



Truck Operations

October 5, 1992

To: R. J. Reichenbach, Bridgestone/Firestone
H. S. Moore, Michelin
C. Turner, Goodyear
D. J. Zupac, General Tire

cc: L. Skynar
D. C. Fortunato
M. Cowley
G. P. Rama

Subject: Revised UPN105 Tire Targets

Attached are the revised Tire Targets for the UPN105 Program. These targets have been revised to reflect program objectives to maintain tirewear, traction, and maximize rolling resistance. The primary design emphasis is to be directed at (1) force and moment specification equivalent to the control tire, (2) maintain irregular and shoulder wear, and (3) no loss in dry, wet, and snow traction. The Rolling Resistance identified for each tire size is a target, not the main objective. The Candidate tires must maintain tirewear, equivalent F&M, dry, wet, and snow traction, while trying to achieve a reduction in Rolling Resistance that approaches the RR target. Please contact Mr. Ron Campbell on the particulars for the F&M requirements for this program. In general, the program goal for U/PN105 is to maintain and not to exceed the handling properties of control tires identified for each tire size.

T. A. Mast

Concur:

J. D. Avouris 10/14/92

R. M. Campbell

D. R. Wotton

R. J. Bacigalupi

10/5/92 REVISED TARGETS - UPN105

CANDIDATE TIRE - P235/75R15 SL ALL TERRAIN OWL WITH 15X7.0JJ WHEEL
(INFO: TIRE ALSO AVAILABLE ON 15X6.0JJ WHEEL)

CONTROL TIRE - P235/75R15 SL AT FIRESTONE ATR SL531J WITH 15X7.0JJ WHEEL

- Irregular wear (10K) (Supplier) • Estimated life after 10K irregular wear test \geq Firestone control for both outside and across tread wear.
(Siping must be full depth on outside shoulders.)
• Worn appearance - subjective \geq Control
(See ES-E8TA-1508-AA)
- Shoulder Wear (SK) (Supplier) • Estimated life \geq Firestone control tire.
• Worn appearance - subjective \geq Control
(See ES-E8TA-1508-AA)
- Rolling Resistance - Target • 67" Drum: \leq 10.9 lbs. on Ford Test Machine,
(Ford/Supplier) 7.0" rim, 1402 lbs. load, 38 psi.
• Twin Rolls: TBD on Ford Test Machine, 7.0" rim, 1402 lbs. load, 45 psi.

NOTE: Primary importance should be placed on the 67" drum rolling resistance.

- Raw data and regression equations for above tests must also be submitted to LTE. See B. Whittle letter dated 8/2/90 for data format.

- Traction: Dry/Wet(0.05" H₂O) (Ford/Supplier) • \geq Firestone control
Rim - 15X7.0
Tire pressure - 30 PSI for Ranger 4X4
Loads: Dry- 855/2137 LBS., Wet- 1453 LBS.
Tire pressure - 26 PSI for Explorer
Loads: Dry- 796/1992 LBS., Wet- 1354 LBS.
Speed: 20, 40, 60 MPH
- 1K Gravel (Supplier) • Meet ES-E8TA-1508-AA requirement.
Worn appearance - subjective \geq Control
- DOT 109 Lab Test (Supplier) • Meet ES-E8TA-1508-AA requirement.
- High Speed/Rolloff/Blow Out (Ford/Supplier) • Meet ES target of 200 miles at 90 mph.
Meet SAE "S" speed rating requirements.
- Handling - Dry/Wet (Ford/Supplier) • Dry - subjective equivalent to Control
• Wet - subjective \geq Control tire on Ford developed wet handling course.
• Groove Wander (Los Angeles Freeway test) \geq Firestone Control

10/5/92 REVISED TARGETS - UPN105

CANDIDATE TIRE - P235/75R15 SL ALL TERRAIN OWL WITH 15X7.0JJ WHEEL

CONTROL TIRE - P235/75R15 SL AT FIRESTONE ATX SLS3LJ WITH 15X7.0JJ WHEEL

- Ride (Ford/Supplier)
 - Harshness at curb - subjective \geq Control (Ranger), and 0.5 improvement over Control on Explorer.
NOTE: 30/35 psi Ranger, 26/26 psi Explorer.
- Noise (Ford/Supplier)
 - New - .5 subjective rating better than Control
 - Worn - After 10K Irregular & Shoulder wear test
.5 subjective rating better than Control
- Indoor Noise
 - Submit data per ES-E8TA-1508-AA
- Snow Traction (Supplier)
 - \geq Control tire
(Desired: At 50% tread depth, traction should not drop more than 20% from full tread value.)
- Snow - Handling/Braking Events (Ford/Supplier)
 - TBD (To be developed by Tire Suppliers and Ford.)
- Weight (Supplier)
 - 30 piece ave. \leq 28.6 lbs.
- Uniformity Values (Supplier)
 - Uniformity values must conform to those values outlined in the 12/12/88 BIC letter for the 1995 model year.
Minimum Cpk = 1.33
NOTE: May be modified to suit vehicle sensitivity.
Sidewall undulation = 0.05" max.
- RPM (Supplier)
 - SAE Average = 717 ± 7 RPM @ 1844 lb., 35 psi, 45 mph.
- Sidewall, Shoulder, and Tread Design
 - UPN105 tread, shoulder, and sidewall designs should provide the customer with a "Tough Truck" image. Tread depth to meet Engineering Design Information T&RA recommended practice. A square shoulder appearance is desired.
- Residual Aligning Torque (Ford/Supplier)
 - +0.5 to -2.5 Newton-meters
- Force & Moment (Ford/Supplier)
 - Force & Moment equivalent to Control tire with 15x7.0 rim width at 26 PSI.
Use LTE Sept. 15, 1992 procedure.
File Control Number is "FS316CWF2"

**FORD LIGHT TRUCK OPERATIONS
TIRE CONSTRUCTION DETAIL SHEET**

IDENTIFICATION DETAIL

Supplier: BRIDGESTONE/FIRESTONE INC.
Trade Name: ATX
Tread Type: AT
Construction No.: SRB97J
Preceding Constr. No:
Ford Part No. F57A1508FA (OWL)
Ford Part No.
Ford Part No.

Tire Size: P235/75R15
Service Index: 105 S
ECE Cert: E4 026556
Sidewall: OWL
Producing Plant: WILSON, N.C.
DOT Plant/Type Code: W2 / 1PM
Producing Plant: JOLIETTE, QUEBEC
DOT Plant/Type Code: VN / 1PM

COMPOUND DETAIL

CORD DETAIL

Tread: DS431
Sidewall: SW201

Body Skim: BS303
Belt Skim: SS103

Body
Belt
Cap Plies

No. Plies	Mat'l.	Strands /Denier	Cured Ends	Angles
2	POLY	1000/2	15.2	0
2	ST'L	1X5	19.3	70
-	-	-	-	-

TREAD/SIDEWALL DETAIL

MAXIMUM LOAD/INFLATION DETAIL

(All Dim. in inches exc. No. of Ribs)
Number of Ribs: 5
Groove Depth: CTR 0.39 Shldr. 0.39
WSW Width: _____ WSW OD: _____
RWL Width: 1.10 RWL OD: 21.0

	Load	Infl (psi)
(P-Metric) T&R /1.1	1844 LBS	35
(LT-Metric) T&R Single	-	-
T&R Dual	-	-

PERFORMANCE/DIMENSIONAL DETAIL

Force Variation & Balance (ES-E8TA-1508-AA)
BIC Limits or Veh. Sensitivity Requirements as specified in the ISW(s)

Rolling Resistance (ES-E0TA-1508-BA)
Enrgy Release (Soft Point) = 12.44 lbs.
Design Ver. DVN (Hard Point) = _____ lbs.
In-Process UCL (DVN + 3_) = _____ lbs.

Static Spring Rate, Static/Dyn. Loaded Rad.
SSR @ 26 psi = 1049 lb/in.
SSR @ 35 psi = 1263 lb/in.
SLR @ 35 psi = 1844 lb = 13.01 in.
DLR @ 35 psi = 1844 lb. = 13.01 in.
(@ 50 mph)

Twin Roll (Soft Point) = 26.18 lbs.
Avg Tire Weight 28.50 lbs.
RSAT (SOFT POINT) - - 2.9 n.m.
Revolutions per Mile: RPM = 721 +/- 3
Min. Dry Traction per Ford Test:
_____ @ _____ psi
_____ @ _____ psi

SIGNOFF/APPROVAL SECTION

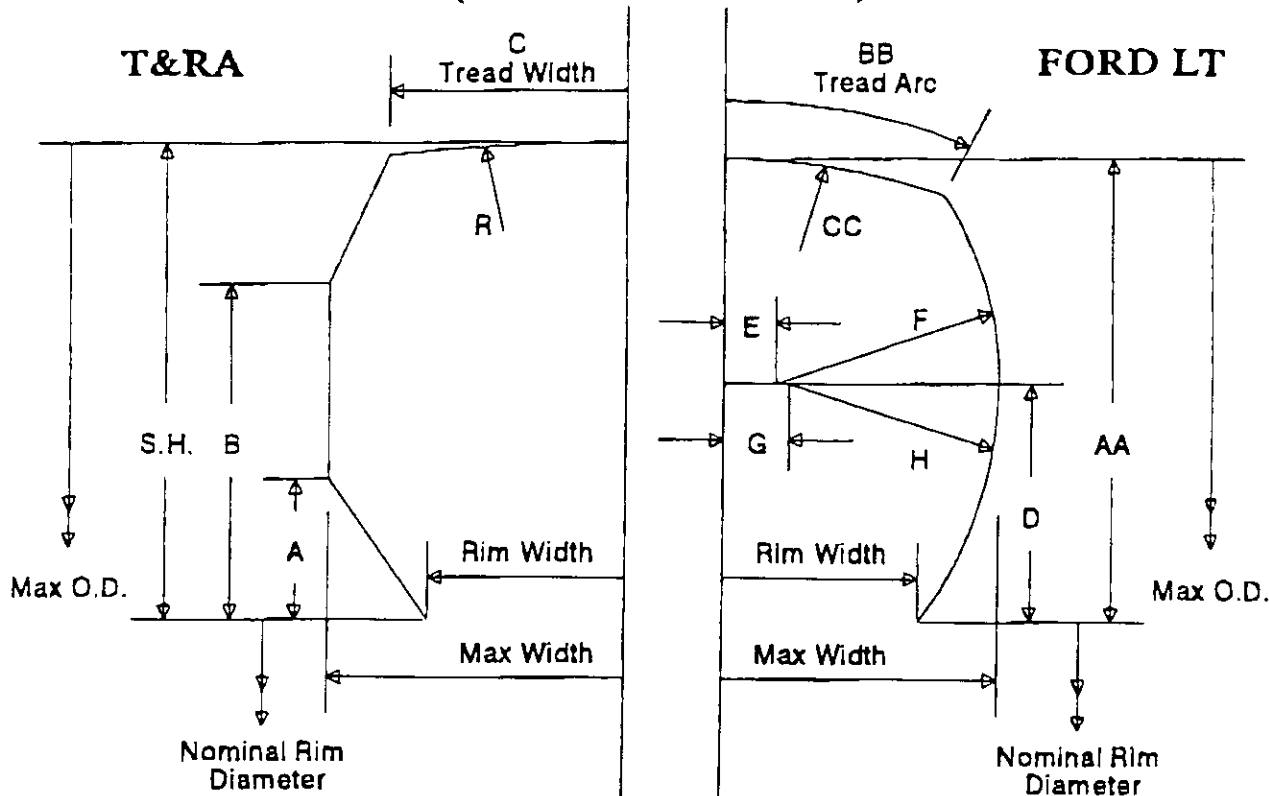
Platform _____ for _____ Model Year	Platform _____ for _____ Model Year
Vehicle Dyn. _____ Date _____	Vehicle Dyn. _____ Date _____
Ride & Hand. _____ Date _____	Ride & Hand. _____ Date _____
Platform _____ for _____ Model Year	Platform _____ for _____ Model Year
Vehicle Dyn. _____ Date _____	Vehicle Dyn. _____ Date _____
Ride & Hand. _____ Date _____	Ride & Hand. _____ Date _____

FORD LT ENGINEERING APPROVAL:

4-11-97 Date
[Signature] Date
[Signature] Date
Supplied

[Signature] 7/12/94 Date
[Signature] Date
4/11/94 Date

FORD LIGHT TRUCK TIRE COMPOSITE DETAIL SHEET (RADIAL P-METRIC TIRES)



MAX GROWN DIMENSIONS

RIM WIDTH 6.0

T&RA		FORD LT	
Max O.D.	29.41	Max O.D.	29.29
S.H.	7.20	AA	7.15
C	7.68	BB	6.87
R	37.95	CC	20.00
A	2.17		
B	5.04		
		D	3.57
		E	-0.46
		F	5.08
		G	5.40
		H	-0.78
Max Width	9.61	Max Width	9.24

MAX GROWN DIMENSIONS

RIM WIDTH 7.0

T&RA		FORD LT	
Max O.D.	29.41	Max O.D.	29.29
S.H.	7.20	AA	7.15
C	8.03	BB	6.87
R	39.65	CC	20.00
A	2.17		
B	5.04		
		D	3.57
		E	0.28
		F	4.54
		G	-0.67
		H	5.49
Max Width	10.04	Max Width	9.64

SUPPLIED BY:

FORD LT ENGINEERING
CONCURRENCE:

DATE

DATE

P235/75R15 UPN 105
PERFORMANCE SUMMARY

CONTROL: SL531J ATX **CANDIDATE: SR897J ATX**

<u>TEST TYPE</u>	<u>TARGET</u>	<u>CANDIDATE</u>
10K IRREGULAR WEAR	= SL531J	RANGER + 33%, = H&T UN105 + 49%, = H&T UN105 - 11%, = H&T**
3.7K SHOULDER WEAR	= SL531J	RANGER + 13%, = H&T UN105 + 10%, = H&T UN105 + 12%, =H&T **
TRACTION	= SL531J	
-- WET		EQUAL
--DRY		EQUAL
SNOW TRACTION	= SL531J	EQUAL FULL SKID EQUAL HALF SKID
SNOW HANDLING	= SL531J	BFS - EQUAL FORD - EQUAL
HANDLING		APPROVED BY FORD
- WET	= SL531J	UN105/RANGER 11/93
- DRY		
RIDE	.5 RTG > SL531J	APPROVED ON UN105/RANGER 11/93
RAT	+ .5 TO - 2.5 NM	-2.9 NM
GROOVE WANDER	=> SL531J	EQUAL ON RANGER
FORCE & MOMENT	= SL531J	EQUIVALENT ON BOTH VEHICLES
ROLLING RESISTANCE		
- DRUM	<= 11.7 #	12.4 #
-TWIN ROLL	TBD	26.2 #
DOT 109 + 48	MEETS	MEETS
HIGH SPEED	'S' SPEED RATED	MEETS 'S' RATING
WEIGHT	<= SL531J (28.5#)	28.5 #

** QUESTIONABLE RESULTS DUE TO VEHICLE REPAIR DURING TESTS

OMERC43.txt

06/05/2000 MASTER OWNER RELATIONS SYSTEM III 18 41 53
 =====
 CONCERN ISSUE CASE NBR 1506412618
 REGION ZONE OPENED 09/21/1998
 VIN 1FMDU32P9TZA39179 ENGINE P VEH TYPE T CLOSED 09/21/1998
 =====

MODEL YEAR: 1996 MODEL U320 EXPLORER 4X2 4DR WAGON
 MILEAGE 31300
 DEALER NAME SALES CODE P & A
 REASON CODE 2010 WARRANTY - BUMPER-TO-BUMPER
 SYMPTOMS: 306300 TIRES/WHEELS REMOVAL OF

ORIGIN CAC - GENERAL CAC COMMUNICATION MAIL
 ACTION DR0004 - REQUEST CRM/SVC MGR TO CONTACT CUSTOMER
 DOCUMENT ANALYST: CROZARIO CONSTANTINA ROZARIO
 ACTION DATA/COMMENTS:

1998/09/21

13 00 38 CUSTOMER SAYS CUST SAYS HE LOVES HIS CAR CUST SAYS THE FIRESTONE ATX TIRE DELAMINATED ON FRIDAY 18TH, 1998, AS A RESULT THE BODY OF THE CAR WAS DAMAGED. CUST SAYS HE TOOK THE VEHICLE IN FOR SERVICE TWO WEEKS AGO CUST INFORMED DLR THAT THE VEHICLE WAS PULLING TO THE RIGHT DLR DID AN ALIGNMENT, ROTATED AND INSPECTED THE TIRES WHEN CUST TOOK THE VEHICLE TO THE DLR, HE FOUND THE DLRSHIP VERY UNRESPONSIVE THE SERVICE MANAGER, JEFF BODIE WAS VERY CONFRONTATIONAL AND UNRESPONSIVE HE TOLD CUST THAT IT WAS NOT THEIR PROBLEM AND ASKED CUST TO TAKE IT TO FIRESTONE WHEN THE VEHICLE WAS TAKEN TO THE BODY SHOP, THE ESTIMATE WAS ABOUT \$ 950 THE BODY SHOP MGR TOLD CUST THAT THIS WAS A COMMON OCCURENCE WITH THIS TYPE OF FIRESTONE TIRES AND HE GET TWO TO THREE VEHICLES A WEEK FOR BODY DAMAGE DUE TO FIRESTONE TIRE DELAMINATION. CUST SAYS THIS IS AN EXTREME SAFETY HAZARD AND WANTS FORD TO BE AWARE OF THIS CUST WANTS FORD TO REPAIR THE VEHICLE, AND REPLACE THE TIRES WITH ANOTHER BRAND. CUST WOULD LIKE FORD TO INVESTIGATE THE SITUATION AND WOULD LIKE TO KNOW WHAT IS HAPPENING ABOUT THE TIRE SAFETY PER CUSTOMER, DEALER SAYS DLR MR BODIE, SERV MNGR ADVISED CUST THAT THE GENERAL MNGR WAS ON SITE BUT WAS IN MEETINGS WITH CUSTS ALL DAY AND WOULD GET BACK TO HIM. CAC ADVISED - DEALERSHIP IS IN THE BEST POSITION TO DETERMINE WARRANTY COVERAGE - STAY IN TOUCH WITH CRM/SERV MGR INFERENCE CASE ID: 4553

ORIGIN: CAC138 - US CONCERN CASE BASE COMMUNICATION MAIL
 ACTION: 139 - ADVISE CUST INFO WILL BE SENT TO DLR: CONTACT CRM
 DOCUMENT ANALYST: CROZARIO CONSTANTINA ROZARIO
 ACTION DATA/COMMENTS

CUSTOMER SAYS CUST SAYS HE LOVES HIS CAR. CUST SAYS THE FIRESTONE ATX TIRE DELAMINATED ON FRIDAY 18TH, 1998, AS A RESULT

OWNER RELATIONS 06/05/2000 MMFAXPRG

06/05/2000 MASTER OWNER RELATIONS SYSTEM III 18 41 53
 =====
 CONCERN ISSUE CASE NBR 1506412648
 REGION ZONE OPENED 09/21/1998
 VIN 1FMDU32P9TZA39179 ENGINE P VEH TYPE T CLOSED 09/21/1998
 =====

1998/09/21

13 00 38 ULT THE BODY OF THE CAR WAS DAMAGED CUST SAYS HE TOOK THE VEHICLE IN FOR SERVICE TWO WEEKS AGO CUST INFORMED DLR THAT THE VEHICLE WAS PULLING TO THE RIGHT DLR DID AN ALIGNMENT, ROTATED AND INSPECTED THE TIRES WHEN CUST TOOK THE VEHICLE TO THE DLR, HE FOUND THE DLRSHIP VERY UNRESPONSIVE THE SERVICE MANAGER, JEFF BODIE WAS VERY CONFRONTATIONAL AND UNRESPONSIVE HE TOLD CUST THAT IT WAS NOT THEIR PROBLEM AND ASKED CUST TO TAKE IT TO FIRESTONE WHEN THE VEHICLE WAS TAKEN TO THE BODY SHOP, THE ESTIMATE WAS ABOUT \$ 950 THE BODY SHOP MGR TOLD CUST THAT THIS WAS A COMMON OCCURENCE WITH THIS TYPE OF FIRESTONE TIRES AND HE GET TWO TO THREE VEHICLES A WEEK FOR BODY DAMAGE DUE TO FIRESTONE TIRE DELAMINATION. CUST SAYS THIS IS AN EXTREME SAFETY HAZARD AND WANTS FORD TO BE AWARE OF THIS CUST WANTS FORD TO REPAIR THE VEHICLE, AND REPLACE THE TIRES WITH ANOTHER BRAND. CUST WOULD LIKE FORD TO INVESTIGATE THE SITUATION AND WOULD LIKE TO KNOW WHAT IS HAPPENING ABOUT THE TIRE SAFETY PER CUSTOMER, DEALER SAYS DLR MR BODIE, SERV MNGR ADVISED CUST THAT THE GENERAL MNGR WAS ON SITE BUT WAS IN MEETINGS WITH CUSTS ALL DAY AND WOULD GET BACK TO HIM. CAC ADVISED - DEALERSHIP IS IN THE BEST POSITION TO DETERMINE WARRANTY COVERAGE - STAY IN TOUCH WITH CRM/SERV MGR INFERENCE CASE ID: 4553

06/03/00 MASTER OWNER RELATIONS SYSTEM II 03 09 20

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5703AH GRP XX04 INFORMATION CONTACT VEH TYP: TRUCK
PHILADELPHIA 16 ZN/TR F1 CONTACT NBR 108187267 OPENED 03/10/1997
VIN 1FTDX1729VNB39967 ENGINE 2 CLOSED 03/10/1997
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MODEL YEAR 97 MODEL F-SERIES LD
MILEAGE 6000 WSD
DEALER NAME KERRY PACIFICO'S AR SALES CODE 116033 P & A 01201
CAUSAL CODES 2010 SYMPTOMS 306200 306000
ORIGIN GO TRANS DST/RGN TRANS DATE
SERVICE/SALES 1 CONTACT DATE
ACK CODE ASSIST CODE AWARD AMT 0 SURVEY (Y OR N)

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BUILD DATE CALIBRATION
ESP INFO EXPIRES
OPEN RECALL OWNER NOTIFIED MICRO

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COMMENTS

1997/03/10

*** NAVIS ORIGINAL ***

CUSTOMER SAYS

- HE IS HAVING PROBLEMS WITH THE TIRES
- ONE TIRE WENT FLAT AND HAD BUMPS ON THE TIRES
- 2 OF THE TIRES HAD PUNCTURES IN THEM FROM PICKING UP NAILS
- TOOK IT TO THE FIRESTONE DEALERSHIP AND THEY SAID THEY HAD A FLYER ON IT AND THEY WOULD REPLACE THE TIRES FOR FREE. THEY HAVE HAD PROBLEMS WITH THOSE TIRES THAT THEY PUT ON THE F-150. THEY ARE A SPECIAL DESIGNED TIRE

PER CUSTOMER, DEALER SAYS

- NO CONTACT

CUSTOMER SEEKS

- CAN FORD PAY TO GIVE HIM A GOODYEAR TIRE INSTEAD OF THE FIRESTONE

CAC ADVISED:

- TIRES ARE WARRANTED BY THE TIRE MANUFACTURER. CUSTOMER SHOULD CONTACT FIRESTONE
- FORD WOULD NOT PAY TO HAVE THE TIRES REPLACED. CUSTOMER MAY WANT TO CONTACT THE DEALERSHIP TO MAKE THEM AWARE OF HIS CONCERN
- PROVIDED THE NUMBER TO FIRESTONE CUSTOMER SERVICE IN ROLODEX

Samuel K Boyden

From: Tony Cockerill [Tony Cockerill/BE5M/00/State Farm@SFMail009]
Sent: Friday, September 24, 1999 6:53 PM
To: Samuel K Boyden
Subject: Firestone ATX

Sam,

Here is the info requested regarding the FireStone ATX P235/75R15 tire.

As of September 20, 1999 CRASH has received 39 inquiries regarding failures of the Firestone ATX P235/75R15 tire. Subrogation has been successful in 5 of the claims where sub. was pursued.

Amount recovered	Expert involved
2742.00	NO
12101.00	NO
8985.00	YES
9598.00	YES
1325.00	NO