

FIELD REVIEW COMMITTEE

001344

To:

Secretary, FRC  
Suite 785  
Diagnostic Service Center II  
Ford Customer Service Division - North America

The attached Evaluation Paper is being forwarded for review by the Field Review Committee. Copies have been submitted for review to:

Office of the General Counsel:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
Vehicle Environmental Engineering:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
Automotive Safety Office:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
VC Purchasing Director:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>

Subject: Firestone Wilderness AT tire / Venezuela/Colombia/Ecuador - loss of tire tread

Concur \_\_\_\_\_  
*Vehicle Line Director*

Concur \_\_\_\_\_  
*Vehicle Center Engineering Director*

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date

Concur \_\_\_\_\_  
*FCSD Vehicle & Service Programs Director*

\_\_\_\_\_  
Date

Approve \_\_\_\_\_  
*Vice Center Vice President*

\_\_\_\_\_  
Date

Approve \_\_\_\_\_  
*FCSD Vice President*

\_\_\_\_\_  
Date



1998/99	Imported Explorer	488	4x4, 4x2, Manual, Automatic	255/70 R16 AT
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**D. Markets Affected:** Venezuela. Even though there are few reports to date, FOV will also include in the program Venezuelan F-150 vehicles, and Explorer and F-150 vehicles in the Colombia and Ecuador markets because reputation is being affected.

**E. CPSC:** 04.04.02

**2. DEFINE ROOT CAUSE**

The root cause of the tire failures was determined to be tread separation from the tire carcass caused by a combination of the following contributing factors which are unique to customers usage and conditions in Venezuela.

**A. Low inflation operating situation – causing internal tire damage resulting in tread separation caused by the following issues.**

**Improper repair:**

Tire repairs being done using unapproved rope type plugs. This type of repairs may leak air, potentially unbeknown to the customer.

Unintentional under-inflation condition (puncture, other leak). Customer gets slow leak from puncture and drives on under-inflated tire.

Valve stem leakage due to customer not replacing cap, resulting in the allowance of external objects getting into the valve.

**Continue/ Repeated use while under-inflated**

Customers who do not realize that he/she is driving under inflated, may drive at extremely high speeds for prolonged periods of time.

**B. Extended / Repeated use at high speed in high ambient temperatures**

For the P235/75 R15 and P255/70 R16 (locally sourced) tires are non speed rated, per DOT 571-109 requires 30 min at 160 KPH, and COVENIN 663-96 to run at a rated speed of 136 KPH for a period of time of 30 min., and 10 min. at 160 KPH before the tire starts to fail internally (under lab testing conditions and specific procedures).

For the P255/70 R16 (North American sourced) tires are "S" speed rated per SAE procedure J1561 to run at rated speed (i.e. 180 KPH) for only a short period of time (10 min steps at 38 psi) before the tire starts to fail internally (under lab testing conditions and specific procedures) Customers in Venezuela are driving the Explorer and F-150 as fast as 160 KPH -100MPH- for hours, possibly several



### 3. PROBLEM INVESTIGATION/VERIFICATION DATA

#### A. Lab tests:

Firestone experts indicated that more samples to be tested at their laboratories were not required.

#### B. Vehicle tests:

In our (FOV, Firestone) field evaluation a total of 37 Explorer were examined without locating a sample that could reproduce the exact failure. There were damages done to the tires such as: superficial or on the steel belt punctures, under inflated tires, bad repairs, damage on the side walls etc, but not tread separation.

#### C. Plant / Supplier reports:

Supplier (Bridgestone / Firestone of Venezuela) has been contacted in Venezuela and U.S. about Venezuelan incidents. A team was formed in order to perform a field survey, this team involved Firestone Venezuela/ USA and Ford representatives. The conclusions from Firestone USA are:

- It was not detected any defect with the tire.
- Low inflation operating conditions caused by any of the following can cause damage to the tire when it continues to be run with inadequate pressure:
  - Punctures, cuts which cause slow leaks and tire continues to be used with low inflation
  - Poor tire maintenance
  - Improper repairs.

They inspect 56 P255/70 R16 Wilderness AT and 76 P235/75 R15 Wilderness ATX tires.

#### D. Quality Indicators System: None

#### E. Field reports: an approximate of 50 from Venezuela. All the reported cases have occurred in Venezuela

#### F. Parts sales. Service changes are handled through Firestone dealers through Job'1 to March/2000. They are presently handled through Goodyear & Ford dealers

#### G. Number of accidents/fines and injuries. There have been an estimated of fifty accidents. The Venezuelan media has attributed a number of fatalities and injuries to tire tread separation. We have not confirmed the cause of any of these accidents.

### 4. ACTIONS TAKEN IN PRODUCTION: INTERIM (CONTAINMENT) AND/OR PERMANENT

#### Interim corrective actions:

A modified Firestone tire Venezuelan made with a higher speed rating (S), cap-ply reinforcement and polyester materials for construction was developed. The use of the new tire in production was on the 06/15/99 (DOT-259). Additionally, the tire

inflation pressure was recommended to be of 30-32 psi as of 5/01/99 (previously set to 26 front - 28 rear psi for FOV vehicles only).

FOV Engineering Department released on September/99 for the 2000 MY Explorers and F-150 a Goodyear Wrangler RTS tire in order to improve our image and customer satisfaction. All the technical requirements and tests were completed successfully.

A. Notification: Release number: 98-229-2, 98-228-2, 98-050-6, 96-023-9 of 06/01/99 for the Wilderness Firestone tire.  
 99-209, 98-122-5, 99-208, 99-001-4 for the Goodyear Wrangler RTS tire on 08/25/99.

B. WERS alert number: None.

C. Component batch issues: None

**5. VERIFY EFFECTIVENESS OF CORRECTIVE ACTIONS**

A. The interim corrective tires were bench tested by Firestone at 160 KPH (100 MPH) for a period of four continuous hours without failure.

**6. ESTIMATED PRODUCTION AND PROBLEM STATISTICS (MAGNITUDE OF CONCERN) Venezuela/Colombia & Ecuador**

VEHICLES AFFECTED	ASSEMBLY PLANTS	VEHICLE PRODUCTION DATES	POTENTIALLY NUMBER OF UNITS	AFFECTED UNITS ESTIMATED PERCENTAGE OF VEHICLES THAT CONTAIN THE CONDITION
Explorer	FOV	Job1 96MY through 99MY	38.029	unknown
F-150	FOV	98 MY through some 99MY	5.384	unknown
BU/ Imported	USA	98 MY through some 99MY	488	unknown

**7. AFTERMARKET PARTS**

A. The Firestone tire was released on October 1995 until 06/15/99. Ford Motor de Venezuela, S.A. does not stock tires for service. Firestone dealers actual stock is unknown.

B. Currently FOV Dealers are selling Goodyear tires.

Firestone must determine whether they want to purge their inventory of tires at their distributor and tire stores in Venezuela.

**8. ASSESMENT OF EFFECT ON VEHICLE OPERATION**

In the event that a tire tread separates while the vehicle is travelling at extremely high rates of speed, driver may have reduced or complete loss of steering control

## 9. DESCRIPTION OF CONCERN SOLUTION AND PARTS REQUIREMENTS (FIELD SERVICE ACTIONS)

### Short term actions:

The Engineering Department released a Goodyear tire in order to improve our image and customer satisfaction. All the technical requirements and tests are completed successfully.

Vehicles sold between job#1 '96 and '98 will be replacing the five (5) tires. Four of them a full size tire and the spare for another Goodyear but R15. On '98 and '99 MY vehicles we will be replacing all five (5) tires because the spare tire is the same size and construction as the four road tires. FOV will not be changing tires on any vehicle that comes in to our Dealers and has had the tires changed from Firestone to some other brand tire.

2000 MY Explorer produced in Venezuela and exported to Colombia and Ecuador are fitted with the Goodyear tires.

### Long term actions:

- A No long term prime actions has been assessed yet.
- B Test processes, plant capacity, market wants and other factors will be thoroughly considered in developing a long term action.

## 10. PROGRAM PARTS SIGN OFF/AVAILABILITY

The Goodyear 255/70 R16 (black letters) part number 985K-1508-AA, 255/70 R16 (white letters) part number 995K-1508-BA, 235/75 R15 (white letter) part number F87A-1508-K3B and 235/75 R15 (black letters) part number 995K-1508-AA was released on 08/24/99. These tires were fully approved and PPAP released on the 10/22/99 and 11/11/99 respectively. No tooling is needed for this part number.  
Part availability schedule: In production.

## 11. SUPPLIER INVOLVEMENT

- A The name of the causal part supplier:  
Bridgestone/Firestone Venezolana, C.A  
Carretera Nacional Valencia Los Guayos,  
Valencia-Edo. Carabobo.  
Venezuela.  
Pedro Martinez, Sales Manager for Original parts 011-58-41-40777
- B This condition is component-related, and is specifically related to the tire usage in the Venezuelan market
- C Percentage of the root cause contributed by the supplied component: TBD

- D. Deliver copy of this paper to tire buyer Martin Cadena when completed and approved.
- E. Bridgestone / Firestone: LF177 , Predit code: 6062  
GOODYEAR: LG214, Predit code: 6066
- F. Miguel Ruiz MRUIZ2 (Manager) / Martin Cadena MCADENA (Buyer).

**12. FINANCIAL IMPLICATIONS**

Explorer	1996	1997	1998	1999	Total
	Units	Units	Units	Units	
Venezuela	1,094	7,394	10,531	5244	24,263
Colombia	1,091	3,780	5,158	1,206	11,235
Ecuador	0	1,012	1,134	385	2,531
<b>Total</b>	<b>2,185</b>	<b>12,186</b>	<b>16,823</b>	<b>6,835</b>	<b>38,029</b>

PN 96	1996	1997	1998	1999	Total
Venezuela			2,971	1,325	4,296
Colombia			815	70	885
Ecuador			106	96	202
Explorer Imp			135	353	488
<b>Total</b>	<b>2,185</b>	<b>12,186</b>	<b>20,850</b>	<b>8,679</b>	<b>43,900</b>

Estimated Percentage Change 80% 35,120  
 Cost per Unit (Tires) \$ 302  
 Total Tires Cost \$(Mils) \$ 9,6

Administrative, Marketing and Legal Cost (Mils) \$ 1,5

Old Tires Transportation and Scrap (Mils) TBD

Purchasing, Engineering, and other appropriate activities will jointly determine the extent of supplier financial responsibility. If supplier reimbursement is warranted in the field service action, purchasing will negotiate cost recovery.

### 13. PREVENT ACTIONS

Low inflation operating situation.

- Firestone and Hayes Wheels performed an instructive field trip all around Ford dealers in order to teach how to evaluate tires conditions, how to inspect a tire reparation, etc

Extended / repeated use at extremely high speed:

- Tire SDS, ES, spec and WDMO Regulations to be modified to include the following for all vehicles going to Andina markets:

- Use tire with speed rating at least one (1) level higher than the vehicle max speed when adjusted for vehicle recommended tire pressure. If this tire construction does not exist, then speed limit the vehicle to one speed level (10KPH) below the tires speed capability when adjusted for vehicle recommended tire pressure.
- Tire should have a minimum of a "A" temperature rating by the UTQG system.
- Tire should be of a "special service" construction for extreme puncture resistance.

Overall the tire carcass useful life should be designed to last the useful life of tread wear), as a measured at TWI (tread wear indicator), (i.e. tread should be fuse to indicate when the tire should be changed).

### 14. REFERENCE DATA

Edivia Caballero, ECABALL1, Service Engineer, 011-58-41-406189, Ford Motor of Venezuela.