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## SAFETY WARNINGS AND MAINTENANCE INFORMATION

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### IMPORTANT SAFETY AND MAINTENANCE INFORMATION

The tire industry has long recognized the consumer's role in the regular care and maintenance of their tires. When a tire is replaced is a decision for which the owner of the tire is responsible. The consumer should consider factors to include chronological age, service conditions, maintenance history, storage conditions, visual inspections, and dynamic performance. The consumer should consult a tire service professional with any questions about tire service life. The following information and recommendations are made to aid in assessing the point of maximum service life

#### The Chronological Age of the Tires

The chronological age of any tire can be found on the tire sidewall by examining the characters following the symbol "DOT"

For tires manufactured after the year 1999, the last four numbers identify the date of manufacture of the tire to the nearest week. The first two of these four numbers identify the week of manufacture (which range from "01" to "52"). The last two numbers identify the year of manufacture (e.g., a tire with the information "DOT XXXXXX0100" was manufactured in the 1<sup>st</sup> week of 2000).



For tires manufactured prior to the year 2000, three numbers instead of four indicate the date of manufacture. Also, during the early 1990's, CTNA added a triangle (◄) to the end of the character string to distinguish a tire built in the 1990's from previous decades (e.g., a tire with the information "DOT XXXXXX274 ◄" was manufactured in the 27th week of 1994).

### THE CHRONOLOGICAL AGE OF THE TIRES

Tires are designed and built to provide many thousands of miles of excellent service. For maximum benefit, tires must be maintained properly to avoid tire damage and abuse that may result in tire disablement. The service life of a tire is a cumulative function of the storage, stowing, rotation and service conditions, which a tire is subjected to throughout its life (load, speed, inflation pressure, road hazard injury, etc.). Since service conditions vary widely, accurately predicting the service life of any specific tire in chronological time is not possible.

#### THE CONSUMER PLAYS AN IMPORTANT ROLE IN TIRE MAINTENANCE

Tires should be removed from service for numerous reasons, including tread worn down to minimum depth, damage or abuse (punctures, cuts, impacts, cracks, bulges, under inflation, overloading, etc). For these reasons tires, including spares, must be inspected routinely, i.e., at least once a month. Regular inspection becomes particularly important the longer a tire is kept in service. If tire damage is suspected or found, General Tire recommends that the consumer have the tire inspected by a tire service professional. Consumers should use this consultation to determine if the tires can continue in service. It is recommended that spare tires be inspected at the same time. This routine inspection should occur whether or not the vehicle is equipped with a tire pressure monitoring system (TPMS).

Consumers are strongly encouraged to be aware of their tires' visual condition. Also, they should be alert for any change in dynamic performance such as increased air loss, noise or vibration. Such changes could be an indicator that one or more of the tires should be immediately removed from service to prevent a tire disablement. Also, the consumer should be the first to recognize a severe in-service impact to a tire and to ensure that the tire is inspected immediately thereafter.

Tire storage, stowage and rotation are also important to the service life of the tire. More information regarding proper storage, stowage and rotation is located in other Continental publications, which are available upon request and through its websites.

#### TIRE SERVICE LIFE RECOMMENDATION

General Tire is unaware of any technical data that supports a specific tire age for removal from service. However, as with other members of the tire and automotive industries, General Tire recommends that all tires (including spare tires) that

were manufactured more than ten (10) years previous be removed from service and be replaced with new tires, even when tires appear to be usable from their external appearance and if the tread depth may have not reached the minimum wear out depth. Vehicle manufacturers may recommend a different chronological age at which a tire should be replaced based on their understanding of the specific vehicle application; General Tire recommends that any such instruction be followed. Consumers should note that most tires would have to be removed for tread wear-out or other causes before any proscribed removal period. A stated removal period in no way reduces the consumer's responsibility to replace tires as needed.

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## **WARNING**

**Ignoring any of the safety and maintenance information contained in this Limited Warranty and Adjustment Policy may result in tire failure, such as by a tread-belt separation and/or detachment, causing serious injury or death.**

Any tire no matter how well constructed may fail from a lack of proper maintenance. To avoid the risk of tire failure, you must regularly maintain and/or inspect your tires for damage caused by any combination of the following service conditions which impact the performance of your tires:

- Tire inflation pressure (including your spare tire)
- Road hazard damage (cuts, punctures, impacts, etc.)
- Unrepaired or improperly repaired punctures
- Mounting/demounting
- Overloaded tires
- Tire storage
- Tire wear.
- Tire rotation (see Section 10)
- Other considerations that impact your safety and tire maintenance

These service conditions will be addressed in detail in this section below. To reduce the risk of tire failure from these service conditions, General Tire strongly recommends you read and follow all safety and maintenance information contained in this Limited Warranty and Adjustment Policy as well as from the following other important sources:

- Your vehicle owner's manual
- Vehicle placard (contains tire size, inflation and load information)
- Tire sidewall information (contains DOT serial number which includes manufacture date, warnings, load and inflation information)
- The Rubber Manufacturers Association which is the leading U.S. industry association of tire manufacturers that publishes important consumer tire information and can be reached by telephone.
- General Tire's website for updates regarding tire safety and maintenance information, and also see the "General University" tab for additional tire educational information.

### **TIRE INFLATION PRESSURE (INCLUDING YOUR SPARE TIRE)**

Maintaining proper tire inflation pressure is critical. Tire failure may result from excessive heat build-up as a result of under inflation. Under inflation may also result in improper vehicle handling, rapid and/or irregular tire wear, reduced tire life, and fuel loss.

The proper tire inflation pressure is specified by the vehicle manufacturer and can be found on the placard (or sticker) attached to the vehicle door edge, door post, glove box door, or fuel door. If the vehicle placard (or sticker) cannot be found, check the vehicle owner's manual, the vehicle manufacturer or an Authorized Dealer. Some vehicle manufacturers specify different tire inflation pressures for the front and rear tires. Therefore, when the tires are rotated the tire inflation pressures will need to be adjusted accordingly.

It is difficult to tell whether your tires are underinflated by simply looking at them. Check your tire inflation pressure for all your tires — including the spare tire — at least once a month and before long trips. This routine inspection should occur whether or not the vehicle is equipped with a Tire Pressure Monitoring System (TPMS).

Tire inflation pressure will vary with the temperature of the tire. Check inflation pressure when tires are cold. If you check your tire inflation pressure after they have been driven for more than three minutes, or more than 1 mile, the tires become hot and the tire inflation pressure will increase by approximately 4 psi. When checking tire inflation pressure under these conditions, the proper tire inflation pressure will be 4 psi greater than the vehicle manufacturer's recommended cold tire inflation pressure. Always use an accurate tire gauge and don't forget your spare tire (temporary spare tires may require a higher inflation pressure than your ground tires).

Any tire that is chronically losing air and requiring repeated inflation should be thoroughly inspected by a trained tire specialist. The air loss may be a result of tire, valve or rim damaged which could lead to tire failure.

Regarding the valve assembly, always make sure valve caps are tightly in place to keep out dirt, moisture, and foreign objects that can cause air leakage. Replace missing valve caps without delay. Also, when a tire is replaced, make certain new valve stem assemblies are installed.

#### **ROAD HAZARD DAMAGE (CUTS, PUNCTURES, IMPACTS, ETC.)**

Regular inspection of your tires for road hazard damage is critical. Inspect your tires for damage such as cuts, bulges, cracks, penetrations, unusual wear patterns, splits or bruises in the tread or sidewall areas, etc. Bumps or bulges may indicate a separation in the tire structure. Tire failure from road hazard damage can occur soon after the damage — a day, a week, or even months later.

Tire damage may result from driving on roads with potholes or debris (e.g., glass, metal, rocks, wood, etc.), on unimproved roads or roads in poor condition, or driving off-road (with tires that are not intended for off-road use). When poor road conditions are unavoidable, drive carefully and slowly, and before resuming normal or highway speeds inspect your tires thoroughly for damage.

If you suspect a tire has been damaged from striking anything unusual in the road, you must have the tire removed from the rim and inspected both inside and out by a trained tire specialist. This is very important because road hazard damage is not always visible on the outside of the tire. While the tread may appear visibly undamaged, road hazard damage can occur to the internal structure of the tire (e.g., broken steel belt cords) and/or the inner liner (e.g., split).

Also, you may not remember impacting an object that can damage or injure your tires. Air loss or unusual tire wear can also be warning signs that a tire may have internal damage. Again, this is why regular inspection of your tires is critical.

#### **UNREPAIRED OR IMPROPERLY REPAIRED PUNCTURES**

Decisions regarding the treatment of unrepaired or improperly repaired punctures are critical. Tire failure may result from unrepaired and/or improperly repaired tires. During its service life, a tire undergoes a variety of different usage conditions and can be damaged in many different ways. This damage can result from punctures, impacts, cuts, etc. Tire damage can reduce a tire's structural integrity by, for example:


- Air loss resulting in underinflated service conditions which lead to internal structural damage;
- Direct damage to tire components such as rubber and plies;
- Exposure of internal materials to the outside environment and resulting degradation; and/or
- Exposure of internal materials to pressurized air (Intra-carcass pressurization).

For these reasons, tires should be regularly inspected by the consumer. An inspection of the tires should also be incorporated during routine vehicle maintenance procedures. If tire damage is suspected or found, it should be carefully assessed by a trained tire specialist immediately.

A consumer should never repair a damaged tire. Only a trained tire specialist who can base his/her assessment on a

thorough and comprehensive inspection of the specific tire can determine whether an individual tire is suitable for repair or should be removed from service. This assessment should also take into account the complete service life history of the tire including inflation, load, operating conditions, etc... If the trained tire specialist decides to repair the tire, then he/she should strictly follow all appropriate national tire industry repair standards regarding the inspection process and repair procedures. General Tire is not responsible for the specialist's decisions or the repaired tire. General Tire advises that a repair to one of its tires invalidates the manufacturer's warranty.

National tire industry standards for the U.S. and Canada are defined and published by the Rubber Manufacturers Association (RMA). The RMA sets out these standards in a wall chart which can be located. Extracts from this wall chart are as follows:

**WARNING**  **improperly repaired tires can fail while in service, such as by tread-belt separation and/or detachment, which may result in an accident causing serious injury and/or death.**

- ONLY SPECIALLY TRAINED PERSONNEL USING THE PROPER TOOLS AND PROCEDURES SHOULD REPAIR TIRES.
- NEVER repair tires worn to the tire's tread wear indicators or to 2/32" remaining tread depth in any area of the tread.
- NEVER perform a tire repair without removing the tire from the rim/wheel assembly for internal inspection. (DO NOT perform an outside-in tire repair or on-the-wheel repair). It is essential that only a specially trained person remove any tire from the wheel when it has been damaged or is losing air. A thorough inspection for any internal damage can then be made.
- NEVER use only a plug or NEVER use only a patch to repair a puncture. The injury must be completely filled with a suitable vulcanizing material or rubber stem and a patch must be applied to the inner liner to prevent air loss.
- NEVER repair a tire that has an existing, improper repair (non-RMA repair); the tire must be scrapped.
- NEVER substitute an inner tube for a proper repair or to remedy an improper repair.
- NEVER invert radial tires. (Avoid excessive spreading of the tire or tire beads.)
- NEVER buff the tire inner liner too deep, exposing the tire casing body (ply) cords. If this type of damage occurs, during buffing, the tire must be scrapped.

#### TEMPORARY SPARE TIRE OWNERS:

General Tire does not recommend any repair to or reuse of punctured Temporary Spare Tires.  
PUNCTURE INJURY LIMITS 1/4" (6mm): Passenger and Light Truck tires (through Load Range E)



This graphic indicates that puncture repairs are limited to the tread area as generally depicted in the graphic.

DO NOT make repairs where the injury damage extends into the shoulder/belt edge area OR where the injury extends at an angle into the shoulder area.

If there is any question that the injury extends into the shoulder/belt edge area, then the tire must be scrapped.

#### MOUNTING/DEMOUNTING

Tire mounting/demounting can be dangerous. It should be performed only by a trained tire specialist using proper tools and procedures. Prior to tire mounting/demounting, the Rubber Manufacturers Association (RMA) wall charts and manuals should be read to obtain the proper procedures. Failure to follow the RMA's procedures may result in:

- Faulty positioning of the tire and/or rim, which may cause the assembly to burst with force sufficient to cause injury or death.
- Damage to the bead area of the tire which can expose body ply cords to compressed air inside the tire. Exposed body ply cords can lead to intra carcass pressurization which can result in tire failure while in service.

Inflated tires can be dangerous. Before handling or transporting a tire that exhibits damage or irregular wear, remove the air from the tire while it is still bolted to the axle. Never place an inflated tire that you suspect has been damaged inside your vehicle or in any other area where people could be injured if sudden air loss was to occur.

### **OVERLOADED TIRES**

The vehicle maximum load for your tire is critical and is set out by the vehicle manufacturer on the vehicle placard affixed to the vehicle. The vehicle maximum load should not be greater than the tire's maximum load which is molded on the sidewall of the tire. The maximum load carrying capacity of your tire assumes the tire is operating at the proper tire inflation pressure. Reduction in tire inflation pressure will reduce the maximum load carrying capacity of the tire.

Vehicle load limits and special towing instructions are provided by the vehicle's manufacturer on the vehicle tire placard and in the owner's manual. Exceeding loads that exceed the load carrying capacity of your tire can lead to excessive heat build-up and tire failure.

When making alterations to your vehicle, or driving a vehicle with vehicle alterations, consult the vehicle manufacturer and the sidewall for the maximum load carrying capacity of the tire. These alterations may cause different load requirements than were originally specified by the vehicle manufacturer.

Also, remember that the number of vehicle occupants and baggage carried on top or inside of the vehicle are additional loads.

### **TIRE STORAGE**

Proper storage of your tires, including spares mounted outside the vehicle or under-the-vehicle stored spares, is critical. Improper storage can lead to tire damage or accelerated deterioration that may not be visible to you. This in turn can lead to tire failure.

Tires that are not mounted on a vehicle — whether mounted separately on a rim or unmounted — must be stored in a dry place to protect them against water and moisture; stored in a cool place out of direct sunlight or other sources of heat and ozone such as hot pipes and electric generators; and stored away from foreign substances such as grease and oil that can deteriorate the tire rubber. Improperly stored tires will deteriorate over time and can lead to tire failure if placed back in service.

Full-size spares, of the same size and type as the road tire, require special maintenance considerations. The spare tire position on the vehicle is not suitable for long term storage for full size spare tires that are not properly maintained/rotated as recommended in this Safety and Maintenance section (see also Tire Rotation, section 10). Tires contain special ingredients such as waxes to protect the rubber from ozone and weather checking. These special tire ingredients normally migrate throughout the tire when in service and protect the tire against ozone and weather checking. Therefore, full-size spares that are left for prolonged periods of time in the spare tire position should be inspected, properly inflated just like the road tires, and included in the regular tire rotation schedule (see Tire Rotation, section 10).

For tires mounted on stored vehicles, it is recommended that the vehicle is periodically moved to minimize tire deterioration. If a stored vehicle cannot be periodically moved, then it is recommended to store the vehicle on suspension blocks so as to remove all weight from the tires and cover the tires to protect them from environmental exposure.

Tires that are stored for a prolonged period of time, including full-size spare tires and tires on stored vehicles, must be checked by a trained tire specialist for proper inflation and inspected for cracking in the tread and sidewalls, weather checking and other signs of prolonged storage before placed back in service.

### **TIRE WEAR**

All tires wear out faster when subjected to high speeds, hard cornering, rapid starts, sudden stops, poor roads conditions, and off road use. Uneven wear patterns may be caused by improper tire inflation pressures, vehicle misalignment, improper tire/rim balance, vehicle suspension system problems, and loads.

Your tires were designed with tread wear indicators, or "wear bars" which appear as narrow strips of rubber across the tread that become visible when the tread is worn to 2/32nds of an inch (1.6 mm). Tires are in a dangerous condition and must be removed from service when worn to this point along any area of the tread and/or when tires exhibit exposed belt wires, cords or sub-tread in any area. Certain uneven wear patterns may indicate that the tire has suffered internal structural damage. Tires with these conditions are also more susceptible to damage from cuts, punctures, road hazards, and hydroplaning. Continued operation of your vehicle with tires in this condition can lead to tire failure.

## **OTHER CONSIDERATIONS THAT IMPACT YOUR SAFETY AND TIRE MAINTENANCE**

### **VEHICLE HANDLING IN THE EVENT OF TIRE FAILURE**

If while driving your vehicle you experience any unusual vibration, pull, ride disturbance or noise and/or you suspect possible vehicle or tire damage, **DO NOT LOCK YOUR BRAKES OR ABRUPTLY TURN THE VEHICLE!** Rather, remove your foot from the accelerator, hold the steering wheel firmly, and steer to maintain your lane position. Only after the vehicle has slowed and is fully under control should you gently apply your brakes. Gradually pull over to the shoulder of the road and come to a stop. Inspect the tires. If one or more tire looks flat or "low," or damaged, deflate while the tire is bolted to the axle, remove the tire and rim assembly, and replace it with your spare - after you have inspected the spare's overall condition and properly inflated the space. If you cannot detect a cause for the failure, consider towing the vehicle to the nearest vehicle or tire dealer to have the vehicle and tires inspected. If you are unable to place the spare in service or cannot tow the vehicle, **DRIVE WITH EXTREME CAUTION AT SAFE SPEEDS AND BE PREPARED FOR A POSSIBLE TIRE FAILURE!**

### **RAPID STATIONARY TIRE ROTATION**

Avoid tire spinning. The centrifugal force generated by a free-spinning tire/rim assembly may cause a sudden tire explosion resulting in vehicle damage and/or serious injury or death.

Never exceed 35 mph as indicated on your speedometer when your vehicle is stuck in snow, mud, or sand and your tire(s) is/are spinning. Use a gentle backward and forward rocking motion to free your vehicle for continued driving. Never stand or permit anyone else to stand near or behind a tire spinning while attempting to push a vehicle that is stuck.

### **VEHICLE HANDLING DURING ADVERSE WEATHER**

To avoid hydroplaning, reduce speed and use extreme caution when driving in rain, snow, or ice.

### **TIRE MIXING**

Driving your vehicle with an improper mix of tire sizes, constructions, and speed ratings can be dangerous. Before mixing, matching, or replacing tires with different sizes, constructions, and speed ratings, consult the vehicle owner's manual or trained tire specialist, such as an Authorized Dealer. Do not operate your vehicle with more than one temporary spare in use (this does not apply to a full size spare), and only at limited speeds and distances as indicated on the sidewall of the tire.

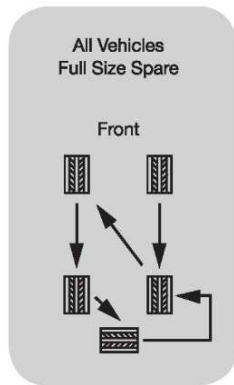
It is recommended to replace all ground tires at the same time. If you do not replace all ground tires at one time, then at a minimum, replace all tires on the same axle. Do not replace only one tire at a time. For 4-wheel drive vehicles equipped with electronic systems such as anti-lock brake systems, traction control systems, or stability control systems, consult your vehicle owner's manual for any special mixing instructions.

## TIRE ROTATION

For more uniform wear on all your tires, regularly rotate them. See the Vehicle Owner's Manual for recommended patterns and intervals or follow one of the patterns shown below. Rotate your tires every 6,000 to 8,000 miles (10,000-12,000 kilometers), or sooner if uneven tread wear begins to appear. If tires show uneven tread wear, ask the service person to check and/or correct any vehicle wheel alignment or other mechanical problem before rotation.

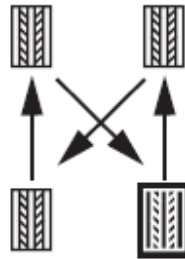
**FULL-SIZE SPARE TIRES (NOT TEMPORARY SPARES) OF THE SAME SIZE AND CONSTRUCTION SHOULD BE USED IN A FIVETIRE ROTATION.** Check if rotated tires require tire inflation adjustment as front and rear position tire pressure may vary according to the vehicle manufacturer's specifications.

**Tire Rotation With a Full-Size Spare**  
As denoted in the following graphics,  
the full-size spare tire (in black)  
goes on right rear wheel position.



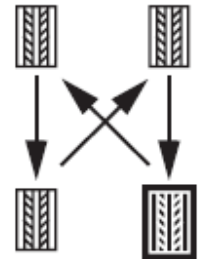
Rear & F-Wheel  
Drive Vehicles

Front



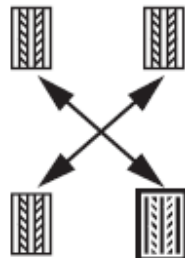
Front Wheel  
Drive Vehicles

Front



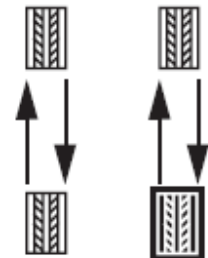
All Vehicles

Front



All Vehicles

Front



## SELECTING SPEED RATED TIRES

If the vehicle placard calls for a speed-rated tire, use replacement tires with an equal or greater speed rating. Speed ratings for tires are identified by means of a speed symbol. The meanings of these symbols are explained below.

Speed Symbol	Maximum Speed	Applies To Passenger Car Tires	Applies To Light Truck Tires
Above 149 mph (240 km/h)***			
Y****	186 MPH (300 km/h)	YES	
W****	168 MPH (270 km/h)	YES	
V	149 MPH (240 km/h))	YES	
H	130 MPH (210 km/h)	YES	YES
U	124 MPH (200 km/h)	YES	YES
T	118 MPH (190 km/h)	YES	YES
S	112 MPH (180 km/h)	YES	YES
R	106 MPH (170 km/h)	YES	YES
Q	99 MPH (160 km/h)		YES
P	93 MPH (150 km/h)		YES
N	87 MPH (140 km/h)		YES
M	81 MPH (130 km/h)	YES	

### FOR SERVICE ASSISTANCE OR INFORMATION

For the nearest General Tire brand tire dealer, consult the Yellow Pages or, if for any reason local service or information is not available, call the toll-free Customer Relations numbers.

\* At the time of making a claim, owner is required to present the tires and original tire sales invoice showing date of purchase. If satisfactory proof-of-purchase date is not provided, the D.O.T (Tire Identification Number) date of manufacture will be used.

\*\*A "comparable" new General Tire brand tire may be of either the same tire line or the same basic construction but with a different sidewall or tread configuration. If the customer accepts a higher-priced tire, the customer will pay the difference in price. Any tire replaced under this Limited Warranty and Adjustment Policy will be covered by the current General Tire Limited Warranty and Adjustment Policy.

\*\*\*For tires having a maximum speed capability above 149 mph (240 km/h) a "ZR" may appear in the size designation. For tires having a maximum speed capability above 186 mph (300 km/h) a "ZR" must appear in the size designation. Consult tire manufacturer for maximum speed when there is not a Service Description. Example: P275/40R17 93W at 168 mph (270 km/h) or P275/40ZR17 at above 149 mph (240 km/h) consult tire manufacturer.

\*\*\*\*A "ZR" may appear in the tire size designation. NOTE: For "V," "W" or "Y" and tires with "ZR" rating, a vehicle load adjustment (for speed) is required; consult tire manufacturer.

Although a tire may be speed-rated, CTNA does not endorse the operation of any vehicle in an unsafe or unlawful manner. Speed ratings are based on laboratory tests which relate to performance on the road, but are not applicable if tires are repaired (consult tire dealer, such as an Authorized Dealer), retreaded, abused, underinflated, overloaded, worn out, damaged, or altered. Furthermore, tire speed ratings do not imply that a vehicle can be safely driven at the maximum speed for which the tire is rated, particularly under adverse road and weather conditions or if the vehicle has unusual operating characteristics. In addition to decreasing driver reaction time to avoid possible accident situations, excessive speeds can cause tire damage. Contacting road debris at excessive speeds can cause greater tire damage than at lower speeds. Also, excessive speeds can cause excessive heat in the tire, tire deterioration and sudden tire failure.

For light trucks, if anticipating sustained driving on non-speed rated light truck tires at speeds in excess of 65 mph (104 km/h) may be required, then:

- At speeds from 66 mph (106 km/h) through 75 mph (120 km/h), cold inflation pressure must be increased 10 psi above the recommended pressures for the load being carried. Do not exceed the maximum inflation pressure of the rim (all rims have maximum allowable inflation pressures).
- At speeds from 76 mph (122 km/h) through 85 mph (136 km/h) reduce axle load capacity by 10% in addition to increasing the cold inflation pressure by 10 psi.
- Non speed rated light truck tires should not be operated at speeds in excess of 85 mph (136km/h.)