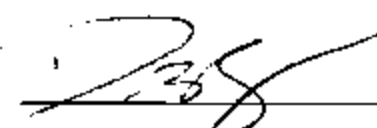


Prepared for the Department of Transportation, National Highway Traffic Safety Administration, under Contract No. DTNH22-01-C-21025.

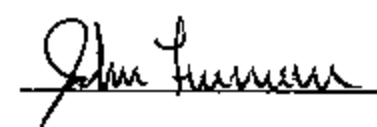
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Prepared By: 

Approved By: 

Approval Date: 4-28-04

FINAL REPORT ACCEPTANCE BY OVSC:

Accepted By: 

Acceptance Date: 5-3-04

TECHNICAL REPORT STANDARD TITLE PAGE

1. Report No. 120-TRC-04-005	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle Final report of FMVSS 120 Compliance Testing of a MY 2004 Ford Econoline E-150 XL, NHTSA No. C40208		5. Report Date April 28, 2004	
		6. Performing Organization Code TRC 20000113/4205	
7. Author(s) Jeff Sankey, Project Manager Dennis Grisez, Project Engineer		8. Performing Organization Report No. TRC-DOT-120-4-005	
9. Performing Organization Name and Address Transportation Research Center Inc. 10820 State Route 347 East Liberty, OH 43319		10. Work Unit No.	
		11. Contract or Grant No. DTNH22-01-C-21025	
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration Enforcement Office of Vehicle Safety Compliance (NVS-220) 400 Seventh Street, SW, Room 6111 Washington, D.C. 20590		13. Type of Report and Period Covered Final test report March 11, 2004 to April 28, 2004	
		14. Sponsoring Agency Code NVS-220	
15. Supplementary Notes			
16. Abstract A test was conducted on a MY 2004 Ford Econoline E-150 XL, NHTSA No. C40208, in accordance with FMVSS 120, "Tire selection and rims for vehicles other than passenger cars," and TP-120-03. The vehicle was weighed in the unloaded and fully loaded conditions and its tires, rims, and related information were checked. Test failures identified were as follows: None			
17. Key Words Compliance Testing Safety Engineering FMVSS 120		18. Distribution Statement Copies of this report are available from: NHTSA Technical Information Services (TIS) Room 5108 (NAD-40) 400 Seventh Street, SW Washington, D.C. 20590 Telephone No. (202) 366-2588	
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of Pages 30	22. Price

TABLE OF CONTENTS

<u>SECTION</u>		<u>PAGE</u>
1.0	PURPOSE OF COMPLIANCE TEST	1
2.0	TEST PROCEDURE AND DISCUSSION OF RESULTS	1
3.0	COMPLIANCE TEST DATA	2
4.0	TEST EQUIPMENT LIST & CALIBRATION INFORMATION	9
5.0	PHOTOGRAPHS	14
6.0	APPLICABLE PAGES OF OWNERS MANUAL	29

1.0 PURPOSE OF COMPLIANCE TEST

The purpose of this test report is to document the results of tests performed on an MY 2004 Ford Econoline E-150 XL in accordance with the requirements stated in Federal Motor Vehicle Safety Standard (FMVSS) 120, "Tire Selection and Rims for Motor Vehicles Other Than Passenger Cars."

This standard establishes requirements to ensure that applicable vehicles are equipped with tires of adequate size and load rating and rims of appropriate size and type designation.

2.0 TEST PROCEDURE AND DISCUSSION OF RESULTS

Testing of the MY 2004 Ford Econoline E-150 XL was conducted at Transportation Research Center Inc. (TRC Inc.) in accordance with NHTSA TP-120-03, dated April 10, 2000. The vehicle mounted tires and rims were surveyed to ensure that the rims were suitable for the tires and that the tires inflated to the maximum inflation pressure stated on the tire sidewall were appropriate for the vehicle's certified Gross Axle Weight Ratings (GAWR). The vehicle certification and tire information labeling were surveyed to ensure that the vehicle manufacturer's recommended rims were suitable for the recommended tires, and that the recommended tires inflated to the recommended inflation pressures stated on the labeling were appropriate for the vehicle's certified GAWRs. The vehicle was ballasted with weight to simulate first, the vehicle loaded with eight occupants, and second, the vehicle loaded to the vehicle's certified Gross Vehicle Weight Rating (GVWR), to determine if axle or tire overloading could occur.

The vehicle tires and rims appear to be suitable and appropriate to carry vehicle loads as required by FMVSS 120.

3.0 COMPLIANCE TEST DATA

FMVSS No. 120 – TEST DATA SUMMARY

Test Laboratory: Transportation Research Center ; Contract No.: DTNH22-01-C-21025

Vehicle Make/Model: Ford Econoline E-150 XL ; Model Year: 2004

NHTSA No.: C40208 ; VIN: 1FMRE11W94 ; Vehicle Type: MPV

Incomplete Veh. Make/Model: Not applicable

Designated Seating Capacity: 8 ; Engine Size: 4.6L

Dealer Installed Optional Accessories: N/A

REQUIREMENTS	PASS/FAIL
TIRE AND RIM SELECTION (S5.1)	
Installed tires and rims are suitable for vehicle	PASS
RIM MARKING (S5.2)	
Rims contain all required markings of proper dimensions	PASS
LABEL INFORMATION (5.3)	
Vehicle has proper certification/tire information label	PASS
Label tires at recommended inflation pressure and rims are suitable for vehicle	PASS
WEIGHT DISTRIBUTION (49 CFR 567 Certification)	
Vehicle loaded with occupants and cargo does not exceed GVWR	PASS
RESULTS:	
Test data indicates compliance with FMVSS 120	PASS

REMARKS:

3.0 COMPLIANCE TEST DATA

FMVSS 120 – DATA SHEET 1 (1 of 2)

Vehicle Make/Model: Ford Econoline E-150 XL

NHTSA No.: C40208; Test Date: March 17, 2004

Tire Type: Passenger Car- X; Other- _____

Are the tire and rim sizes the same for all axles, including the spare? Yes

Does the tire size fitted to the axles appear on the certification or tire label? Yes

Describe if "No": _____

Number of axles: 2; Dual tires on rear axle(s)? No

TIRE DATA FROM SIDEWALL	
	RIGHT FRONT
Manufacturer	Michelin
Brand	LTX M/S
Tire size	P235/70R16
Maximum Tire Load Rating (KG)	975
De-rated* Tire Load Rating (KG)	886
Maximum Inflation Pressure (KPA)	280
Tire has DOT symbol? (Yes/No)	Yes
DOT serial number	DOT B37PNAJX4103

* If a passenger car tire is installed on a multipurpose passenger vehicle (MPV), truck or bus, the tire's load rating shall be reduced by dividing by 1.10.

MOUNTED TIRE VS. AXLE RATING COMPARISON (at sidewall maximum inflation pressure)		
	FRONT AXLE	REAR AXLE
A. GAWR (KG) from certification label	1632	1723
B. (No. of tires) x (de-rated tire load rating (KG) from above table)	1772	1772
Is "B" equal to or greater than "A" ? (Yes/No)	Yes	Yes

3.0 COMPLIANCE TEST DATA

FMVSS 120 – DATA SHEET 1 (2 of 2)

RIM MARKINGS	
	RIGHT FRONT
A. Source of published dimensions (letter designation)	T
B. Rim size	16 x 7 J
C. Does rim contain DOT symbol? (Yes/No)	Yes
D. Manufacturer's name, symbol or trademark (copy format)	Ford Oval and ACCURIDE
E. Date of manufacture or symbol	11 18 03
Do items A-C appear on weather side of rim? (Yes/No)	Yes
Letter height (not less than 3mm)	Yes
Lettering (impressed or embossed)	Impressed
Are all rim markings legible? (Yes/No)	Yes
Do all markings comply with requirements? (Yes/No)	Yes
Rims are suitable for tires on vehicle? (Yes/No)	Yes

RIM MEASUREMENTS	
	RIGHT FRONT
Rim width (mm)	178
Rim diameter (mm)	406
Rim measurements same as rim markings? (Yes/No)	Yes

TEST RESULTS (Pass/Fail): Pass

REMARKS:

Right rear tire DOT Serial Number: DOT B37PNAJX4103

Left front tire DOT Serial Number: DOT B37PNAJX4003

Left rear tire DOT Serial Number: DOT B37PNAJX4103

RECORDED BY: [Signature]; DATE: 3-17-04

APPROVED BY: [Signature]; DATE: 4/28/04

3.0 COMPLIANCE TEST DATA

FMVSS NO. 120 – DATA SHEET 2 (1 of 2)

Vehicle Make/Model: Ford Econoline E-150 XL

NHTSA No.: C40208; Test Date: March 18, 2004

Label Design: Combined Certification and Tire Label Yes

Separate Tire Information Label Yes

Label is in English (Yes/No) Yes

Block capital letters and numbers are not less than
2.4 mm in height (Yes/No) Yes

Location of Label(s) on the vehicle: Driver's side door jamb and inside fuel door.

TIRE AND RIM DATA FROM LABEL (for each GAWR/GVWR)		
GVWR: <u>3175</u> KG	FRONT AXLE	REAR AXLE
Tire size	P235/70R16	P235/70R16
Rim size	16 x 7.0 J	16 x 7.0 J
Recommended inflation pressure (KPA)	280	280
* Are labeled rims suitable for labeled tires? (Yes/No)	Yes	Yes
* Referenced load rating at label recommended inflation pressure (KG)	975	975
** De-rated tire load rating (KG)	886	886

* Referenced source for tire/rim match and load rating data: 2004 Yearbook – The Tire and Rim Association, Inc.

** If a passenger car tire is installed on a multipurpose passenger vehicle (MPV), truck or bus, the tire's load rating shall be reduced by dividing by 1.10.

3.0 COMPLIANCE TEST DATA

FMVSS No. 120 – DATA SHEET 2 (2 of 2)

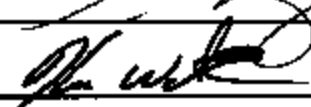
CERTIFICATION/TIRE LABEL MAXIMUM CAPACITY COMPARISON		
GVWR: <u>3175</u> KG	FRONT AXLE	REAR AXLE
A. GAWR (KG) from certification label	C. <u>1632</u>	D. <u>1723</u>
B. (No. of tires) x (*Tire load rating (KG))	1772	1772
Is "B" equal to or greater than "A" ? (Yes/No)	Yes	Yes
Is "C" plus "D" equal to or greater than GVWR?	Yes	

*From tire load rating on previous page.

TEST RESULTS (Pass/Fail): Pass

REMARKS:

RECORDED BY: ; DATE: 3-18-04

APPROVED BY: ; DATE: 4/29/04

3.0 COMPLIANCE TEST DATA

FMVSS NO. 120 – DATA SHEET 3 (1 of 2)

Vehicle Make/Model: Ford Econoline E-150 XL

NHTSA No.: C40208; Test Date: April 16, 2004

Full Fluid levels:

Fuel Full; Coolant Full; Other Fluids Full

Tire pressures: LF 280 KPA (41 PSI) RF 280 KPA (41 PSI)
LR 280 KPA (41 PSI) RR 280 KPA (41 PSI)

Total Occupant Load: 544 KG (8 adult occupants)

[# of designated seating positions x 68 KG per adult]

Manufacturer's Rated Cargo Load: See REMARKS

Certified GVWR - Measured UVW - Total Occupant Load = Rated Cargo Load

3175 KG - 2365 KG - 544 KG = 266 KG

Describe placement of cargo: Centered over rear axle in cargo area.

ITEM	Tire or Vehicle Rating* (KG)	CONDITION 1 UVW (KG)		CONDITION 2 Cond. 1 + occupants (KG)		CONDITION 3 Cond. 2 + cargo (KG)	
		Measured	Overload	Measured	Overload	Measured	Overload
Left Front Tire	886	639	NO	768	NO	764	NO
Right Front Tire	886	651	NO	742	NO	736	NO
Front Axle**	1632	1290	NO	1510	NO	1499	NO
Left Rear Tire	886	541	NO	715	NO	859	NO
Right Rear Tire	886	534	NO	684	NO	817	NO
Rear Axle**	1723	1075	NO	1399	NO	1676	NO
Total Veh.**	3175	2365	NO	2809	NO	3175	NO

NOTES:

* Vehicle and axle weight ratings (GVWR & GAWR) are located on the vehicle certification label plate. Vehicle tire load ratings are based upon the inflation pressure specified on the certification label plate for each respective axle, as determined from the appropriate tire manufacturer's specification table.

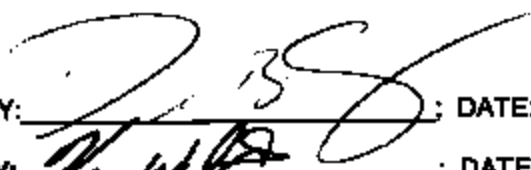
** Measured axle and vehicle loads are determined by summing the respective measured tire loads.

FMVSS NO. 120 – DATA SHEET 3 (2 of 2)

TEST RESULTS (Pass/Fail): Pass

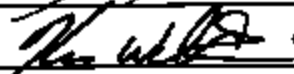
REMARKS:

The vehicle owner's manual discusses vehicle loading in a section entitled "Vehicle Loading – With and Without a Trailer" (refer to Section 6 of this test report). This section contains definitions of GAWR and GVWR and states that these ratings can be found on the Safety Certification Label and that they should never be exceeded.

RECORDED BY: 

DATE:

4-16-04

APPROVED BY: 

DATE:

4/28/04

4.0 TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

<u>Instrument</u>	<u>Manufacturer</u>	<u>Model/Serial#</u>	<u>Calibration</u>	<u>Next Calibration</u>
Scales	Toledo	5225831-5JC	4-7-04	7-7-04
Tape Measure	Lufkin	R-022	1-13-04	1-13-05
Digital InclInometer	Schaevitz	RXS6-70-B	8-21-03	8-23-04

FMVSS 120 - Scale Calibration Sheet



COMPREHENSIVE TEST REPORT

Customer Name			SERVICE TICKET/ WORK ORDER #		
Unit location	Bldg 70		Customer ID#	R. Jeff	
Mfg/Model #	mt Jagtione		Serial #	5275831-55C	
Capacity	2500 kg ☐ lb ☒	Number of divisions	5000	Division Size	0.5

The weighing equipment noted on this report has been tested and/or calibrated in compliance with Mettler Toledo procedure VP0023R, and NIST Handbook 44 and/or Canada Standard where applicable.

SHIFT TEST Weights applied: 1000 Max. Permissible Error: 2

As Found	
1000.5 2	1000.0 3
1000.5 1	1000.5 4
J	

As Left	
J	

In tolerance without adjustment ☒

In tolerance after adjustment ☐

Out of tolerance ☐

Test Load	Weights applied	As found reading	Error: plus or minus (d)	Allowable error (d)	As left reading	Within Tolerance Y/N
Zero	0	0.0	0	±1	1	Y ☒ N ☐
	750	750.0	0	1	1	Y ☒ N ☐
	500	500.0	0	2	2	Y ☒ N ☐
	1000	1000.5	+1	2	2	Y ☒ N ☐
Max Load*	1500	1500.5	+1	3	3	Y ☒ N ☐
						Y ☐ N ☐
						Y ☐ N ☐
						Y ☐ N ☐
Zero	0	0	0	1	1	Y ☒ N ☐

* Maximum load used in test

In tolerance without adjustment ☒

REMARKS:		
WEIGHT IDENTIFICATION NUMBERS: <u>G1-610</u> <u>SOF-40500</u>		
Weight Traceability Certificate #: <u>2002-348</u>	CUSTOMER CALIBRATION DATE: <u>7-7-01</u>	CUSTOMER CALIBRATION DATE: <u>7-7-01</u>
PERFORMED BY: <u>George Obum</u>	Technician Signature: <u>George Obum</u>	
Where Applicable: <u>Customer Name (Please Print)</u>		Customer Signature

FMVSS 120 - Scale Calibration Sheet



COMPREHENSIVE TEST REPORT

Customer Name	[REDACTED]		SERVICE TICKET/ WORK ORDER #	[REDACTED]
Unit location	Bldg 70		Customer ID#	[REDACTED]
Mfg/Model #	MT Ingham		Serial #	5225831-SR
Capacity	2500 kg ☐ lb ☒	Number of divisions	5000	Division Size 0.5

The weighing equipment noted on this report has been tested and/or calibrated in compliance with Mettler Toledo procedure VP00231R, and NIST Handbook 44 and/or Canada Standard where applicable.

SHIFT TEST Weights applied: 1000 Max. Permissible Error: 1

As Found	
1000.0	1000.5
1000.0	1000.5

As Left	

In tolerance without adjustment ☒

In tolerance after adjustment ☐

Out of tolerance ☐

Test Load	Weights applied	As found reading	Error: plus or minus (d)	Allowable error (d)	As left reading	Within Tolerance Y/N
Zero	0	0.0	0	±		Y ☒ N ☐
	250	250.0	0	1		Y ☒ N ☐
	500	499.5	-1	2		Y ☒ N ☐
	1000	999.5	-1	2		Y ☒ N ☐
Max Load*	1500	1499.5	-1	3		Y ☒ N ☐
						Y ☐ N ☐
						Y ☐ N ☐
						Y ☐ N ☐
Zero	0	0.0	0	±		Y ☒ N ☐

* Maximum load used in test

In tolerance without adjustment ☒

REMARKS:		
WEIGHT IDENTIFICATION NUMBERS: 61-610 508 4510500		
Weight Traceability Certificate #:	2002-350	CUSTOMER CALIBRATION DATE: 7-7-04
PERFORMED BY:	George Coburn	CUSTOMER CALIBRATION DUE: 7-2004
	Technician Name (Please Print)	Technician Signature
Where Applicable:	Customer Name (Please Print)	Customer Signature

FMVSS 120 - Scale Calibration Sheet



COMPREHENSIVE TEST REPORT

Customer Name	[REDACTED]	SERVICE TICKET/ WORK ORDER #	[REDACTED]
Unit location	Bldg 70	Customer ID#	[REDACTED]
Mfg/Model #	MT Trayline	Serial #	5225831-5TC
Capacity	2500 kg ☐ lb ☒	Number of divisions	5000
		Division Size	0.5

The weighing equipment noted on this report has been tested and/or calibrated in compliance with Mettler Toledo procedure VP00231R, and NIST Handbook 44 and/or Canada Standard where applicable.

SHIFT TEST

Weights applied: 1000 Max. Permissible Error: 2

As Found	
1000.0	1000.0
2	3
1000.0	1000.5
1	4

As Left	
2	3
1	4

In tolerance without adjustment ☒

In tolerance after adjustment ☐

Out of tolerance ☐

Test Load	Weights applied	As found reading	Error: plus or minus (d)	Allowable error (d)	As left reading	Within Tolerance Y/N
Zero	0	0.0	0	± 1		Y ☒ N ☐
	250	250.0	0	1		Y ☒ N ☐
	500	500.0	0	2		Y ☒ N ☐
	1000	1000.0	0	2		Y ☒ N ☐
Max Load*	1500	1500.0	0	3		Y ☒ N ☐
						Y ☐ N ☐
						Y ☐ N ☐
						Y ☐ N ☐
Zero	0	0.0	0	± 1		Y ☒ N ☐

* Maximum load used in test

In tolerance without adjustment ☒

REMARKS:		
WEIGHT IDENTIFICATION NUMBERS: <u>G-1-G-10 508 + 505500</u>		
Weight Traceability Certificate #:	CUSTOMER CALIBRATION DATE:	CUSTOMER CALIBRATION DUE:
<u>2007-3418</u>	<u>4-7-09</u>	<u>7-7-09</u>
PERFORMED BY:	TECHNICIAN SIGNATURE	
<u>George Caburns</u>	<u>[Signature]</u>	
	TECHNICIAN NAME (Please Print)	
	<u>George Caburns</u>	
Where Applicable:	CUSTOMER SIGNATURE	
	<u>[Signature]</u>	
	CUSTOMER NAME (Please Print)	

FMVSS 120 - Scale Calibration Sheet



COMPREHENSIVE TEST REPORT

Customer Name		SERVICE TICKET/ WORK ORDER #	
Unit location	Bldg 70	Customer ID#	
Mfg/Model #	MTT Taghema	Serial #	5225831-532
Capacity	2500 kg ☐ lb ☒	Number of divisions	5000
		Division Size	0.5

The weighing equipment noted on this report has been tested and/or calibrated in compliance with Mettler Toledo procedure VP0023IR, and NIST Handbook 44 and/or Canada Standard where applicable.

SHIFT TEST

Weights applied: 1000 Max. Permissible Error: 2

As Found	
1000.5	1000.0
2	3
1000.0	1000.5
1	4

J

As Left	
2	3
1	4

J

In tolerance without adjustment ☒

In tolerance after adjustment ☐

Out of tolerance ☐

Test Load	Weights applied	As found reading	Error: plus or minus (d)	Allowable error (d)	As left reading	Within Tolerance Y/N
Zero	0	0.0	0	±1		Y ☒ N ☐
	250	250.0	0	1		Y ☒ N ☐
	500	500.0	0	2		Y ☒ N ☐
	1000	1000.0	0	2		Y ☒ N ☐
Max Load*	1500	1500.0	0	3		Y ☒ N ☐
						Y ☐ N ☐
						Y ☐ N ☐
						Y ☐ N ☐
Zero	0	0.0	0	0 1		Y ☒ N ☐

* Maximum load used in test

In tolerance without adjustment ☒

REMARKS:		
WEIGHT IDENTIFICATION NUMBERS: 61-610 500 2500		
Weight Traceability Certificate #	1000-360	CUSTOMER CALIBRATION DATE: 8-7-04
PERFORMED BY:	George Chivas	CUSTOMER CALIBRATION DUE: 7-2004
	Technician Name (Please Print)	Technician Signature
Where Applicable:	Customer Name (Please Print)	Customer Signature

5.0 PHOTOGRAPHS

- 1. 3/4 Frontal View From Left Side of Vehicle**
- 2. 3/4 Rear View From Right Side of Vehicle**
- 3. Vehicle Certification and Tire Information Label**
- 4. Supplemental Tire Information Label**
- 5. Right Front Tire Load Ratings**
- 6. Right Front Tire Size Designation and Serial Number**
- 7. Right Front Tire Markings**
- 8. Right Front Rim Markings**
- 9. Right Front Rim Markings**
- 10. Right Front Rim Markings**
- 11. TRC Weight Scales**
- 12. Simulated Occupant Loading**
- 13. Simulated Occupant Loading**
- 14. Simulated Cargo Loading**

2004 FORD
ECONOLINE E-150 XL
NHTSA NO. C40208
APRIL 2004



¾ FRONTAL VIEW FROM LEFT SIDE OF VEHICLE

2004 FORD
ECONOLINE E-150 XL
NHTSA NO. C40208
APRIL 2004

8

¾ REAR VIEW FROM RIGHT SIDE OF VEHICLE

MADE BY FORD MOTOR CO.

DATE 11/03

GAWR 7000LB / 3175KG

FRONT GAWR 3600LB 1632KG

REAR GAWR 3800LB 1723KG

WITH P235/70R16 TIRES

WITH P235/70R16 TIRES

16X7.0J RIMS

16X7.0J RIMS

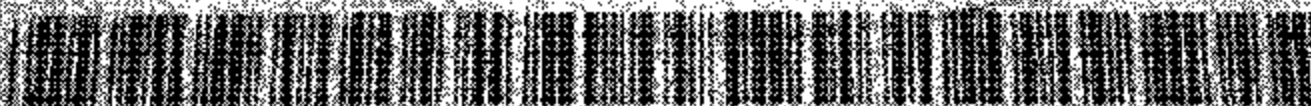
AT 280 kPa/41 PSI COLD

AT 280 kPa/41 PSI COLD

THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE
SAFETY STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.

VIN 1FMR11W94

TYPE MPV



EXT. PNT. R

RC 44 DSD

WTR. RBC

INT. TR

T/PS

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ARE

TR

SPR

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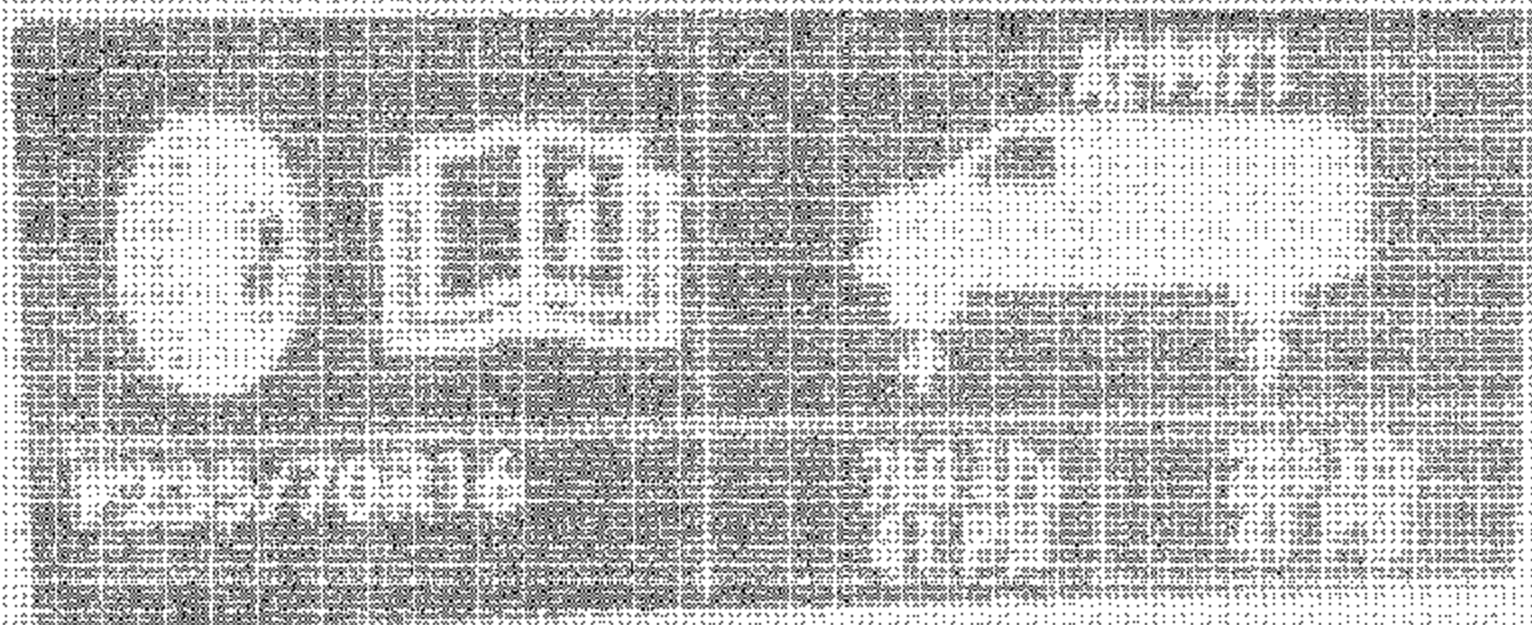
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2004 FORD ECONOLINE
E-150 XL
NHTSA NO. C40208
APRIL 2004

VEHICLE CERTIFICATION & TIRE INFORMATION LABEL

2004 FORD
ECONOLINE E-150 XL
NHTSA NO. C40208
APRIL 2004



SUPPLEMENTAL TIRE INFORMATION LABEL

2004 FORD
ECONOLINE E-150 XL
NHTSA NO. C40208
APRIL 2004

18

CANADA AND U.S. GOVERNMENT ONLY
MAX. LOAD 975 kg (2149 LBS)
MAX. PRESS. 280 kPa (41 PSI)

RIGHT FRONT TIRE LOAD RATINGS

2004 FORD
ECONOLINE E-150 XL
NHTSA NO. C40208
APRIL 2004

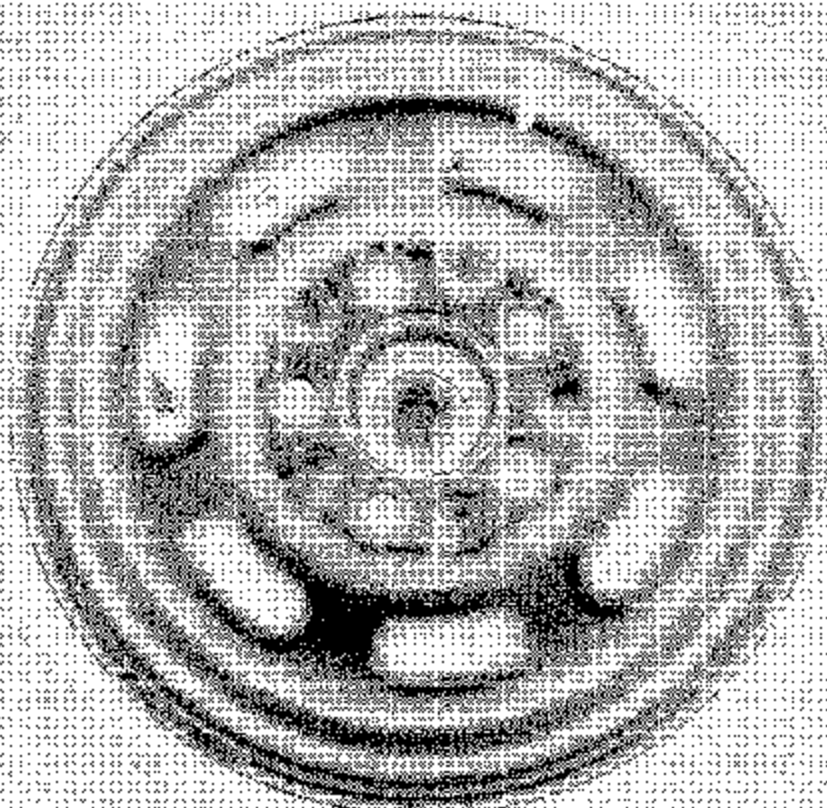
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8

DOT - B5757

RIGHT FRONT TIRE SIZE DESIGNATION AND SERIAL NUMBER

2004 FORD
ECONOLINE E-150 XL
NHTSA NO. C40208
APRIL 2004



RIGHT FRONT TIRE MARKINGS

2004 FORD
ECONOLINE E-150 XL
NHTSA NO. C40208
APRIL 2004

22

RIGHT FRONT RIM MARKINGS

2004 FORD
ECONOLINE E-150 XL
NHTSA NO. C40208
APRIL 2004

23

RIGHT FRONT RIM MARKINGS

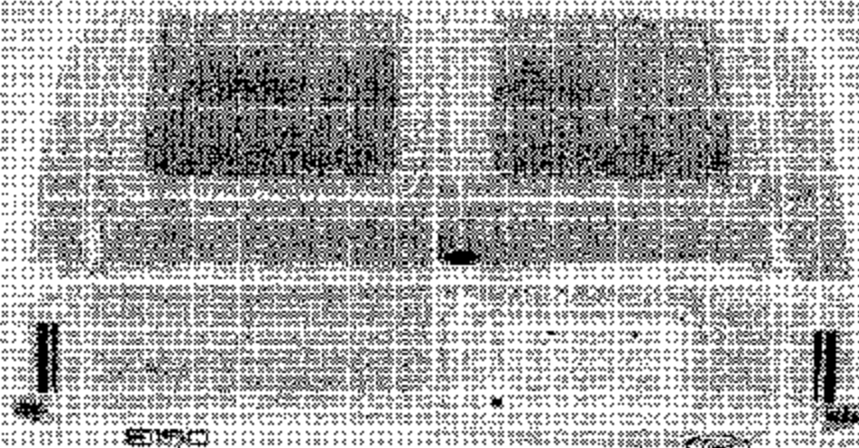
2004 FORD
ECONOLINE E-150 XL
NHTSA NO. C40208
APRIL 2004

24

11 16 03 - P L 41 4124 1015-11 002 1001 1001 1001

RIGHT FRONT RIM MARKINGS

2004 FORD
ECONOLINE E-150 XL
NHTSA NO. C40208
APRIL 2004



TRC WEIGHT SCALES

2004 FORD
ECONOLINE E-150 XL
NHTSA NO. C40208
APRIL 2004

26

SIMULATED OCCUPANT LOADING

2004 FORD
ECONOLINE E-150 XL
NHTSA NO. C40208
APRIL 2004

27

SIMULATED OCCUPANT LOADING

2004 FORD
ECONOLINE E-150 XL
NHTSA NO. C40208
APRIL 2004



SIMULATED CARGO LOADING

Driving

⚠ Exceeding the Safety Certification Label's GVWR and GCWR limits could result in substantial vehicle handling, braking, engine, transmission and/or structural damage, serious damage to the vehicle, loss of control and personal injury.

$$\text{GVW} + \text{Trailer} = \text{GCW}$$

GCW (Gross Combined Weight) – is the weight of the loaded vehicle (GVW) plus the weight of the fully loaded trailer.

GCWR (Gross Combined Weight Rating) – is the maximum allowable weight of the vehicle and the loaded trailer – including all cargo and passengers – that the vehicle can handle without risking damage.

(Important: The towing vehicle's braking system is rated for operation at GVWR, not at GCWR. Separate functional brakes should be used for safe control of towed vehicles and for trailers weighing more than 680 kg [1,500 lbs]). The GCW must never exceed the GCWR.

Maximum Loaded Trailer Weight – is the highest possible weight of a fully loaded trailer the vehicle can tow. It assumes a vehicle with only mandatory options, no cargo (internal or external), a tongue load of 10–15% (conventional trailer) or king pin weight of 15–25% (fifth wheel trailer), and driver only (68 kg [150 lbs]). Consult your dealership (or the RV and Trailer Towing Guide provided by your dealership) for more detailed information.

Tongue Load or Fifth Wheel King Pin Weight – refers to the amount of the weight that a trailer pushes down on a trailer hitch.

Examples: For a 2268 kg (5000 lbs.) conventional trailer, multiply 5000 by 0.10 and 0.15 to obtain a proper tongue load range of 227 to 340 kg (500 to 750 lbs.). For an 5216 kg (11,600 lbs.) fifth wheel trailer, multiply by 0.15 and 0.25 to obtain a proper king pin load range of 782 to 1304 kg (1,725 to 2,875 lbs.)

⚠ Do not exceed the GVWR or the GCWR specified on the certification label.

Driving

⚠ Do not use replacement tires with lower load carrying capacities than the originals because they may lower the vehicle's GVWR and GCWR limitations. Replacement tires with a higher load than the originals do not increase the GVWR and GCWR limitations.

⚠ Exceeding any vehicle weight rating limitation could result in serious damage to the vehicle and/or personal injury.

Special loading instructions for owners of pickup trucks and utility-type vehicles

⚠ For important information regarding safe operation of this type of vehicle, see the *Preparing to drive your vehicle* section in this chapter.

⚠ Loaded vehicles may handle differently than unloaded vehicles. Extra precautions, such as slower speeds and increased stopping distance, should be taken when driving a heavily loaded vehicle.

Your vehicle can haul more cargo and people than most passenger cars. Depending upon the type and placement of the load, hauling cargo and people may raise the center of gravity of the vehicle.

Calculating the load your vehicle can carry/tow

1. Use the appropriate maximum GCWR chart (in the *Trailer Towing* section in this chapter) for your type of engine and rear axle ratio.
2. Weigh your vehicle without cargo. To obtain correct weights, take your vehicle to a shipping company or an inspection station for trucks.
3. Subtract your loaded weight from the maximum GCWR in the chart. This is the maximum trailer weight your vehicle can tow. It must be below the maximum trailer weight shown in the chart.

TRAILER TOWING

Your vehicle may tow a class I, II or III trailer, provided the maximum trailer weight is less than or equal to the maximum trailer weight listed for your engine and rear axle ratio on the following charts.