA WGN.....1
   VAN OR MINI-VAN, LIGHT TRUCK.....2
   OFF-ROAD/4WD VEHICLE.....3
   SPORTS CAR.....4
   OTHER_____5

5. What is the model year of that vehicle? 19_____

6. Approximately how many miles had that vehicle been driven at the time you last bought tires? Would that be...

   less than 5,000 miles.....1
   five to 10 thousand.....2
   10 to 25 thousand.....3
   25 to 50,000.....4
   50 to 75 thousand.....5
   75 to 100 thousand.....6
   over 100,000.....7
   [DK/NOT SURE].....8

7. Is this particular vehicle typially driven on unpaved roads more than about 10 percent of the time?
   YES.....1 NO.....2

8. Which one of the following best describes the type of driving usually done in that vehicle?
   in-town stop-and-go driving.....1
   travelling at highway speeds.....2
   or some other type of driving:
   _____3

9. The last time you bought a tire for that vehicle, at what type of store did you buy it? Was it...

a gasoline or service station.....1
a department store or national chain, such as Sears, K-Mart or Montgomery Ward.....2
a store that sells only one brand of tires, such as Goodyear or Firestone.....3
a store that specializes in tires, but sells many different brands.....4
or some other type of store or outlet_____5

10. What made you decide to buy a tire/tires at that particular time? **[DO NOT READ LIST]:**

EMERGENCY (BLOW-OUT, FLAT, ETC.).....01
STATE INSPECTION FAILURE.....02
TREAD WAS WORN DOWN.....03
DUE FOR A ROUTINE REPLACEMENT (AGE, MILEAGE, ETC.)...04
ADVICE OF A CAR SPECIALIST.....05
ADVICE OF FRIEND, RELATIVE, ETC., NOT CAR SPECIALIST.06
SAFETY CONSIDERATIONS.....07
NO SPECIAL REASON.....08

OTHER_____09

11. Which, if any, of the following things did you do before buying a tire? Did you...

	YES	NO	DK/NS
read advertisements for tires in the newspaper	1	2	9
listen to or watch a radio or TV commercial for tires	1	2	9
read about tires in a newspaper, magazine, or consumer publication	1	2	9
ask advice from a car-care specialist such as a mechanic or someone in a service station	1	2	9
ask advice from someone at the dealership where you bought the vehicle	1	2	9
ask advice from more than one person who sells tires	1	2	9
ask advice from a relative, friend or co-worker about their experiences with tire buying	1	2	9
read a government pamphlet about tires	1	2	9
read a pamphlet prepared by a tire manufacturer	1	2	9
read your vehicle's owner's manual about tires for that particular vehicle	1	2	9
examine the tires that were already on the vehicle for information to help in the purchase decision	1	2	9
shop at more than one store before buying	1	2	9

12. The last time you bought a tire, did you actually look at the tire you bought, or one just like it, before it was put on your car?

YES.....1 NO.....2 DK/NS.....3

13. There are a number of terms that are used to describe the characteristics of passenger vehicle tires. Some of these may be familiar to consumers, while others may not be as familiar. I'm going to read a list of tire characteristics and I'd like you to tell me if you have ever heard the term used in regard to replacement tires for passenger cars.

14. FOR EACH ITEM RECOGNIZED, ASK: Where would you look for information on this item about a specific tire that you were considering buying? PROBE: Anywhere else?

15. IF "TIRE" IS NOT MENTIONED AS A SOURCE OF INFO, ASK: To the best of your knowledge, is there information about this item anywhere on the tire itself?

	Q.13. HEARD OF?		Q.14. SOURCES OF INFO					Q.15. IS INFO ON TIRE?		
	YES	NO	TIRE	TAG/ LABEL	BRO- CHURE	TIRE SELLER	OTHER	YES	NO	DK
tube-type or tubeless.....	1	2	1	2	3	4	5	1	2	3
traction rating.....	1	2	1	2	3	4	5	1	2	3
maximum load rating.....	1	2	1	2	3	4	5	1	2	3
maximum inflation pressure.....	1	2	1	2	3	4	5	1	2	3
consolidation ratio.....	1	2	1	2	3	4	5	1	2	3
cord material, such as polyester	1	2	1	2	3	4	5	1	2	3
tire size.....	1	2	1	2	3	4	5	1	2	3
bias-ply.....	1	2	1	2	3	4	5	1	2	3
treadwear rating.....	1	2	1	2	3	4	5	1	2	3
safety rating.....	1	2	1	2	3	4	5	1	2	3
temperature resistance rating..	1	2	1	2	3	4	5	1	2	3
radial-ply.....	1	2	1	2	3	4	5	1	2	3
whether the tire is regroovable	1	2	1	2	3	4	5	1	2	3

THOSE WHO HAVE >>> NOT <<< BOUGHT TIRES RECENTLY, SKIP TO Q.21

16. The last time you bought tires, before deciding which tire or tires to buy, what information, if any, did you get from either what is imprinted on the body of the tire or provided on a tag or label attached to the tire? FOR EACH ITEM MENTIONED, ASK: Did you get that information from the tire itself, or from a tag or label attached to the tire? RECORD AS EITHER "1" OR "2" UNDER Q.17, BELOW.

17. In addition to the information you just named, did you get any other information about the tire from the tire seller before you made your purchase decision? RECORD AS "3" UNDER Q.17, BELOW.

18. ASK ONLY FOR THOSE NOT MENTIONED IN Q.16: Did you have information about any of the following items when you made your decision as to which tire to buy? RECORD UNDER "AIDED," BELOW.

19. FOR EACH ONE CHECKED UNDER "AIDED" ASK: Did you get that information from the body of the tire itself, from a label or tag attached to the tire, from the tire seller, from a tire placard inside the vehicle, or from some other source?

20. ASK FOR ALL THOSE CHECKED UNDER Q.16 OR Q.18:
I'm going to read back the list of items you said you were aware of when you made your tire purchase. For each of those items, I'd like you to tell me how important that item was in influencing your purchasing decision. Please use a scale from 1 to 5, where 1 means it was not at all important and 5 means it was very important in your decision. First, what about...

ROTATE:	Q.16 UNAIDED	Q.17 TIRE/TAG/SELLER	Q.18 AIDED	Q.19 TIRE/TAG/SELLER/PLACARD/OTHER	Q.20. IMPORTANCE
Material in the tire body		1 2 3		1 2 3 4 5	1 2 3 4 5
Type of belts in the tire (radial or non-radial)		1 2 3		1 2 3 4 5	1 2 3 4 5
Material in the belts		1 2 3		1 2 3 4 5	1 2 3 4 5
Number of plies		1 2 3		1 2 3 4 5	1 2 3 4 5
If this is an all-weather tire or not		1 2 3		1 2 3 4 5	1 2 3 4 5
Brand or mfr's name		1 2 3		1 2 3 4 5	1 2 3 4 5
Whether the tire is puncture resistant		1 2 3		1 2 3 4 5	1 2 3 4 5
Speed restriction		1 2 3		1 2 3 4 5	1 2 3 4 5
Maximum load rating		1 2 3		1 2 3 4 5	1 2 3 4 5
Treadwear rating		1 2 3		1 2 3 4 5	1 2 3 4 5
Traction rating		1 2 3		1 2 3 4 5	1 2 3 4 5
Temp resistance rating		1 2 3		1 2 3 4 5	1 2 3 4 5
Load range rating		1 2 3		1 2 3 4 5	1 2 3 4 5
Tube type/tubeless		1 2 3		1 2 3 4 5	1 2 3 4 5
DOT certification		1 2 3		1 2 3 4 5	1 2 3 4 5
Whether the tire can seal itself if punctured		1 2 3		1 2 3 4 5	1 2 3 4 5
Whether the tire can be regrooved		1 2 3		1 2 3 4 5	1 2 3 4 5
Warranty information		1 2 3		1 2 3 4 5	1 2 3 4 5
Price		1 2 3		1 2 3 4 5	1 2 3 4 5
Maintenance information		1 2 3		1 2 3 4 5	1 2 3 4 5

ALL RECENT TIRE BUYERS SKIP TO Q.25

ASK Q.21-24 ONLY FOR THOSE WHO HAVE NOT BOUGHT TIRES IN THE LAST 6 MONTHS.
ALL OTHERS SKIP TO Q.25.

21. When shopping for a tire, what information would you like to have about the tires that are available for your car to help yo decide which to buy? PROBE: Anything else? RECORD UNDER "Q.21 UNAIDED," BELOW.

22. I'm going to read a list of tire characteristics, including some of those you just mentioned. For each one I read, please tell me how important that particular item would be in your decision as to which tire to buy. Please use a scale of 1 to 5, where 1 means the item is not at all important, and 5 means it is very important. First, what about...

23. I'm going to read the list once more. This time I'd like to know where you would look for information about each of the items. First, what about... PROBE FOR UP TO THREE RESPONSES; RECORD UNDER Q.23, BELOW.

24. AFTER GOING THROUGH THE LIST, GO BACK TO EACH ITEM FOR WHICH THE RESPONDENT DID NOT MENTION "THE TIRE BODY" AS A SOURCE OF INFORMATION, AND ASK: To the best of your knowledge, is there information about [ITEM] on the body of the tire?

	Q.21	Q.22 IMPORTANCE						Q.23 LOCATION OF INFO						Q.24 INFO ON TIRE?		
	UNAIDED							TIRE	TAG/ LABEL	SELLER	PLACARD, VEHICLE	OTHER	DK	YES	NO	DK
Material in the tire body		1	2	3	4	5	9	1	2	3	4	5	6	1	2	3
Type of belts in the tire (radial or non-radial)		1	2	3	4	5	9	1	2	3	4	5	6	1	2	3
Material in the belts		1	2	3	4	5	9	1	2	3	4	5	6	1	2	3
Number of plies		1	2	3	4	5	9	1	2	3	4	5	6	1	2	3
If this is an all-weather tire or not		1	2	3	4	5	9	1	2	3	4	5	6	1	2	3
Brand or mfr's name		1	2	3	4	5	9	1	2	3	4	5	6	1	2	3
Whether the tire is puncture resistant		1	2	3	4	5	9	1	2	3	4	5	6	1	2	3
Speed restriction		1	2	3	4	5	9	1	2	3	4	5	6	1	2	3
Maximum load rating		1	2	3	4	5	9	1	2	3	4	5	6	1	2	3
Treadwear rating		1	2	3	4	5	9	1	2	3	4	5	6	1	2	3
Traction rating		1	2	3	4	5	9	1	2	3	4	5	6	1	2	3
Temperature resistance rating		1	2	3	4	5	9	1	2	3	4	5	6	1	2	3
Load range rating		1	2	3	4	5	9	1	2	3	4	5	6	1	2	3
Tube type/tubeless		1	2	3	4	5	9	1	2	3	4	5	6	1	2	3
DOT certification		1	2	3	4	5	9	1	2	3	4	5	6	1	2	3
Whether the tire can seal itself if punctured		1	2	3	4	5	9	1	2	3	4	5	6	1	2	3
Whether the tire can be regrooved		1	2	3	4	5	9	1	2	3	4	5	6	1	2	3
Warranty information		1	2	3	4	5	9	1	2	3	4	5	6	1	2	3
Price		1	2	3	4	5	9	1	2	3	4	5	6	1	2	3
Maintenance info		1	2	3	4	5	9	1	2	3	4	5	6	1	2	3

The Department of Transportation would like to find out how well the general public understands some of the terms that are used to describe motor vehicle tires. I'm going to read brief definitions of a few of the terms used to describe passenger car tires. For each term, please tell me which definition best describes your understanding of that term, whether it is definition A, B, or C. If you don't know or are not sure, just say so, and we'll go on to the next term. First, what about...

==========

25. Temperature Resistance Rating...is it...

A. the coldest temperature at which it is safe to use the tire;
B. the ability of the tire to resist a specific amount of heat before it loses its shape or blows out;
C. the temperature at which the tire begins to leak air at an unsafe rate.
D. DK/NS

26. Traction Rating...is it...

A. the length of time a tire can hold its grip on ice tilted at a specified angle of slope;
B. the ability of a tire to stop on wet pavement;
C. the time it takes a tire to stop from 60 miles per hour.
D. DK/NS

27. If there were two tires which were identical except that one had a traction rating of A and the other a traction rating of C, which one would you think had better traction, the one rated A or the one rated C?

"A" WOULD HAVE BETTER TRACTION....1
"C" WOULD HAVE BETTER TRACTION....2
DON'T KNOW/NOT SURE.....3

28. With regard to the **maintenance** of the tires on your vehicle, how often are your tires checked for such things as treadwear and inflation?

ONCE A WEEK OR MORE.....1
1 - 3 TIMES A MONTH.....2
6 TO 12 TIMES A YEAR.....3
2 TO 5 TIMES A YEAR.....4
LESS THAN TWICE A YEAR.....5
NEVER.....6

28a. Do you check the tires yourself, or does someone else do it for you?

SELF.....1
OTHER.....2
VARIES.....3

Finally, I have a few questions about your household which will help us in analyzing the results of this survey.

29. How many passenger vehicles, including passenger cars, passenger vans, mini-vans, sports cars, light trucks, or off-road vehicles designed to carry passengers, do the members of your household have access to for everyday use?

_____

30. How many licensed drivers are there in your household? _____

31. Please stop me when I read the category that includes your age.

under 18.....1	45 to 54.....5
18 to 24.....2	55 to 64.....6
25 to 34.....3	65 or older.....7
35 to 44.....4	==========
	REFUSED.....0

32. Are you currently employed full-time, employed part-time, temporarily unemployed, retired, a student, or not in the workforce at this time?

FULL-TIME.....1	RETIRED.....4
PART-TIME.....2	STUDENT.....5
UNEMPLOYED.....3	NOT IN WORKFORCE.6

33. What was the highest grade in school that you have had the opportunity to complete?

LESS THAN 8 YEARS.....1
9-11 YEARS.....2
HIGH SCHOOL GRAD/GED (12 YRS)....3
SOME COLLEGE.TECH SCHOOL (13-15).4
COLLEGE GRAD (16).....5
MASTERS DEGREE (17-18).....6
BEYOND MASTERS (19+).....7

REFUSED.....8

34. Which of the following best describes the racial or ethnic background of your household? Is it...

white.....1
black, but not hispanic.....2
hispanic.....3
Asian.....4
Native American.....5
or something else.....6 ASK Q.34a.

34a. How would you describe the racial or ethnic background of your household?

_____

35. And finally, please stop me when I read the category that includes your household's total income, before taxes, in 1988. Was it...

under $10,000.....1	$50,000 to $59,999.....6
$10,000 to $19,999..2	$60,000 to $69,999.....7
$20,000 to $29,999..3	$70,000 to $100,000.....8
$30,000 to $39,999..4	over $100,000.....9
$40,000 to $49,999..5	==========
	REFUSED/DK.....0

That's all the questions I have. Thanks for your time and cooperation.

Appendix A-2

Survey Instrument

Buyers of Tires for Fleets of Vehicles

NATIONAL HIGHWAY TRAFFIC ADMINISTRATION
U.S. DEPARTMENT OF TRANSPORTATION
FLEET TIRE BUYER SURVEY

OMB CONTROL NO.:
EXP. DATE:
CONTRACT #DTNH22-88-R-06007

INT:_____ TALLY:_____ RESPID_____
DATE:_____ EDIT:_____
START:_____ CODE:_____ AREA CODE:_____
END:_____ ENTER:_____

ASK FOR PERSON NAMED ON SAMPLE LIST OR FOR THE PERSON IN CHARGE OF THE ORGANIZATION'S VEHICLE FLEET.

Hello, I'm _____ , calling from Decision DC, in Washington, DC, on behalf of the US Department of Transportation, an agency of the federal government. We are conducting a survey among individuals responsible for purchasing replacement tires for vehicle fleets.

A. Does your firm own or lease passenger vehicles for use by its employees?

YES.....SKIP TO SCREENER C.
NO.....CONTINUE

B. Does your firm operate a fleet of vehicles for rental or lease to others, either individuals or organizations?

YES.....CONTINUE
NO.....THANK AND TERMINATE

C. I need to speak with the person who is responsible for deciding what replacement tires to purchase for any passenger cars, light trucks, and passenger vans you might have in your fleet? Would that be you?

IF NOT THE RIGHT PERSON, GET A NAME AND PHONE NUMBER FOR THE RIGHT PERSON, THEN THANK AND TERMINATE.

WHEN THE CORRECT PERSON IS ON THE PHONE, REPEAT THE INTRODUCTION AND SCREENERS A THROUGH C. THEN PROCEED AS FOLLOWS:

The survey has to do with the use, by tire buyers, of certain information about tires that is regulated by Federal law. Your participation in the survey is completely voluntary, and the information you provide to me will be kept completely anonymous. Nothing you tell me will be ever be reported in any way that will allow your individual responses to be identified with you or with your employer. The OMB Control Number for this survey is _____, and the expiration date is _____.

DOT/NHTSA FLEET TIRE BUYERS SURVEY/1990

1. Does your firm purchase replacement tires for fleet vehicles of any of the following types? IF YES, ASK: Approximately how many vehicles of that type are in the fleet?

	YES	NO	HOW MANY?
Passenger cars	1	2	_____
Light trucks, under 10,000 pounds GVW	1	2	_____
Full-size passenger vans, such as the Ford Econoline	1	2	_____
Mini-vans, such as the Ford Aerostar, Chevrolet Astro, Plymouth Voyager, or others of that type	1	2	_____

2. Which of the following best describes the method you use to purchase replacement tires for the passenger vehicles in your fleet? Are they purchased...

for each fleet vehicle individually, as needed.....1 **SKIP TO Q.3**
in wholesale quantities.....2
a combination of those two methods.....3
or in some other way [DESCRIBE IN DETAIL BELOW].....4 **SKIP TO Q.3**

2a. How often do you buy tires for your fleet from each of the following types of tire sellers? What about [READ FIRST TYPE FROM LIST]? Would that be always, more than half the time, less than half the time, or never?

ROTATE:	ALWAYS	MORE 1/2	LESS 1/2	NEVER
a tire manufacturer	1	2	3	4
a tire wholesaler	1	2	3	4
a retail store that specializes in tires	1	2	3	4
a department store	1	2	3	4
a service station	1	2	3	4

3. Does your firm have contracts with one or more tire sellers to provide replacement tires for your fleet vehicles?

YES.....1 NO.....2

4. How do you pick the tire sellers from whom you buy replacement tires? Is that by...

competitive bidding on standard specifications.....1
by rotating among a predetermined list of sellers.....2
at the discretion of the individual tire buyer.....3
or in some other way [DESCRIBE IN DETAIL BELOW].....4

5. I'm going to read a list of factors people might use to decide when to replace a tire. For each factor, I'd like you to tell me whether or not you replace tires on that basis. Do you ever replace tires because of...

[IF "NO," CIRCLE 4 FOR "NONE;" IF YES, ASK]:

About what proportion of the replacement tires you buy are bought for that reason? Would you say **almost all, more than half, or less than half?**

	ALMOST ALL	MORE THAN HALF	LESS THAN HALF	NONE
damage to the body or sidewall of the tire	1	2	3	4
excessive treadwear	1	2	3	4
the number of miles those tires have been driven, regardless of treadwear	1	2	3	4
the number of months the tires have been in use, regardless of treadwear	1	2	3	4

5a. What other factors, if any, do you use to determine when a tire is replaced? **FOR ANY FACTOR NAMED, ASK:** How often do you replace tires on that basis?

	ALMOST ALL	MORE THAN HALF	LESS THAN HALF	NONE
_____	1	2	3	4
_____	1	2	3	4
_____	1	2	3	4

6. There are a number of tire characteristics that people may or may not ask for specifically when they buy replacement tires. When you buy a tire, do you give the dealer any specific instructions about the type of replacement tire you want, other than size? **IF "YES," ASK:** What characteristics do you specify? **[RECORD UNDER "UNAIDED," BELOW].**

FOR EACH CHARACTERISTIC NAMED UNAIDED, ASK:

7. To the best of your knowledge, is there information about [CHARACTERISTIC] imprinted on the body of the tire itself?

8. I'm going to read a list of tire characteristics, including some of those you just mentioned. For each one I read, I'd like you to rate that characteristic as to how important it is in your tire purchasing decisions. Please use a rating scale of 1 to 5, where 1 means "not at all important" and 5 means "very important." First, how would you rate the importance of...

ROTATE:	Q.6. UNAIDED	Q.7. YES	Q.7. NO	Q.8. IMPORTANCE				
Material in the tire body.	_____	1	2	1	2	3	4	5
Type of belts in the tire (radial or non-radial)..	_____	1	2	1	2	3	4	5
Material in the belts.....	_____	1	2	1	2	3	4	5
Number of plies.....	_____	1	2	1	2	3	4	5
Speed restriction.....	_____	1	2	1	2	3	4	5
Maximum load rating.....	_____	1	2	1	2	3	4	5
Treadwear rating.....	_____	1	2	1	2	3	4	5
Traction rating.....	_____	1	2	1	2	3	4	5
Temp resistance rating....	_____	1	2	1	2	3	4	5
Load range rating.....	_____	1	2	1	2	3	4	5
Tube type/tubeless.....	_____	1	2	1	2	3	4	5
DOT certification.....	_____	1	2	1	2	3	4	5
Whether the tire can be regrooved.....	_____	1	2	1	2	3	4	5
FOR THE FOLLOWING ITEMS, ASK Q.8 ONLY IF MENTIONED UNAIDED								
Warranty.....	_____	1	2	1	2	3	4	5
Price.....	_____	1	2	1	2	3	4	5
Maintenance information...	_____	1	2	1	2	3	4	5
All-weather designation...	_____	1	2	1	2	3	4	5
Brand/mfr's name.).....	_____	1	2	1	2	3	4	5
Puncture resistance.....	_____	1	2	1	2	3	4	5
Whether the tire is self-sealing.....	_____	1	2	1	2	3	4	5
OTHER CHARACTERISTICS								
_____	_____	1	2	1	2	3	4	5
_____	_____	1	2	1	2	3	4	5
_____	_____	1	2	1	2	3	4	5

9. Using that same scale of 1 to 5, how important is each of the following sources of information to you in deciding which tires are best for your purposes? First, how would you rate...

ROTATE:

publications circulated through fleet administrators' organizations	1	2	3	4	5	NA
federal government publications concerning tires	1	2	3	4	5	NA
tire evaluations or ratings published by consumer organizations	1	2	3	4	5	NA
in-house test reports produced by your own firm	1	2	3	4	5	NA
tire catalogs distributed by publishers who are not affiliated with tire manufacturers	1	2	3	4	5	NA
tire information published by individual tire manufacturers	1	2	3	4	5	NA
information contained on the tire body	1	2	3	4	5	NA
your own prior experience with specific brands or types of tires	1	2	3	4	5	NA

9a. Are there any other sources of information that you use? **FOR EACH ONE NAMED, ASK:** How would you rate the importance of that source?

_____	1	2	3	4	5	NA
_____	1	2	3	4	5	NA
_____	1	2	3	4	5	NA

Some of the terms used to describe the characteristics of passenger car tires may be ambiguous or confusing to the consumer, resulting in poor choice of tires for specific applications. To provide a baseline against which we can compare the knowledge of tire terminology among the general population, I'm going to read some terms, and for each term I'll read three possible definitions. I'd like you to tell me which definition is the most accurate for each term. If you don't know the correct definition or aren't sure, just say so and we'll go on to the next one. First, what about...

10. Temperature Resistance Rating...is it...

A. the coldest temperature at which it is safe to use the tire;
B. the ability of the tire to resist a specific amount of heat before it loses its shape or blows out;
C. the temperature at which the tire begins to leak air at an unsafe rate.
D. DK/NS

11. Traction Rating...is it...

A. the length of time a tire can hold its grip on ice tilted at a specified angle of slope;
B. the ability of a tire to stop on wet pavement;
C. the time it takes a tire to stop from 60 miles per hour.
D. DK/NS

12. If there were two tires which were identical except that one had a traction rating of A and the other a traction rating of C, which one would you think had better traction, the one rated A or the one rated C?

"A" WOULD HAVE BETTER TRACTION....1
"C" WOULD HAVE BETTER TRACTION....2
DON'T KNOW/NOT SURE.....3

13. Is there any information that is now imprinted on passenger car tires that you think is unnecessary or misleading in any way?

YES....1 NO.....2 SKIP TO Q.14

13a. What information is that, and how would you change it?

14. Is there any information about tires that you would like to have, but have difficulty finding?

YES.....1 NO.....2 THANK AND TERMINATE

14a. What information is that?

Thanks, that's all the questions I have. We really appreciate your cooperation.

Appendix A-3

Survey Instrument

Tire Sellers

NATIONAL HIGHWAY TRAFFIC ADMINISTRATION
U.S. DEPARTMENT OF TRANSPORTATION
TIRE SELLER SURVEY

OMB CONTROL NO.:
EXP. DATE:
CONTRACT #DTNH22-88-R-06007

INT:_____ TALLY:_____ RESPID_____
DATE:_____ EDIT:_____
START:_____ CODE:_____ AREA CODE:_____
END:_____ ENTER:_____

ASK TO SPEAK WITH THE SALES MANAGER. IF NOT AVAILABLE, GET A NAME AND ASK FOR A GOOD CALLBACK TIME.

Hello, my name is _____, and I'm calling from Washington, DC, on behalf of the US Department of Transportation, an agency of the Federal government. We are conducting a nationwide study concerning the use of safety-related information about passenger car tires. Your firm was selected at random from a list of approximately 175,000 businesses that sell tires. The answers you give me will remain completely anonymous, and the survey results will not be reported in any way that would allow your individual answers to be associated with your name or the name of your firm. The survey will take less than 10 minutes. Of course, your participation is completely voluntary. The OMB Control number for the survey is _____, and the expiration date is _____.

First, to be sure you are the person I should be interviewing, I need to speak with someone who knows about the types of tires you sell, the types of information consumers ask about, and the kinds of information that are included in your firm's advertising for tires. Would that be you?

IF NOT THE RIGHT PERSON, GET A NAME AND NUMBER AND A GOOD CALLBACK TIME.

1. First, please estimate the total number of passenger car tires your firm sells in a typical week for use on cars, station wagons, sports cars, vans, mini-vans, light trucks under 10,00 pounds GVW, 4-wheel-drive or off-road vehicles designed to carry passengers. Do you sell...

   fewer than 50 per week.....1
   between 50 and 200 per week.....2
   between 200 and 500 per week.....3
   or more than 500 per week.....4

2. About what proportion of your firm's sales of passenger car tires are to fleet buyers? Is that...

   none.....0 **SKIP TO Q.4**
   less than 25% 1
   between 25 and 50%.....2
   between 50 and 75%.....3
   over 75%.....4

   DK/NOT SURE.....5

3. How much would you say fleet buyers rely on your sales staff's expertise? Would that be...

a great deal.....1
somewhat.....2
not much.....3
or not at all.....4
NOT SURE/DON'T KNOW.....5

4. How much do you think buyers of individual tires rely on your sales staff's expertise? Would that be...

a great deal.....1
somewhat.....2
not much.....3
or not at all.....4
NOT SURE/DON'T KNOW.....5

5. What methods do you use to advertise your tires? **PROBE: Any others?**

NEWSPAPER DISPLAY ADS.....1
RADIO COMMERCIALS.....2
TELEVISION COMMERCIALS.....3
NEWSPAPER INSERTS.....4
DIRECT MAIL ADVERTISING.....5
YELLOW PAGES LISTINGS.....6
FLOOR DISPLAYS IN THE STORE.....7
CROSS-SELLING OF TIRES TO CUSTOMERS SHOPPING FOR OTHER ITEMS.....8
MANUFACTURERS' BROCHURES OR PAMPHLETS...9

OTHER: _____...0

6. For each of the following types of information about tire characteristics please tell me whether it is always, sometimes, or never included in your advertising? What about...

ROTATE:	ALWAYS	SOME	NEVER
The type of material in the tire body	1	2	3
Whether the tire is a radial or non-radial tire	1	2	3
The type of material in the belts	1	2	3
Number of plies in the tire	1	2	3
If the tire is an all weather tire	1	2	3
The brand and/or manufacturer's name	1	2	3
Any speed restriction on the tire	1	2	3
Maximum load rating	1	2	3
Treadwear rating	1	2	3
Traction rating	1	2	3
Temperature resistance rating	1	2	3
Load range rating	1	2	3
Whether the tire has a DOT certification	1	2	3
Whether the tire is self-sealing	1	2	3
Whether the tire can be regrooved	1	2	3
Warranty information	1	2	3
Price	1	2	3

7. Are there any other items of information about tires that you regularly include in your advertising?

YES....1 NO....2 SKIP TO Q.8

7a. What are they? RECORD BELOW.

8. Have any members of your sales staff ever received training specifically related to tire quality, tire safety, or government quality or safety standards?

YES.....1 NO.....2 **SKIP TO Q.9** DON'T KNOW...3 **SKIP TO Q.9**

8a. **IF YES:** By what type of organization was that training given? Was it... **MARK ALL THAT APPLY**

a Federal government agency.....1
a state government agency.....2
a tire manufacturer.....3
your firm.....4
a technical school.....5
or some other type of institution.....6

TYPE:_____

9. I'm going to read a list of tire characteristics. I'd like you to rate each characteristic as to how important you think it is in the typical tire buyer's tire purchasing decision. On a scale of 1 to 5, where 1 means "not at all important" and 5 means "very important," how would you rate the importance to the consumer of...

10. I'm going to read the list of tire characteristics again. For each one I read, please tell me if, to the best of your knowledge, there is information about that characteristic imprinted on the body of the tire itself?

ROTATE:	**Q.9.**	**Q.10** Y	N	DK
The type of material in the tire body	1...2...3...4...5	1	2	3
Whether the tire is a radial or non-radial tire	1...2...3...4...5	1	2	3
The type of material in the belts	1...2...3...4...5	1	2	3
Number of plies in the tire	1...2...3...4...5	1	2	3
Any speed restriction on the tire	1...2...3...4...5	1	2	3
Maximum load rating	1...2...3...4...5	1	2	3
Treadwear rating	1...2...3...4...5	1	2	3
Traction rating	1...2...3...4...5	1	2	3
Temperature resistance rating	1...2...3...4...5	1	2	3
Load range rating	1...2...3...4...5	1	2	3
Whether the tire is a tube-type or a tubeless tire	1...2...3...4...5	1	2	3
Whether the tire has a DOT certification	1...2...3...4...5	1	2	3
Whether the tire can be regrooved	1...2...3...4...5	1	2	3

11. The Department of Transportation would like to find out how well the terms used to describe motor vehicle tires are understood. I'm going to read three brief definitions of a term used to describe one characteristic of a passenger car tire. Please tell me which definition best fits your understanding of that term, whether it is definition A, B, or C. If you don't know or are not sure, just say so and we'll go on to the next question. The term is "temperature resistance rating." Does that term mean...

A. the coldest temperature at which it is safe to use the tire;
B. the ability of the tire to resist a specific amount of heat before it loses its shape or blows out;
C. the temperature at which the tire begins to leak air at an unsafe rate.
D. DK/NS

12. If there were two tires which were identical except that one had a traction rating of A and the other a traction rating of C, which one would you think had better traction, the one rated A or the one rated C?

"A" WOULD HAVE BETTER TRACTION....1
"C" WOULD HAVE BETTER TRACTION....2
DON'T KNOW/NOT SURE.....3

13. Is there any information that is now imprinted on passenger car tires that you think is unnecessary or misleading in any way?

YES....1 NO.....2 SKIP TO Q.14

13a. What information is that, and how would you change it?

14. Is there any information about tires that you would like to have, but have diff culty finding?

YES.....1 NO.....2 THANK AND TERMINATE

14a. What information is that?

15. Which one of the following best describes your tire sales operation? Are you...

an independent tire dealer.....1
a retail outlet for a specific manufacturer....2
an automobile service station.....3
a department store.....4
or some other type of dealership [DESCRIBE BELOW]

_____ 5

Thanks, that's all the questions I have. We really appreciate your cooperation.

Appendix A-4

Survey Instrument

Tire Repairers/Retreaders

National Highway Traffic Administration
U.S. Department of Transportation
Tire Repairer/Retreader Survey

OMB Control No.:
Exp. Date:
Contract # DTNH22-88-R06007

INT:_____ TALLY:_____ RESPID_____
DATE:_____ EDIT:_____
START:_____ CODE:_____ AREA CODE_____
END:_____ ENTER:_____

ASK TO SPEAK WITH MANAGER OR OWNER. IF NOT AVAILABLE, ASK FOR A GOOD CALLBACK TIME.

Hello, my name is _____. I'm calling from Washington, D.C. on behalf of the United States Department of Transportation. We're conducting a nationwide study concerning Federally regulated information about passenger car tires. Your company was selected as part of a small, scientifically selected sample from a list of approximately 6000 companies that provide repairing or retreading services for passenger car tires.

A. Just to confirm our information, does your firm provide either tire repair or tire retreading services for passenger cars, including vans, mini-vans, light trucks under 10,000 pounds GVW, and 4-wheel drive or off-road vehicles designed to carry passengers?

YES.....CONTINUE NO.....THANK AND TERMINATE

B. I need to speak with someone who is familiar with the types of services you provide and with your customers. Would that be you?

YES.....CONTINUE NO.....ASK TO SPEAK WITH AN APPROPRIATE PERSON; IF NOT AVAILABLE, ARRANGE FOR A CALLBACK.

Your answers will remain completely anonymous, and the results of the study will not be reported in any way that will allow your individual answers to be identified with you or your company. The survey will take less than 10 minutes. Of course, your participation is voluntary. For your information, the Office of Management and Budget Control No. for this study is _____, and the expiration date is _____.

1. First, does your firm repair passenger car tires?

YES.....1 NO.....2 SKIP TO Q.5

2. Does your firm repair tires for... YES NO

individual consumers for their personal cars?...1.....2
purchasers of tires for motor vehicle fleets?...1.....2

3. I'm going to read a list of tire characteristics, and I'd like you to tell me how important each one is in determining whether or not a particular tire can safely be repaired. On a scale of 1 to 5, where 1 means not at all important and 5 means very important, how important is...

4. Now, for each of those same characteristics, I'd like you to tell me, to the best of your knowledge, whether there is information about that characteristic imprinted on the body of the tire. If you don't know or are not sure, just say so and we'll go on to the next one.

ROTATE:	Q.3 IMPORTANCE	Q.4:ON TIRE? YES	NO	DK
Type of material in the tire body	1..2..3..4..5	1	2	3
Whether the tire is a radial or not	1..2..3..4..5	1	2	3
Type of material in the belts	1..2..3..4..5	1	2	3
Number of plies in the tire	1..2..3..4..5	1	2	3
Whether or not it is an all-weather tire	1..2..3..4..5	1	2	3
The brand name or manufacturer of the tire	1..2..3..4..5	1	2	3
Whether or not the tire is puncture-resistant	1..2..3..4..5	1	2	3
Speed restrictions on the tire, if any	1..2..3..4..5	1	2	3
The tire's maximum load rating	1..2..3..4..5	1	2	3
The tire's treadwear rating	1..2..3..4..5	1	2	3
The tire's traction rating	1..2..3..4..5	1	2	3
The tire's temperature resistance rating	1..2..3..4..5	1	2	3
The tire's load range rating	1..2..3. 4..5	1	2	3
Whether the tire is self-sealing	1..2..3. 4..5	1	2	3
Whether the tire can be regrooved	1..2..3. 4..5	1	2	3

OTHER _____ 1

OTHER _____ 1

OTHER _____ 1

5. Does your firm sell retreaded tires for passenger cars...

	YES	NO
to individual consumers, for their personal cars?	1	2
to buyers of tires for vehicle fleets?	1	2
to retail tire outlets?	1	2

IF "NO" TO ALL THREE, SKIP TO Q.11

6. Do you perform the retreading in your own shop, or do you acquire retreads from an outside source?

in-house.....1
outside source.....2 **SKIP TO Q.9**

7. I'm going to read a list of tire characteristics. and I'd like you to tell me how important each one is in determining whether or not a particular tire can safely be retreaded. On a scale of 1 to 5, where 1 means not at all important and 5 means very important, how important is...

IF Q.4 WAS ASKED, SKIP TO Q.9; OTHERWISE CONTINUE WITH Q.8 .

8. Now, for each of those same characteristics, I'd like you to tell me, to the best of your knowledge, whether there is information about that characteristic imprinted on the body of the tire. If you don't know, or are not sure, just say so and we'll go on to the next one.

ROTATE:	Q.7 IMPORTANCE	Q.8: ON TIRE? YES	NO	DK
Type of material in the tire body	1..2..3..4..5	1	2	3
Whether the tire is a radial or not	1..2..3..4..5	1	2	3
Type of material in the belts	1..2..3..4..5	1	2	3
Number of plies in the tire	1..2..3..4..5	1	2	3
Whether or not it is an all-weather tire	1..2..3..4..5	1	2	3
The brand name or manufacturer of the tire	1..2..3..4..5	1	2	3
Whether or not the tire is puncture-resistant	1..2..3..4..5	1	2	3
Speed restrictions on the tire, if any	1..2..3..4..5	1	2	3
The tire's maximum load rating	1..2..3..4..5	1	2	3
The tire's treadwear rating	1..2..3..4..5	1	2	3
The tire's traction rating	1..2..3..4..5	1	2	3
The tire's temperature resistance rating	1..2..3..4..5	1	2	3
The tire's load range rating	1..2..3. 4..5	1	2	3
Whether the tire is self-sealing	1..2..3. 4..5	1	2	3
Whether the tire can be regrooved	1..2..3. 4..5	1	2	3

OTHER_____1

OTHER_____1

OTHER_____1

9. Does any of your advertising to the general public deal specifically with retreaded tires?

YES....1 NO.....2 N/A.....3 **SKIP TO Q.11**

10. Does your advertising for retreaded tires ever specifically mention...

	YES	NO
the Federal Motor Vehicle Safety Standards or FMVSS	1	2
the Federal Uniform Tire Grading Standards or UTQGS	1	2
any other state or Federal standards, regulations, codes, approvals or requirements	1	2

11. Have any members of your sales staff ever received training specifically related to tire quality, tire safety, or government quality or safety standards?

YES.....1
NO.....2 **SKIP TO Q.12**
DON'T KNOW.....3 **SKIP TO Q.12**

11a. IF YES: Has any employee ever received that type of training from...

	YES	NO	DK
a Federal government agency.....	1	2	3
a state government agency.....	1	2	3
a tire manufacturer.....	1	2	3
your firm.....	1	2	3
a technical school.....	1	2	3
or some other type of institution...	1	2	3

SPECIFY TYPE_____

==========

12. Some of the terms used to describe the characteristics of passenger car tires may be ambiguous or confusing to the consumer, resulting in poor choice of tires for specific applications. To provide a baseline against which we can compare the knowledge of tire terminology among the general population, I'm going to read three possible definitions of one of those terms, and I'd like you to tell me which definition you think is the most accurate. If you don't know or aren't sure, just say so and we'll go on to the next question. First, what about...

==========

Temperature Resistance Rating...is it...

A. the coldest temperature at which it is safe to use the tire;
B. the ability of the tire to resist a specific amount of heat before it loses its shape or blows out;
C. the temperature at which the tire begins to leak air at an unsafe rate.
D. DK/NS

13. If there were two tires which were identical except that one had a traction rating of A and the other a traction rating of C, which one would you think had better traction, the one rated A or the one rated C?

"A" WOULD HAVE BETTER TRACTION....1
"C" WOULD HAVE BETTER TRACTION....2
DON'T KNOW/NOT SURE.....3

14. Is there any information that is now imprinted on passenger car tires that you think is unnecessary or misleading in any way?

YES.....1 NO.....2 SKIP TO Q.15

14a. What information is that?

15. Is there any information about the characteristics of specific tires that you would like to have, but have difficulty finding?

YES.....1 NO.....2 THANK AND TERMINATE

15a. What information is that?

Thanks, that's all the questions I have. We really appreciate your cooperation.

Appendix B

Verbatim Responses of Interviewees

[NOTE: The numbers preceding the comments are contractor record codes]

Appendix B-1

Verbatim Responses to Interviewees

Buyers of Tires for Fleets of Vehicles

REC#	Q8UMAID1	Q8UMAID2	Q8ANOTHER1	Q13A	Q14A
1			RELY ON GE		DEFINITIONS USED 4 DIF. TIRE TYPES/BROCH
2					
3					
4					
5					
6					
7					
8					
9	MODEL # OF TIRE - YES, IMPRINTED	JOB FUNCTION - NO, NOT IMPRINTED		MUD/SNOW RATING ON OFF-SEASON MISLEADING	
10				RATINGS UNRELIABLE/BASE ON ROAD TESTS	REPLAC. TIRES PER THOUSAND CASING PROBS
11					
12			MANUFACTURER'S SELECTION		
13					
14	WHITEWALL/NOT IMPRINTED		VEHICLE MANUFACTURER	LOT NUMBER: OFTEN MISTAKEN FOR SERIAL #	
15					
16					
17					
18					
19					HOW CONSUMERS CAN COMPARE TIRES
20				THE WHOLE NUMBERING SYSTEM-WRITE IT OUT	
21					
22				TERMS TO DESCRIBE DIFFICULT UNDERSTAND	
23				TIRE PRESSURE RATING-USE #'S BASED/SIZE	
24				PLY RATING-CHANGE FROM PLIES TO PLY	
25				TOO MUCH INFO-GROUP & USE LARGER LETTERS	
26					
27					
28					
29					
30					
31	BLACKWALL/NOT IMPRINTED				
32					
33			INFO. FROM LEASING COMPANY		
34	WALLS (WHITE/BLACK)				
35					
36			OUTSIDE FIRM		
37			NATIONAL CONTRACT LITERATURE		
38			ASS.		
39			ROAD TEST	PLY NO USE-LOAD GIVES PLY & SIDEWALL	HARD TO FIND COMPARISON BTWN BRAND A & B
40	OFF HIGHWAY TIRES/OK @ IMPRINT				
41					
42					
43					
44					
45					
46					
47			RECOMMENDED LEASING COMPANIES		
48	BLACKWALL/NOT IMPRINTED		IN-HOUSE REPORTS BY OTHER FIRMS	MEANINGS OF TERMS LIKE OFF-SEASON/TERAIN	HARD TO GET QUALITY PRODUCT LIST-FED GOV
49					
50					
51					
52					
53					
54			FLEET LEASING COMPANY INFORMATION		STANDARD SIZE OF THE TIRES
55					
56					
57					
58					
59					
60	QUALITY / NOT IMPRINTED				
61	FIRST LINE TOP GRADE TIRE / IMPRINTED				
62			POLICE AGENCYS		
63			TRUCKING & AUTOMOTIVE MAGS	WOULD STANDARDIZE ALL WEATHER SYMBOLS -	RECOMMEND OR TESTS /INFO ON STUD TIRES
64			TRADE PUBLICATIONS		PERFOR.RELATING TO SPECIFIC TYPES VEHICL
65				TYPE & TRACT MISLEAD\M/S NOT ALL IN M/S	
66	BLACK WALLS / NOT IMPRINTED		LEASING COMPANY		
67					
68			STATUS AND SPECIFICATIONS (DOT); ASTM		
69					
70					
71				LOAD INFO UNCLEAR TO PUBLIC: EDUCATE	DOT SPECS HARD TO FIND:WHERE FIND-GOVT
72					

REC#	Q8UMAID1	Q8UMAID2	Q8ANOTHER1	Q13A	Q14A
73					
74					
75					
76					TIRE PRESSURE IS DIFFICULT TO FIND
77			DEALER RECOMMENDATION		
78					
79					TIRE PRESSURE SHOULD BE BIGGER
80				P)LOAD RATE Q)DEFINITIONS TO UNDERSTAND	LOAD/SPEED RATE,LBS/SQ IN.,MAX TIRE INFL
81	WHITE WALL / IMPRINTED			P)SPEED RATE,A)LETTER SYS.,SPEED BY EACH	PLIES HARD TO READ, CLOSE TO RIM & SMALL
82					
83					
84	MODEL NUMBER / IMPRINTED			INFORMATION MISLEAD INCONSISTENT MANUF.	
85			LEASING COMPANY	WIDTH & DEPTH RATIO CONFUSING	
86					
87	MATCH OTHER TIRES ON CAR / IMPRINTED UPGRADE TO BETTER TIRE / IMPRINTED				
88	ORIG EQUIP OR EQUAL REPLACE/NOT IMPRINT				
89	COMPARABLE TIRE REPLACED/NOT IMPRINTED				
90					
91					
92				RELEASE RATING - COMPLETELY DELETE IT	
93					
94	EXACT TIRE BY #/IMPRINTED		MANUFACTURER'S INFORMATION		
95					
96			MAINTENANCE CREW	TO AVOID CONSUMER LOAD RATINGS CONFUSING	
97					
98				WHOLE IS MISLEADING-SPELL OUT VS CODES	
99					
100	BLACKWALL/IMPRINTED				

Appendix B-2

Verbatim Responses of Interviewees

Tire Sellers

RESPONSES TO Q.7A., TIRE SELLER SURVEY

RECORD NUMBER	
4	SIZES
20	WHITE WALL OR NOT
21	IF THE TIRES HAVE WHITEWALLS OR RAISED LETTERS
26	HISTORY OF COMPANY (MFR) UPDATE ON NEW PRODUCTS (TIRES)
27	SPECIFY WHETHER FOR IMPORTS OR SMALL CARS, OFF-ROAD, LIGHT TRUCK, AERODYNAMIC VEHICLE DESIGNS, MUSCLE CARS, SPORTS TRUCK, VANS, RV'S
31	BLACK OR WHITEWALLS
32	BLACK- OR WHITEWALLS RAISED WHITE LETTERS SPORT OR STANDARD TYPE TIRE
35	SIZE
36	WHITE WALLS OR RAISED WHITE LETTERS
42	WHETHER THEY ARE WHITE WALL, BLACKWALL, OR RAISED WHITE LETTERS
46	SIZE
50	SHOW A PICTURE AND TELL THEM WHICH TIRE IT IS
52	OCCASIONALLY WILL ADVERTISE TREAD DEPTH WHITE OR BLACKWALL
53	GENERAL DESCRIPTION OF THE TIRE
60	IF IT'S WHITEWALL SPECIFIC KIND OF TREAD

62 TIRE ROTATION, BALANCING AND FLAT REPAIRS (OTHER SERVICES)

63 WE ADVERTISE BY KEEPING THE CONSUMER INFORMED AND TRYING TO EDUCATE HIM/HER ON THE APPROPRIATE TIRES FOR THEIR USE

64 WE ALWAYS STAND BEHIND ANYTHING WE ADVERTISE, FOR EXAMPLE, ALIGNMENT AND THE GUARANTEED MILEAGE

66 RE-CAPS AND USED TIRES

67 WE ADVERTISE THAT WE GIVE AN EXTRA WARRANTY AND THAT WE ALSO GIVE SERVICE TO THE TIRES WE SELL

70 SHOW PICTURES
ADS WITH SPECIAL WARRANTIES;
IF A SPECIAL TIRE, WILL PUT MORE EMPHASIS ON IT

74 WE ADVERTISE OUR QUANTITY, QUALITY, AND SELECTION

75 WE ADVERTISE OUR COMPARISON WITH OTHER BRANDS

81 ADVERTISE ON QUALITY COMPARISON, I.E., GOOD, BETTER, BEST
SOMETIMES WE INCLUDE THE "ORIGINAL EQUIPMENT" IN OUR ADS
SOMETIMES WE RUN ADS ON DISCONTINUED OR BLEMISHED TREADS

82 WE DISCUSS THE STYLE OF THE TIRE,
THE APPEARANCE, AND
THE WIDTH OF THE WHITEWALL

88 ONLY [ADVERTISE] THAT WE SELL NEW, USED, AND RECAPS

89 WHETHER THEY ARE WHITE - OR BLACKWALLS

92 A WARRANTY WE OFFER THROUGH WESTERN,
ALSO FREE ROTATION, REPAIR, AND LIFETIME BALANCING

98 WARRANTY OFFERED BY WAL-MART, [INCLUDING] A FREE ROAD HAZARD WARRANTY, FREE MOUNTING, FREE VALVA STEMS, FREE ROTATION, AND FREE FLAT REPAIR...FOR TIRES PURCHASED AT WAL-MART--THIS EXCLUDES SPLIT-RIMS

WE HAVE ONE PRICE FOR SALE ON ADJUSTMENTS MADE ON TIRES SOLD AT WAL-MART; THIS APPLIES IF THE CUSTOMER IS BRINGING THE TIRE IN FOR REPAIR.

WE DO NOT HAVE A DUAL-PRICE STRUCTURE, AND WE ADVERTISE THIS

99 WE ADVERTISE THE PERFORMANCE OF OUR TIRES; THERE IS ONE PARTICULAR TIRE WE ADVERTISE THAT WAY; IT MEETS GOVT DOT STANDARDS AFTER 40,000 MILES. WE ALSO ADVERTISE COMPETITIVELY.

107 WE ADVERTISE THE COSMETICS OF THE TIRE, WHETHER WHITE- OR BLACK-WALL AND WE APPEAL TO DOMESTIC AND FOREIGN CAR OWNERS.

WE STATE OUR AVAILABILITY

VERBATIM RESPONSES TO Q.13A, TIRE SELLER SURVEY

RECORD
NUMBER

005 The traction, temp and treadwear ratings.

020 Standard, that there be an industry wide standard for each rating.

021 The DOT rating is misleading.

024 To the consumer, terms like "ultra", "dina-groove" and "mega" may be misleading because they may think they are getting a high performance tire when it is actually a regular tire.

026 Treadwear rating is misleading. Mud/snow rating is misleading. Treadwear rating should be done away with. Should be public knowledge what testing criteria was used. Mud/snow rating should be heavily tested and more closely regulated by the government.

027 Treadwear rating is misleading.

028 M+S = all season M/S = snow tire. Mud and snow should be imprinted on the sidewall for snow tires.

029 Ply rating: saying 6-ply tires and 4-ply sidewall could be simplified by giving one ply rating.

030 Treadwear rating, should have a set of standards that all companies go by.

035 I think that the treadwear, temperature and traction ratings are misleading to the customer because they can't really relate it to anything. You can't compare the rating of one manufacturer to another and get a true picture of each characteristic, mainly treadwear.

036 Temperature, traction and treadwear ratings are all misleading. Should have an independent outfit do the ratings. There is no control, no regulation. No basis of comparison because each manufacturer rates their own tires. Some manufacturers rate their tires higher to sell them. The public get screwed.

039 Yea, actually the temperature and traction ratings are misleading. You would

assume "A" is the best and its actually the poorest. The whole world works on A as the best. The labels are not bad if you read the fine print.

052 Plies of rubber. They tell us to sell a 4-ply tires, then the tire says 2-ply sidewall or 2-ply polyester. It is confusing and the customer doesn't know what it means either. Change it? I just don't know.

059 The treadwear rating is deceiving to the consumer because it appears to be government tested; it is not. It is tested by the manufacturer. To change that, I feel that the fact that it is manufacturer tested and not a government test should be added to what is already imprinted on the tire.

061 The information on the tire is misleading to the consumer in that the consumer perceives that the temperature resistance rating, the treadwear rating and traction rating are government tested. They are not. The government has no testing facility. The tire is really drum tested by the tire manufacturer. The consumer perceives by the writing on the tire wall that it is government tested. To change this, I suggest that the government add to the "library" printed on the side of the tire that these are manufacturers' test ratings, not government ratings.

066 I think that tire-grading is sometimes misleading. I have been in the tire dealing business nearly ten years. I find that some companies put on a higher treadwear rating than is true.

070 I don't know how you would change it because it's the federal government, they won't change it. They put a lot of junk on it.

081 The ratings themselves are not accurate. I don't know how I would change that. I don't believe in the government's rating system. There ought to be a neutral way of testing tires so that they all meet the same criteria.

082 Temperature and traction ratings are misleading because each company rate their own tires. They're not rated against a standard.

095 Yes, in some respects. For instance, treadwear. I've seen some rated 200 that would outwear ones rated 300. There are situations where it didn't apply to our situation. Basically, its accurate. Not much need to change.

096 Treadwear, the rating. Each manufacturer has their own rating. They don't work off the same level. Very misleading concerning treadwear. I don't think a government body regulates it. I would have a government body regulate it.

098 I think the treadwear rating is misleading. The best way to change this would be to test it against something of equal quality or set it up on a machine and run it against the machine based on some standards.

101 No standardized testing methods for treadwear rating. Each manufacturer has their own methods. More government involvement to set up a standardized test for all manufacturers because now a manufacturer can change their ratings, one year it could be a treadwear rating of 240 and the next 260.

103 Yes! Mud and snow, the letters M&S. Manufacturers have been putting M&S on their tires even though they're not made to those standards just to sell the tires in specific states. More government control.

VERBATIM RESPONSES TO Q 14A, TIRE SELLER SURVEY

RECORD
NUMBER

006 Where they're made and by whom. Whether they're made in the US or Japan.

009 Specific use data, like a comparison of the tire ratings. The public should know this as well.

024 Heat, range and highest sustained speed should be imprinted on there instead of saying "sustained speed is 80 mph" because you have to translate it and if you don't have the code book, you have to call around.

028 The weight designated by the number immediately following the tire size, such as, P195 75 14 *89H (He can't find how much weight this stands for).

053 Dimensions specifications as to the overall diameter and width. That tells the customer whether it will fit or be about the same height.

057 Makes and sizes of older tires. Tires that are not in use so much, but you would like to know the source of them. Would also like to see more consumer analysis of tires for the public.

064 The minimum and maximum tire pressure allowed.

104 Hard time finding buyers for them overseas.

106 Yea, sometimes the manufacturer of the tire, who is it made by. Whether it's Kelly-Springfield or Cooper. They just have "Western Auto" on them.

Appendix B-3

Verbatim Responses of Interviewees

Tire Repairers/Retreaders

DOT/NHTSA TIRE REPAIRER/RETREADER SURVEY/SUMMER 1990
DECISION DC/MCLEAN, VA
1/18/91

RECORD #	
1	TREAD, TEMP*TRAC.RATING NOT FED.GOV.REGULATED.A JOKE
2	TREAD,EMPT,TRAC.RATING MISLEADING.THEY'RE INACCURATE
3	
4	ALL THE SMALL READING IS UNNECESSARY
5	UTQG RATING NOT STANDARD/MANUF.RATES/CANT COMPARE
6	RATING BETWEEN CO NOT EQUAL WOULD LIKE THEM TO BE
7	
8	RATINGS NOT USEFUL BECAUSE RATED UNDER IDEAL CONDITIONS
9	TREADWEAR RATING USELESS/PERF.RATE N/A TO PASSCARS
10	RATES OF PLIES IS MISLEADING
11	CONFUSION ON TREE T'S/CONFUSION ON CARRYING CAPAC
12	MOST PEOPLE DONT UNDERSTAND IT!
13	TREADWEAR-EACH COMPANY RATES OWN
14	
15	
16	PLY RATING CONFUSING/NEED STRAIGHT CARRYING CAPAC
17	NOT ENOUGH INFO ON TIRE/ON STICKER FROM MANUFACTUR
18	PLIES MISUNDERSTOOD IN THE WAY IT'S WORDED
19	
20	
21	
22	TREADWEAR, TEMP AND TRACTION
23	RATE SYSTEM NONSENSE/MANUF RATE BASED ON COMPUTER
24	SHOULD BE REGULATIONS REGARDING"M/S"PUT ON TIRE
25	SHOULD HAVE INFORMATION AVAILABLE TO CUSTOMERS
26	
27	
28	LETTERS DISPLAYED ON TIRES CONFUSING TO CONSUMER
29	
30	
31	TREADWEAR RATING
32	TREADWEAR RATING MISLEADING/SHOULD NOT BE PRINTED
33	TREADWEAR RATING
34	
35	TREADWEAR RATING NOT REGULATED BY GOV/NO STANDARDS
36	
37	
38	TREAD/TEMP RATE APPLY TO NOR.HWY CONDITIONS ONLY
39	
40	TEMP/SPEED/WEIGHT RATE-CO.TEST THE IRS/NOT MATCH OT
41	
42	TRACTION RATING MISLEADING UNLESS READ FINE PRINT
43	RATE FOR TREAD, TEMP, ETC BY MANF/SPECS BE UNIVERSAL
44	
45	TRACT/TEMP RATE MISLEADING CUST.DONT KNOW MEANING
46	
47	
48	
49	
50	
51	TREAD LEVEL RATE ARE BOGUS/OVERRATED BY MANUF.
52	GOV'T RATINGS-STANDARDS BE MORE UNIFORM WITH MANUF

DOT/NHTSA TIRE REPAIRER/RETREADER SURVEY/SUMMER 1990
DECISION DC/MCLEAN, VA
1/18/91

Q14 SPECIFY
RECORD #

53
54
55 ALL URQGS GOOD GENERAL INFO NEED STANDARD GRADE
56
57
58
59
60
61 TIRE RATINGS-TREAD(ESPECIALLY)TEMP/TRACTION
62 SOME INFO NOT SPECIFIC ENOUGH-COULD NOT ELABORATE?
63 TREAD RATINGS
64
65
66
67
68 TREADWEAR RATING NOT ACCURATE
69
70 SERIAL#-WHICH IS SERIAL# AND WHICH IS SIZE #
71 TREADWEAR MISLEADING NOT DONE BY ONE COMPANY
72
73 TREADWEAR RATING & TEMPERATURE RESISTANCE RATING
74
75 TEMP AND TREADWEAR RATING; NO GUIDE FOR CONSUMER
76
77 SO MANY WARNINGS; SOME UNNEEDED, E.G., SAFE NOTE
78
79
80
81 TEMP RATINGS ARE MISLEADING SINCE MANUF DO TESTS
82
83
84 UTQG TEST COURSES NOT INDIVIDUAL DRIVING CONDITION
85
86 SPEED RATING CONFUSE PUBLIC FOR PERFORMANCE TIRES
87 TRACT, TREAd & TEMP RATE NOT APPLICABLE ON ALL CONDIT
88
89 TREAD, TRACT, & TEMP RATINGS\M&S RATINGS
90 SIZES ARE NOT THE SAME
91 TRACTION RATING, TREADWEAR RATING NO UNIFORMITY
92 TREADWEAR RATING PUBLIC DON'T UNDERSTAND
93
94
95
96 TREADWEAR RATINGS DONE BY MANUF. NOT GOVT.
97
98 #OF PLIES CAN BE MISINTERPRETED ON TIRES
99 TRACTION RATINGS NOT TEST ON REALISTIC CONDITIONS
100 SPEED RATINGS ON PERFORMANCE TIRES RE CONFUSING

DOT/NHTSA TIRE REPAIRER/RETREADER SURVEY/SUMMER 1990
DECISION DC/MCLEAN, VA
1/18/91

Q15 SPECIFY
RECORD #:

1	
2	STUDDED SNOW TIRES USED ON ALL TIRES (FRONT-WHEEL)
3	THINK SHOULD PUT SPEED RAT. ON PERFOR. TIRE IN MPH
4	
5	FAMILIARIZE CONSUMER WITH CHARACTER/ON PERFORM. TIRE
6	
7	
8	
9	
10	PUT ON TIRES/TREAD NOISE OCCURS WITH ALL-WEATHER
11	
12	
13	
14	
15	
16	SIZE/SERIAL NUMBER PLY RATING NOT BIG ENOUGH
17	TREADWEAR TEMP. AND TRACTION
18	
19	
20	
21	SIDEWALL INDENTATION
22	
23	I'D LIKE TO SEE MANUF. & WHERE BUILT NOT BRAND
24	
25	
26	
27	ACTUAL DIMENSIONS-LIKE HEIGHT, MEASUREMENT SPECS
28	IMPORT OR GENERIC TIRE INFORMATION
29	
30	
31	
32	
33	
34	
35	
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43	
44	
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51	
52	

53
54
55 CABLES & CORDS HOW MANY & SIZE/MORE CONSTRU.INFO
56
57
58
59
60
61
62
63
64
65
66
67 LIKE ALL SEASON TIRES WITH LARGER M/S RATING
68
69
70
71 MORE INFO ON SPEED RATING & HOW TO READ IT
72
73
74
75
76
77
78
79
80
81
82
83
84
85 PRINT LARGER
86
87 FED STAND RETREAD TRUCKS/DOT INSPECT RETREAD SHOPS
88
89
90
91
92
93
94
95
96
97
98 SIZE SHOULD BE PRINTED ON INSIDE ON WHITEWALL TIRES
99 RUBBER COMPUNDS WOULD BE HELPFUL
100

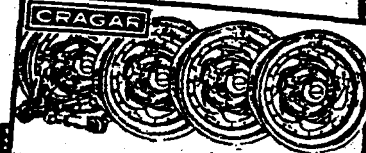
Appendix C

Advertisements for Replacement Tires

4 X THE VALUE

4 TIRES
As Low As...
$69
CORNELL 800-P155/80R13

SIZE	35,000 MILE TREADWEAR WARRANTY EACH	4 FOR	45,000 MILE TREADWEAR WARRANTY EACH	4 FOR	55,000 MILE TREADWEAR WARRANTY EACH	4 FOR
P155/80R13	17.25	$69	19.75	$79	24.75	$89
P165/80R13	28.75	$115	30.75	$123	32.75	$131
P185/80R13	30.75	$123	32.75	$131	34.75	$139
P185/75R14	31.75	$127	33.75	$135	35.75	$143
P195/75R14	33.75	$135	35.75	$143	37.75	$151
P215/75R15	37.75	$151	39.75	$159	41.75	$167
P225/75R15	38.75	$155	40.75	$163	42.75	$171
P235/75R15	39.75	$159	41.75	$167	43.75	$175
	CORNELL 800		CORNELL 850		CORNELL 900	



COMPLETE WHEEL PACKAGE
BUY FOUR WHEELS & GET LUGS, LOCKS, CAPS, VALVE STEMS & MOUNTING AT NO EXTRA CHARGE

Cragar Super Spoke Wheel Package

- Chrome, Red Or Blue
- Up To Size 15" x 8"

LOW PRICE!

199.99 Pkg.

IMPORT — NEW — BRIDGESTONE

CORNELL METRIC
Steel Radials

19.99

50,000 MILE PEP BOYS TREAD WEAR WARRANTY*

145 SR-13	28.99	175/70 SR-13	37.99
155 SR-13	31.99	185/70 SR-13	38.99
165 SR-13	32.99	185/70 SR-14	40.99
175 SR-14	37.99	195/70 SR-14	41.99
185 SR-14	40.99	205/70 SR-14	45.99
165 SR-15	41.99		

FUTURA METRIC
Steel Radials

29.99

60,000 MILE PEP BOYS TREAD WEAR WARRANTY*

155 SR-13	36.99	175/70R-13	43.99
165 SR-13	38.99	185/70R-13	44.99
175 SR-14	42.99	185/70R-14	46.99
185 SR-14	45.99	195/70R-14	49.99
165 SR-15	45.99	205/70R-14	56.99

FUTURA 2000 ATD
All Season Steel Radials

29.99

70,000 MILE PEP BOYS TREAD WEAR WARRANTY*

P165/80R-13	35.99	P215/75R-14	44.99
P175/80R-13	37.99	P205/75R-15	45.99
P185/80R-13	39.99	P215/75R-15	46.99
P185/75R-14	41.99	P225/75R-15	49.99
P195/75R-14	42.99	P235/75R-15	51.99
P205/75R-14	43.99	P235/75R-15XL	52.99

BRIDGESTONE S402
Metric Steel Radials

- All Season
- "S" Speed Rated

38.99

50,000 MILE PEP BOYS TREAD WEAR WARRANTY*

165 SR-13	42.99
175/70SR-13	45.99
185/70SR-13	49.99
185/70SR-14	53.99
195/70SR-14	57.99
P205/70SR-14	60.99

BRIDGESTONE
Potenza HP-41
High Performance Steel Radials

59.99

50,000 MILE PEP BOYS TREAD WEAR WARRANTY*

P185/70HR-13	63.99	[illegible]	79.99
P185/70HR-14	71.99	[illegible]	81.99
P195/70HR-14	72.99	[illegible]	[illegible]
P205/70HR-14	84.99	P215/60HR-15	92.99
P185/60HR-14	72.99	P215/65HR-15	90.99

90 DAYS SAME AS CASH!*
*SEE STORE FOR DETAILS

CORNELL 1000
Premium Steel Radials

44.86

60,000 MILE PEP BOYS TREAD WEAR WARRANTY*

P185/70SR-14	46.86
P205/70SR-14	48.86
P215/70SR-14	52.86
P215/70SR-15	53.86
P225/70SR-15	55.84

UNIROYAL XTM
All Season Radials

49.99

60,000 MILE PEP BOYS TREAD WEAR WARRANTY*

P185/75R-14	58.99	[illegible]	58.99
P195/75R-14	61.99	[illegible]	60.99
P205/75R-14	64.99	[illegible]	59.99
P205/75R-15	67.99	[illegible]	63.99
P215/75R-15	69.99	[illegible]	66.99
P225/75R-15	72.99	[illegible]	71.99
P235/75R-15	76.99		

BFGOODRICH T/A
Performance Steel Radials

59.99

40,000 MILE PEP BOYS TREAD WEAR WARRANTY*

P185/70R-13	67.99	P225/70R-15	98.99
P185/70R-14	71.99	P255/70R-15	103.99
P195/70R-14	73.99	P215/60R-14	83.99
P205/70R-14	77.99	P225/60R-14	89.99
P215/70R-14	86.99	P245/60R-14	91.99
P215/60R-15	91.99	P225/60R-15	92.99
P225/70R-15	87.99	P235/60R-15	99.99

BFGOODRICH COMP T/A
HR-4/VR-4

89.99

35,000 MILE PEP BOYS TREAD WEAR WARRANTY*

[illegible]	99.99	[illegible]	112.99
195/70R-14	104.99	[illegible]	106.99
205/70R-14	109.99	[illegible]	109.99
[illegible]	132.99	[illegible]	114.99
[illegible]	94.99	[illegible]	118.99
[illegible]	96.99	P225/60R-16	134.99
[illegible]	102.99	[illegible]	[illegible]

FALKEN 70/60
High Performance Steel Radials

46.99

35,000 MILE PEP BOYS TREAD WEAR WARRANTY*

185/70HR-13	54.99	[illegible]	62.99
185/70HR-14	56.99	[illegible]	66.99
195/70HR-14	59.99	[illegible]	70.99
205/70HR-14	61.99	[illegible]	69.99
185/60HR-13	54.99	[illegible]	74.99
205/60HR-13	67.99	[illegible]	[illegible]

FREE TREADWEAR WARRANTY* • NO TRADE NEEDED

SEARS TIRE AND AUTO CENTER

WHO BACKS YOU BETTER THAN SEARS...

WE'LL MATCH ANYONE'S ADVERTISED TIRE AND BATTERY PRICES !"

36.88 RH 60, RH+ P155/80R13.
RH SCR 155/SR12 . . . 36.99
Prices good through June 1.

60 MINUTE TIRE INSTALLATION

SPECIAL ANNIVERSARY PRICES!

MICHELIN — RoadHandler SCR

SMALL CAR PERFORMANCE
60,000-mile wearout warranty*! S-speed rated for a smooth, road-hugging ride. All-season traction, 2 steel belts.

60,000-mile wearout warranty — AS LOW AS 155/SR12 **36.99**

Size	Price
145/SR13	$39.99
155/SR13	[illegible]
165/SR13	52.99
175/SR14	55.99
165/SR14	59.99
175/70SR13	65.99
185/70SR13	67.99
185/70SR14	66.99
195/70SR14	71.99
205/70SR14	72.99
195/60SR14	72.99
195/60SR15	73.99

MICHELIN — RoadHandler 60

HIGHWAY RADIAL
60,000-mile wearout warranty*! Excellent wet and dry traction, with a durable steel-belted design engineered to LAST. Great ride!

60,000-mile wearout warranty — AS LOW AS P155/80R13 **36.88**

Size	Price
P165/80R13	$49.86
P175/80R13	54.75
P185/80R13	58.99
P185/75R14	62.77
P195/75R14	66.79
P205/75R14	67.99
P205/75R15	68.84
P215/75R15	71.90
P225/75R15	72.80
P235/75R15	74.97

MICHELIN — RoadHandler +

ALL-SEASON TRACTION
60,000-mile wearout warranty*! Smooth, comfortable ride. RoadHandler tires are backed by over 800 Sears Auto Centers!

50,000-mile wearout warranty — AS LOW AS P155/80R13 **36.88**

Size	Price
P165/80R13	$51.99
P175/80R13	59.99
P185/80R13	64.99
P185/75R14	67.99
P195/75R14	69.99
P205/75R14	71.99
P205/75R15	72.99
P215/75R15	73.99
P225/75R15	76.99
P235/75R15	80.99
P185/70R14	69.99

SPECIAL PURCHASE

31.99 P155/80R13 **LIFETIME FREE REPLACEMENT** See store for details.

VALUE PRICED

19.88 P155/80R13

STEEL-BELTED RADIAL All-season traction, 2 steel belts.

GUARDSMAN — Guardsman Radial

25,000-mile wearout warranty — AS LOW AS P155/80R13 **19.88**

Size	Price
P165/80R13	$32.99
P175/80R13	34.99
P185/75R14	37.99
P195/75R14	38.99
P205/75R14	39.99
P215/75R15	39.99
P225/75R15	39.99

PASSENGER RADIALS

Firestone — Firestone F560

50,000-mile wearout warranty — AS LOW AS 155/SR12 **31.99**

Size	Price
155TR13	$42.99
165TR13	45.99
175TR14	47.99
185TR14	49.99
175/70TR13	49.99
185/70TR13	55.99
185/70TR14	57.99
195/70TR14	59.99
205/70TR14	63.99

GUARDSMAN — Guardsman Response

40,000-mile wearout warranty — AS LOW AS P155/80R12 **29.99**

Size	Price
P155/80R13	$39.99
P165/80R13	41.99
P175/80R13	46.99
P185/80R13	48.99
P185/75R14	50.99
P195/75R14	54.99
P205/75R14	56.99
P215/75R14	58.99
P205/75R15	59.99
P215/75R15	59.99
P225/75R15	59.99
P235/75R15	59.99

Firestone — Firestone FR721

80,000-mile wearout warranty — AS LOW AS P155/80R13 **34.99**

Size	Price
P165/80R13	$50.99
P175/80R13	51.99
P185/80R13	52.99
P185/75R14	62.99
P195/75R14	63.99
P205/75R14	66.99
P215/75R14	69.99
P205/75R15	70.99
P215/75R15	71.99
P225/75R15	73.99
P235/75R15	74.99

SuperGuard — SuperGuard GT

50,000-mile wearout warranty — AS LOW AS P175/70SR13W **54.99**

Size	Price
P185/70SR13W	$57.99
P185/70SR14	59.99
P195/70SR14W	62.99
P205/70SR14	64.99
P215/70SR14	67.99
P205/70SR15	69.99
P215/70SR15	71.99
P225/70SR15	74.99
P235/70SR15	79.99

Tredloc — RoadHandler Tredloc

50,000-mile wearout warranty — AS LOW AS P175/70TR13 **69.99**

Size	Price
P185/70TR13	$73.99
P195/70TR13	79.99
P205/70TR13	80.99
P195/70TR14	88.99
P205/70TR14	94.99
P215/70TR14	97.99
P215/70TR15	98.99
P225/70TR15	101.99
P235/70TR15	102.99

PERFORMANCE RADIALS

SuperGuard — SuperGuard 50

50,000-mile wearout warranty — AS LOW AS P155/80R13 **31.99**

Size	Price
P165/80R13	$42.99
P175/80R13	46.99
P185/80R13	49.99
P185/75R14	51.99
P195/75R14	54.99
P205/75R14	57.99
P205/75R15	57.99
P215/75R15	61.99
P225/75R15	62.99
P235/75R15	63.99
P185/70SR14W	50.99
P205/70SR14W	58.99

GUARDSMAN — Guardsman Performance

34.99 P175/70SR13

S-SPEED RATED Reinforced with Kevlar® aramid around steel-belted construction.

25,000-mile wearout warranty — AS LOW AS P175/70SR13 **34.99**

Size	Price
P185/70SR13	$44.99
P185/70SR14	50.99
P195/70SR14	53.99
P205/70SR14	55.99
P215/65SR15	65.99
P195/60SR14	55.99
P215/60SR14	65.99
P195/60SR15	67.99

PIRELLI — Pirelli Response

30,000-mile wearout warranty — AS LOW AS P175/70SR13 **49.99**

Size	Price
P185/70SR13	$58.99
P185/70SR14	67.99
P195/70SR14	74.99
P195/60SR14SW	69.99

PIRELLI — Pirelli P6

AS LOW AS [illegible] **91.99**

Size	Price
[illegible]	$106.99
[illegible]	111.99
[illegible]	119.99
[illegible]	121.99

BRIDGESTONE — S471

AS LOW AS P175/70SR13 **56.99**

Size	Price
P185/70SR13	$60.99
P185/70SR14	66.99
P195/70SR14	69.99
P205/70SR14	73.99

BRIDGESTONE — Potenza HP41

AS LOW AS [illegible] **79.99**

Size	Price
P195/60HR15	$89.99
P205/60HR15	94.99
P215/60HR15	105.99
P215/60HR15	105.99

B.F. Goodrich — Radial T/A*

AS LOW AS P175/70SR13 **56.99**

Size	Price
P205/70SR14	$73.99
P215/70SR14	75.99
P215/70SR15	79.99
P225/70SR15	81.99
P235/70SR15	84.99

B.F. Goodrich — Comp T/A* HR4

AS LOW AS [illegible] **96.99**

Size	Price
195/60HR14	$99.99
195/60HR15	103.99
205/60HR15	104.99
215/60HR15	113.99

LIGHT TRUCK, VAN

MICHELIN — RoadHandler LT

40,000-mile wearout warranty — AS LOW AS LT195/75R14C **79.99**

Size	Price
LT215/75R15C	$88.99
LT235/75R15C	102.99
LT215/85R16D	104.99
LT235/85R16E	140.99
8.00R16.5D	112.99
8.75R16.5D	120.99
9.50R16.5E	130.99
30X9.50R15C	102.99
31X10.50R15C	112.99

B.F. Goodrich — B.F. Goodrich* Radial All-Terrain T/A™

AS LOW AS LT215/75R15C **99.99**

Size	Price
LT235/75R15C	$109.99
LT235/85R16E	136.99
30X9.50R15C	109.99
31X10.50R15C	116.99
32X11.50R15C	127.99

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*"We'll match anyone's advertised tire and battery prices. Bring their current ad to any Auto Center. Offer applies to identical brand name tires and batteries; excludes clearance, closeouts, Catalog.

[redacted]

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59 MINUTE EXPRESS INSTALLATION!

Free Tire mounting & Battery installation. If we take longer, you'll get a free lube, oil & filter change or 10% off your next automotive purchase. Details in store.

WE'LL MATCH any store's ad sale price on tires, batteries & shocks. See price matching pledge below.

IT'S RIGHT, ON TIME, OR THE LABOR'S FREE! Our service pledge on alignment, brakes, shock & strut installation. Conditions & limitations apply. See store for details.

ASE CERTIFIED TECHNICIANS

7 DAY A WEEK AUTO SERVICE with Early Morning Drop Off!

FREE ESTIMATES on most services. Every tire purchase includes:

FREE TIRE ROTATION every six months or 6,000 miles.

FREE puncture repair on all repairable tires.

FREE air pressure checks.

WE SERVICE IMPORTS!

OPEN 7 A.M. Monday-Saturday. Many stores open Sunday at 9 A.M. Call store for hours.

SUNDAY AND MONDAY ONLY! INSTANT DISCOUNT TIRE SPECIAL!

40,000 MILE* ALL SEASON STEEL WHITEWALL RADIALS. Tread may vary.

SPECIAL BUY $23 P155/80R13 — $36 P185/80R13, P195/80R13

SPECIAL BUY $38 ANY 14" P195/75R14, P205/75R14 — ANY 15" P215/75R15, P225/75R15, P235/75R15

PLUS SEE YOUR 10% INSTANT DISCOUNT ON ANY TIRE THIS SUNDAY & MONDAY!

RADIAL TIRE PRICE BUSTER! STEEL BELTED RADIAL SALE $18 P155/80R13

Whitewall	Price Ea.
P165/80R13	30.40
P185/75R14	36.12
P205/75R14	37.88
P215/75R15	41.88
P225/75R15	42.75
P235/75R15	44.45

ROAD TAMER 900 70,000 MILE* ALL SEASON STEEL RADIAL SALE $37

PERFORMANCE TIRE HEADQUARTERS

ULTRAX GTS* 40,000 MILE* SR-SPEED RATED RADIAL EXTRA VALUE $56

BRIDGESTONE POTENZA HR-SPEED RATED RADIAL EXTRA VALUE $62

LIGHT TRUCK TIRE CENTER

COMANCHE 30,000 MILE* ALL SEASON LIGHT TRUCK ROAD RADIAL EXTRA VALUE $67

45,000 MILE* ALL SEASON LIGHT TRUCK RADIAL SALE $84

WE'LL MATCH ANY STORE'S AD SALE PRICE!

See price matching pledge below.

MICHELIN

FREE $75 SAVINGS BOND!

WHEN YOU BUY 4 XA4 MICHELIN RADIALS!+ Or buy two Michelin XA4 radials and get a free tire balancing. A $12 Value!

XA4 ALL SEASON STEEL BELTED RADIAL SALE 47.88

+Offer good on Michelin XA4 and XH Tires. Expires 5/15/95.

Additional sizes are also available at sale prices. Stop in or call for your price.

P185/80R13	P195/75R14
P185/70R14	P205/75R15
P215/75R15	P235/75R15
P205/70R15**	P215/70R15**

**XH tread

ROAD TAMER 600 55,000 MILE* ALL SEASON STEEL RADIAL SALE $30

ROAD TAMER 700 65,000 MILE* SR-SPEED RATED STEEL RADIAL EXTRA VALUE $34

COUPON — U.S./IMPORT BRAKES 57.88★ PER AXLE. Many vehicles. With this coupon.
- Replace pads/shoes
- Resurface rotors/drums
- Repack front bearings**
- Inspect hydraulics

COUPON VALID THROUGH 5/4/95

COUPON — U.S./IMPORT ALIGNMENT
2-WHEEL 21.88★
THRUST 34.88★
4-WHEEL 44.88★
Many vehicles. With this coupon. COUPON VALID THROUGH 5/4/95

COUPON — U.S./IMPORT MAINTENANCE TUNE-UP 37.88★ 4-CYL. Many vehicles. With this coupon.
- Install Autolite or Bosch spark plugs
- Inspect timing/idle

6 cyl. 44.88, 8 cyl. 49.88

COUPON VALID THROUGH 5/4/95

COUPON — U.S./IMPORT 18.88★ Express LUBE. Many vehicles. With this coupon.

COUPON VALID THROUGH 5/4/95

★Services may require substantial extra costs.

MONTGOMERY WARD CREDIT TERMS ANNUAL PERCENTAGE RATE: Annual Percentage Rate is 21.6% unless you reside in states shown below: 21% for CO, GA, ID, IN, MS, OK, TN, VT, WY; 18% for CT, FL, HI, ME, MA, MN, NC, NJ, PA, RI, WA, WV, WI, AL...21% to $750, 18% on excess; AK 18% to $1000, 10.8% on excess; AR...11%; IA...19.8%; KS...21% to $1000, 14.4% on excess; ... Minimum monthly finance charge of 50¢ applies in all states except AR, CT, DC, NE, NC, ND, NV and RI. For starter accounts annual percentage rate is 24% (minimum finance charge 50¢ except in D.C. and NV.) Rates as of February 1, 1995.

Montgomery Ward Pricing Pledge

We'll match any store's current advertised price at time of purchase...Plus, if you find a lower advertised price at any store, including Montgomery Ward, within 30 days after purchase, we'll cheerfully refund the difference. Simply bring in the ad and/or your receipt. ... apply to sales of floor samples, one-of-a-kind, damaged or clearance goods, closeouts, limited quantities, special order tires, manufacturers' rebates, sales by other than local stocking retailers or merchandise sold in mail order catalogs.

SUPER EXPRESS credit — ONE OF THESE: CAN GET YOU ONE OF THESE: IN ONLY 3 MINUTES!

PRESENT YOUR VISA, MASTERCARD, AMERICAN EXPRESS OR DISCOVER CARD TO APPLY FOR A MONTGOMERY WARD CREDIT CARD. WE CAN PROCESS YOUR APPLICATION WHILE YOU CHECK OUT! NO MAJOR CREDIT CARD? WE CAN PROCESS YOUR APPLICATION WHILE YOU WAIT! SUBJECT TO CREDIT APPROVAL.

We Welcome Montgomery Ward, Visa, MasterCard, American Express & Discover

Sale prices good April 28 through May 4.

SUN	MON	TUES	WED	THURS	FRI	SAT
28	29	30	1	2	3	4

AutoExpress.

Montgomery Ward

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