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1977 TRUCK SHOP MANUAL

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NOISE, VIBRATION AND HARSHNESS DIAGNOSIS
GROUP 18

foreword...

This 1977 Truck Shop Manual has been prepared to provide information covering normal service repairs and maintenance for 1977 Ford Trucks manufactured in the United States and Canada. It is divided into five volumes, each covering a specific major area:

Volume 1 — Chassis
Volume 2 — Engine
Volumes 3 & 4 — Body and Electrical
Volume 5 — Pre-Delivery, Maintenance and Lubrication.

Information in each volume is divided into Groups covering a general system. The table of contents on the cover of each volume indicates the Group title, number, and volume in which each Group is located.

For 1977, the basic part number for components covered in the Group is also included in parenthesis after the Group number.

Example: Cooling System (General System Covered in Group) Group 27 (Group Number) (8000) (Basic Part Number for Cooling System Components)

Some components covered within a Group do not have the same basic part number. In these cases, more than one basic part number will appear on the Group index.

Example: Gasoline Engines (General System Covered in Group) Group 21 (6000 (Basic Part Number for Gasoline Engine Components) & 9000) (Intake and Exhaust Manifold Basic Part Number Only)

For easy reference, information in each Group has been divided into smaller units or Parts. There is one Part for each component in the system, as well as a General Service Part in some Groups to cover procedures common to several components within the Group. In general, each Part contains the Description, Operation, Diagnosis and Testing, Removal and Installation and Disassembly and Assembly procedures for the component covered in the Part. Diagnosis Charts are also included in some Parts to help you systematically locate and correct problems encountered. In most cases, specifications are included at the end of each Part.

To aid in locating specific items in this manual, the index at the front of each volume provides an alphabetical listing, with page number, for all Parts in the volume. The tab locator on the right side of this index will help you find the first page of each Group.

On the first page of each Group there is an index listing the Part title and Part number for each component covered within the Group. The first page of each Part contains an index to locate service operations covered in that Part. This Group-Part breakdown is also indicated in the page number located at the top of each page.

Example: 11-02-21 = (Group) 11 — (Part) 02 — (Page) 21

Metric conversion tables have been included at the back of each volume to aid in converting specifications in this manual to the metric equivalent.

The descriptions and specifications in this manual were in effect at the time this manual was approved for printing. Ford Motor Company reserves the right to discontinue models at any time, or change specifications or design without notice and without incurring obligation.

Ford Parts and Service Division
Training and Publications Department

IDENTIFICATION CODES

GROUP 10

GENERAL INFORMATION

VEHICLE CERTIFICATION LABEL

The Vehicle Certification Label (V.C. Label) is attached to the rear face of the driver's door or door pillar. The upper half of the label contains the name of the manufacturer, the month and year of manufacture and the certification statement. The V.C. Label also contains the Vehicle Identification Number.

The remaining information codes on the V.C. Label are the same as the Truck Rating Plate Codes (Fig. 1). Vehicle codes shown on the Truck Rating Plate are explained in the following paragraphs.

RATING PLATE

Fig. 1 illustrates a typical Truck Rating Plate. On light and medium cowl and windshield vehicles, the Rating Plate is mounted on the right side of the cowl top panel under the hood. On stripped Parcel Delivery vehicles, the rating plate is placed in an envelope stapled to the dunnage box. On Bronco models, the plate is mounted on the inside panel of the glove compartment door. On all other vehicles, the Rating Plate is mounted on the rear face of the left front door.

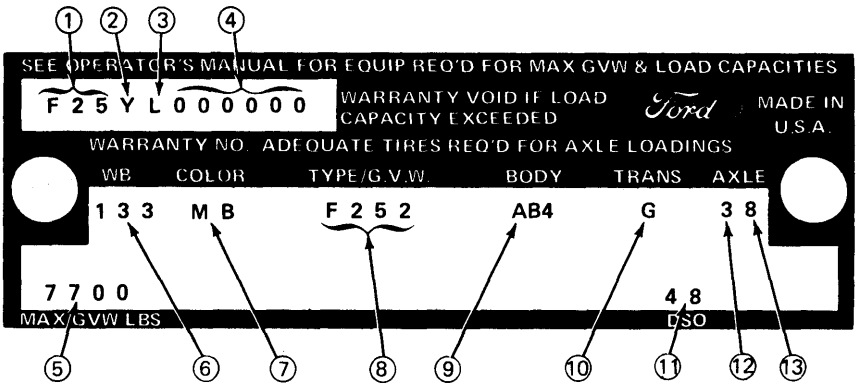
VEHICLE IDENTIFICATION NUMBER (Vehicle Serial and Warranty)

The identification number is the first line of numbers and letters appearing on the Rating Plate (Fig. 1). The first letter and two numbers indiate the truck series code. The letter following the truck series code designates the engine identification code. The letter following the engine identification code indicates the assembly plant at which the vehicle was built. The remaining numbers indicate the consecutive unit number (serial and warranty number). The charts that follow list the various vehicle identification number codes.

VEHICLE DATA

The Vehicle Data appears on the Rating Plate on the two lines following the identification number. The first three digits under W.B. designate the wheelbase in inches. The one or two letters under COLOR identify the exterior paint color (two letters designate a two-tone). The letter and three digits under TYPE/G.V.W. designate the truck model within a series and the gross vehicle weight rating. The letter and numerals under BODY designate the interior trim, seat and body type. (See Figs. 2, 3 and 4.) The transmission installed in the vehicle is identified under TRANS by either a numeric or alphabetical code (if two symbols appear, the first identifies the auxiliary transmission, if so equipped, and the second symbol identifies the main transmission). A letter and a number or two numbers under AXLE identify the rear axle ratio (when required, a letter is also stamped behind the rear axle code to identify the front axle capacity). The maximum gross vehicle weight in pounds is stamped under MAX. G.V.W.

A two-digit number is stamped under D.S.O. to identify the district which



MFD. BY FORD MOTOR CO. IN U.S.A.
DATE: 08/76 GVWR 6200
GAWR: FRONT 3000 REAR 5300
THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE
F 25 Y L 000 000 TRUCK ⑭

VEH. IDENT. NO.	TYPE				
BODY	COLOR	TRIM	TRANS	AXLE	DSO

VEHICLE CERTIFICATION LABEL

W1017-K

FIG. 1 Typical Truck Rating Plate and Vehicle Certification Label

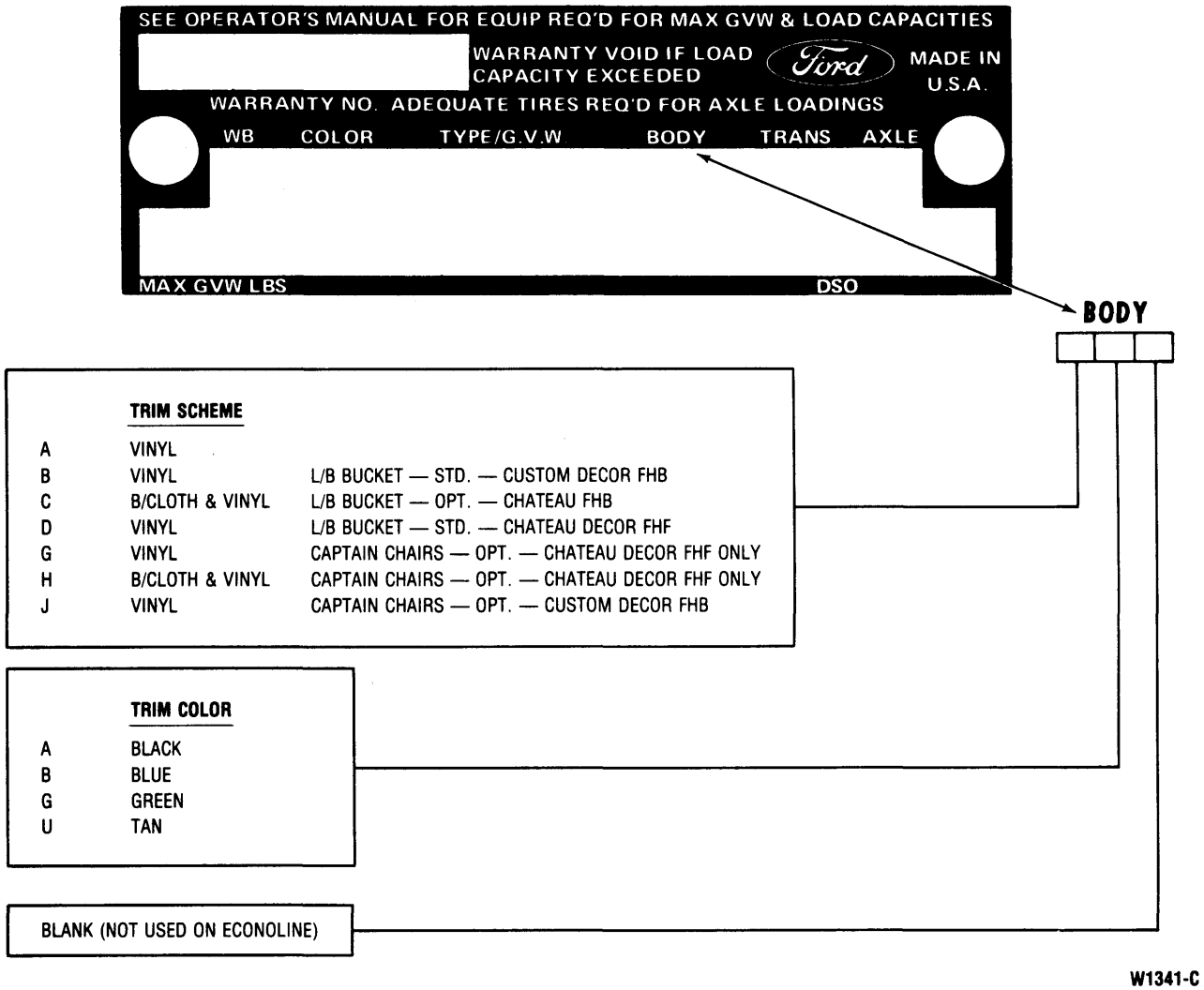


FIG. 2 Trim, Seat, Body—Cab Type Identification—Econoline-Vans and Club Wagons

ordered the vehicle. If the vehicle is built to special order (Domestic Special Order, Foreign Special Order, Limited Production Option, or other special order), the complete order number will also appear under D.S.O. The charts that follow list the various vehicle data codes.

W.B. (WHEELBASE)

The wheelbase in inches in entered in this space.

MAX. G.V.W. LBS

The maximum gross vehicle weight in pounds is recorded in this space.

D.S.O.

If vehicle is built on a D.S.O., F.S.O., L.P.O. (special orders) the complete order number will be reflected under the D.S.O. space including the District Code Number.

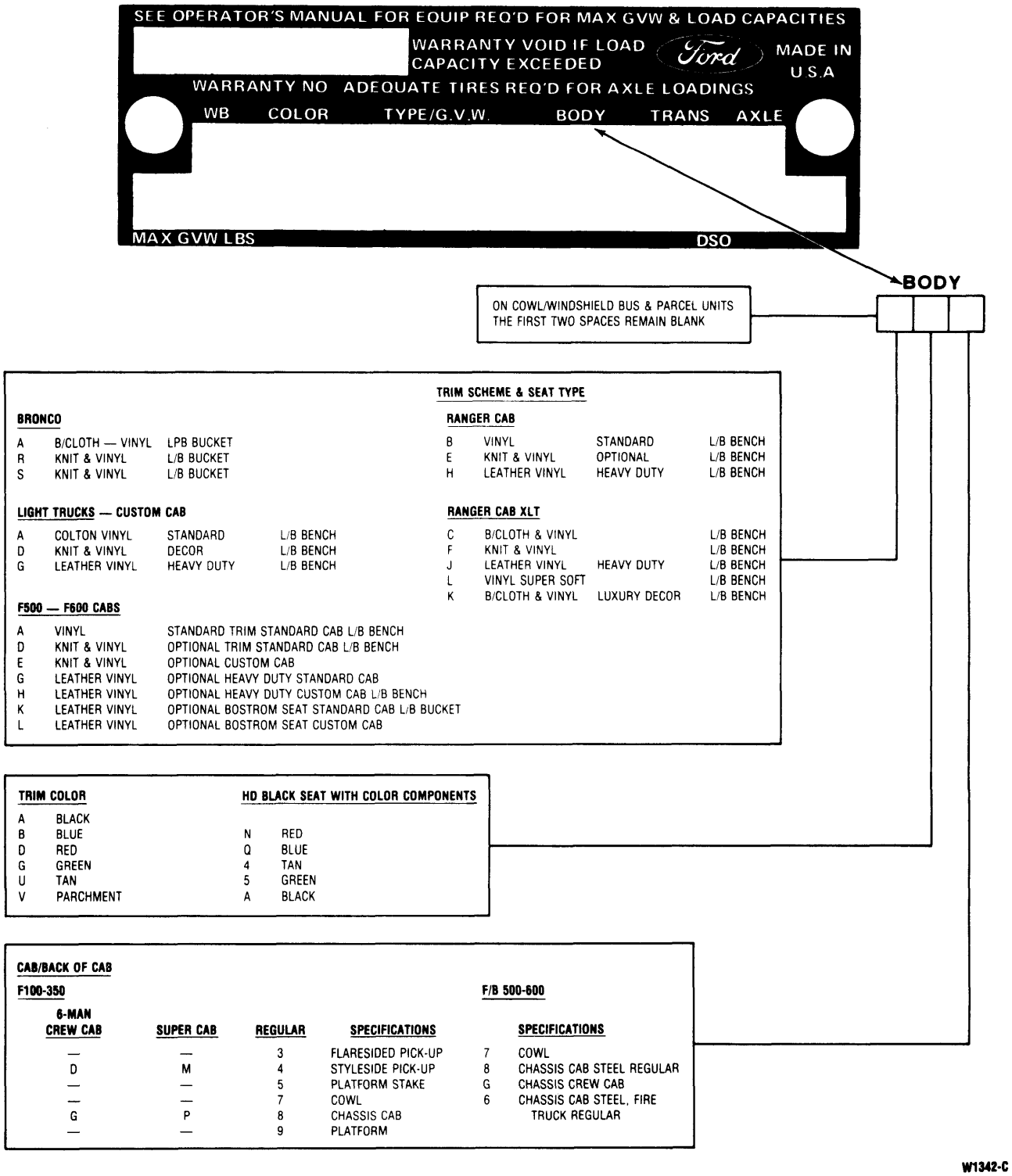
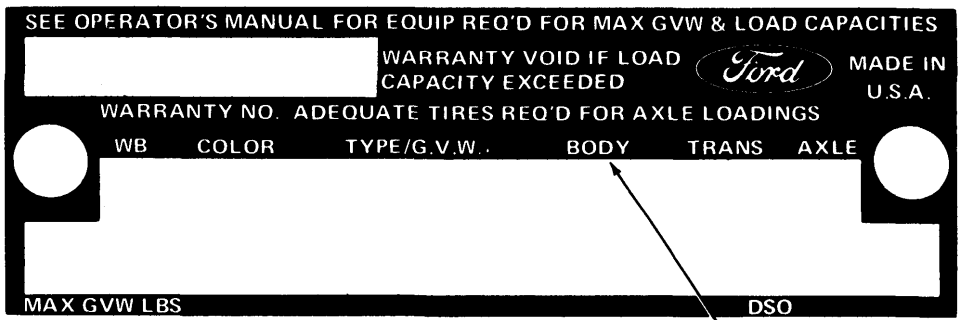


FIG. 3 Trim, Seat, Body/Cab Type Identification — Bronco — Light and Medium Truck — School Bus — 100 Thru 600

MEDIUM, SUB-HEAVY AND HEAVY



BODY

ON COWL/BUS UNITS THE FIRST TWO SPACES REMAIN BLANK

CAB TRIM		
CUSTOM	STANDARD	CABS
A	1	GRAY
B	2	BLUE
C	3	TAN
D	4	BLACK
E	5	RED
F	6	GREEN
G	7	SADDLE
H	8	TOBACCO

F500 — F600 CABS		
A	VINYL	STANDARD TRIM STANDARD CAB L/B BENCH
D	KNIT & VINYL	OPTIONAL TRIM STANDARD CAB L/B BENCH
E	KNIT & VINYL	OPTIONAL CUSTOM CAB
G	LEATHER VINYL	OPTIONAL HEAVY DUTY STANDARD CAB
H	LEATHER VINYL	OPTIONAL HEAVY DUTY CUSTOM CAB L/B BENCH
K	LEATHER VINYL	OPTIONAL BOSTROM SEAT STANDARD CAB L/B BUCKET
L	LEATHER VINYL	OPTIONAL BOSTROM SEAT CUSTOM CAB

SEAT TYPE				
HD BLACK VINYL	W/COMP. PASS.	SINGLE DRIVER	BENCH	
A	—	—	1	BENCH SEAT
B	—	—	2	BENCH CUSTOM SEAT
—	C	3	—	L-S (UNISON ACTION)
—	D	4	—	L-S #675
—	E	5	—	BOSTROM WESTCOASTER
—	F	6	—	BOSTROM T-BAR
—	G	7	—	NATIONAL CUSH-N-AIRE
—	H	8	—	BOSTROM LEVELAIRE

F500 — F600			
TRIM COLOR		HD BLACK SEAT WITH COLOR COMPONENTS	
A	BLACK	N	RED
B	BLUE	Q	BLUE
D	RED	4	TAN
G	GREEN	5	GREEN
U	TAN	A	BLACK

BODY TYPE				
W/FOAM MATTRESS	SLEEPER W/SPRING MATTRESS	LESS MATTRESS		BODY
—	—	—	0	PARCEL, MOTOR HOME
—	—	—	2	CHASSIS CAB/W/BUTTERFLY HOOD
—	—	—	7	COWL
A	J	Y	8	CHASSIS CAB, STEEL
B	K	Q	H	CHASSIS CAB, ALUMINUM
—	—	—	6	FIRE TRUCK/EMERGENCY CC STEEL
—	—	—	7	FIRE TRUCK W/BUTTERFLY HOOD

F500 — F600 SPECIFICATIONS	
7	COWL
8	CHASSIS CAB STEEL REGULAR
G	CHASSIS CREW CAB
6	CHASSIS CAB STEEL, FIRE TRUCK REGULAR

W1343-C

FIG. 4 Trim, Seat, Body/Cab Type Identification — Parcel Medium, Sub Heavy and Heavy (500 Thru 9000 Series)

MEDIUM CONVENTIONAL 'F' SERIES TRIM SCHEMES

ENGINEERING CODE	COMPONENT COLOR	RATING PLATE TRIM CODE	TRIM SCHEME	MODEL/SERIES
			COLTON/KIWI — ALL VINYL	
			(A1 BENCH — BASE DOOR PANEL)	
			STANDARD TRIM	81A — STANDARD CAB
AA		AA	BLACK	F500-600
			LEATHER GRAIN — H.D. VINYL	
			(A5 BENCH — BASE DOOR PANEL)	
			OPT. H.D. VINYL FOR STD. TRIM	81A — STANDARD CAB
GA	W/BLACK	GA	BLACK	F500-600
			VILON KNIT/KIWI ALL VINYL	
			(A4 BENCH — BASE DOOR PANEL)	
			OPT. KNIT VINYL FOR STD. TRIM	81A STANDARD CAB
DA		DA	BLACK	
DB		DB	MED. BLUE	
DD		DD	RED, DK. RED	F500-600
DU		DU	TAN	
DR		DR	MED. GREEN	
			VILON KNIT/KIWI — ALL VINYL	
			(A4 BENCH — CUSTOM DOOR PANEL)	
			CUSTOM TRIM	81B — CUSTOM CAB
EA		EA	BLACK	
EB		EB	MED. BLUE	
ED		ED	RED, DK. RED	F500-600
EU		EU	TAN	
EG		EG	MED. GREEN	
			LEATHER GRAIN — H.D. VINYL	
			(A5 BENCH — CUSTOM DOOR PANEL)	
			OPT. H.D. VINYL FOR CUSTOM TRIM	81B — CUSTOM CAB
	W/BLACK	HA		
	W/BLUE	HO		
HA	W/RED	HN	BLACK	F500-600
	W/TAN	H4		
	W/GREEN	H5		

CY1726-B

FIG. 5 Trim, Seat, Body/Cab Type Identification

MED. HEAVY CONVENTIONAL 'F' SERIES TRIM SCHEMES

ENGINEERING CODE	COMPONENT COLOR	RATING PLATE TRIM CODE	TRIM SCHEME	MODEL/SERIES
			COLTON/KIWI — ALL VINYL	
			(A1 BENCH — BASE DOOR PANEL)	
			STANDARD TRIM	81A STANDARD CAB
AA		41	BLACK MET.	F/100-750
			LEATHER GRAIN — HD VINYL	
			(A5 BENCH — BASE DOOR PANEL)	
			OPT. H.D. VINYL FOR STD. TRIM	81A STANDARD CAB
GA		4A	BLACK	700-750 STD. TRIM FOR F6000-7000
			VILON KNIT/KIWI — ALL VINYL	
			(A4 BENCH — BASE DOOR PANEL)	
			OPT. KNIT VINYL FOR STD. TRIM	81A STANDARD CAB
DA		42	BLACK MET.	
DB		22	MED. BLUE MET.	
DD		52	RED, DK. RED MET.	F700-750, F6000-7000
DU		32	TAN	
DG		62	MED. GREEN MET.	
			VILON KNIT/KIWI — ALL VINYL	
			(A4 BENCH — CUSTOM DOOR PANEL)	
			MED. TRUCK CUSTOM TRIM	81B CUSTOM CAB
EA		D1	MED. BLUE MET.	
ED		E1	RED, DK. RED MET.	F700-750, F6000-7000
EU		C1	TAN	
EG		F1	MED. GREEN MET.	
			LEATHER GRAIN — HD VINYL	
			(A5 BENCH — CUSTOM DOOR PANEL)	
			OPT. H.D. VINYL FOR CUSTOM TRIM	81B CUSTOM CAB
	W/BLACK	DA		
	W/BLUE	BA		
HA	W/RED	EA	BLACK	F700-750, F6000-7000
	W/GINGER	CA		
	W/GREEN	FA		

	DRIVER	DRIVER W/PASSENGER	INDIVIDUAL SEATS BOSTROM VIKING	
			LEATHER GRAIN — ALL VINYL	
			(A6 BOSTROM — BAS DOOR PANEL)	
			OPT. SEAT FOR STD. TRIM	81A STANDARD CAB
KA	46	4F	BLACK	F700-750-7000
			LEATHER GRAIN — ALL VINYL	
			(A6 BOSTROM — CUSTOM DOOR PANEL)	
			OPT. SEAT FOR CUSTOM TRIM	81D CUSTOM CAB
LA	D6	DF	BLACK	F700-750-7000

CY1727-B

FIG. 6 Trim, Seat, Body/Cab Type Identification

CONVENTIONAL "L" SERIES TRUCK TRIM

ENGR. CODE	RATING PLATE TRIM CODE STD.	H.D.	COMFORT (STD. CAB)	CUSTOM	TRIM SCHEME	MODEL SERIES
					BENCH SEATS	
					CITY DELIVERY STANDARD CAB TRIM-BENCH-(A1)	
					% LANARK REPEAT/ROMAINE VINYL	
1Z	81				DK. TOBACCO	F-FT-FTS-N-NT800, N600-700-750 (L-LT-LTS-LN-LNT800-LN-600-700-750)
					CITY DELIVERY OPT. COMFORT SEAT FOR STD. CAB-BENCH-(A2)	
					% DIAMOND BASKETWEAVE/ROMAINE VINYL	
BZ			82		DK. TOBACCO	F-FT-FTS-N-NT800-900-8000 (L-LT-LTS-LN-LNT800-900-8000) N-600-700-750-6000-7000 (LN600-700-750-6000-7000)
					CITY DELIVERY OPT. H.D. VINYL FOR STD. CAB-BENCH-(A3)	
					% LEATHER GRAIN H.D. VINYL	
CL		4A	4B		BLACK	F-FT-FTS-NT800, N600-700-750-800 (L-LT-LTS-LNT800, LN600-700-750-800)
					AS STANDARD SEAT FOR STANDARD CAB-BENCH-(A3)	
					% LEATHER GRAIN H.D. VINYL	
CL	4A		4B		BLACK	F-FT-FTS-N-NT900-8000, N6000-7000 (L-LT-LTS-LN-LNT900-8000, LN-6000-7000)
					CITY DELIVERY CUSTOM TRIM-BENCH-(A2)	
					% DIAMOND BASKETWEAVE/ROMAINE VINYL	
2Z				H2	DK. TOBACCO	N600-700-750-800-900-6000-7000-8000 F-FT-FTS-NT800-900-8000 (LN600-700-750-800-900-6000-7000-8000, L-LT-LTS-LNT-800-900-8000)
					CITY DELIVERY OPT. H.D. VINYL FOR CUSTOM CAB-BENCH-(A3)	
					% LEATHER GRAIN H.D. VINYL	
3L				DB	BLACK	N600-700-750-800-900-6000-7000-8000 F-FT-FTS-NT600-900-8000 (LN600-700-750-800-900-6000-7000-8000, L-LT-LTS-LNT800-900-8000)

() AS IDENTIFIED BY SALES
% NOT AVAILABLE WITH LINE HAUL INSTRUMENT PANEL

CY1728-B1

FIG. 7 Trim, Seat, Body/Cab Type Identification

CONVENTIONAL "L" SERIES TRUCK TRIM

ENGINEERING CODE	RATING PLATE TRIM CODE DRIVER	RATING PLATE TRIM CODE DRIVER W. PASSENGER	TRIM SCHEME	MODEL SERIES
			INDIVIDUAL SEATS	
			(L.S.) UNISON ACTION — (A4)	
			AS STANDARD SEAT FOR STANDARD CAB	
			#CLARION KNIT/RUFFINO VINYL	
DZ	83	8C	DK. TOBACCO	F-FT-FTS-N-NT900 (L-LT-LTS-LN-LNT9000)
			AS OPTIONAL SEAT FOR STANDARD CAB	
			#CLARION KNIT/RUFFINO VINYL	
DZ	83	8C	DK. TOBACCO	N600-700-750-6000-7000, F-FT-FTS-N-NT800-900-8000 (LN600-700-750-6000-7000 L-LT-LTS-LN-LNT800-900-8000)
			AS STD. SEAT FOR CUSTOM CAB (DIESEL)	
			#CLARION KNIT/RUFFINO VINYL	
4Z	H3	HC	DK. TOBACCO	F-FT-FTS-N-NT9000 (L-LT-LTS-LN-LNT9000)
			AS OPTIONAL SEAT FOR CUSTOM CAB	
			#CLAIRON KNIT/RUFFINO VINYL	
4Z	H3	HC	DK. TOBACCO	N600-700-750-6000-7000, F-FT-FTS-N-NT800-900-8000 (LN-600-700-750-6000-7000, L-LT-LTS-LN-LNT800-900-8000)
			(L.S.) UNISON #675 — (A4)	
			AS OPTIONAL SEAT FOR STANDARD CAB	
			#CLARION KNIT/RUFFINO VINYL	
DZ	H4	HD	DK. TOBACCO	F-FT-FTS-N-NT800-900-8000-9000 (L-LT-LTS-LN-LNT800-900-8000-9000)
			AS OPTIONAL SEAT FOR CUSTOM CAB	
			#CLARION KNIT/RUFFINO VINYL	
4Z	H4	HD	DK. TOBACCO	F-FT-FTS-N-NT800-900-8000-9000 (L-LT-LTS-LN-LNT800-900-8000-9000)
			BOSTROM WESTCOASTER — (A5)	
			AS OPTIONAL SEAT FOR STANDARD CAB	
			*CLARION KNIT/RUFFINO VINYL	
EZ	H5	HE	DK. TOBACCO	F-FT-FTS-N-NT800-900-8000-9000 (L-LT-LTS-LN-LNT800-900-8000-9000)
			AS OPTIONAL SEAT FOR CUSTOM CAB	
			#CLARION KNIT/RUFFINO VINYL	
5Z	H5	HE	DK. TOBACCO	F-FT-FTS-N-NT800-900-8000-9000 (L-LT-LTS-LN-LNT800-900-8000-9000)

() AS IDENTIFIED BY SALES
CITY DELIVERY AND LINE HAUL INSTRUMENT PANEL

CY1728-A2

FIG. 7 cont. Trim, Seat, Body/Cab Type Identification

TILT CABS

BENCH SEATS

RATING PLATE TRIM CODE						
ENGR. CODE	STD.	COMFORT (STD. CAB)	H.D.	CUSTOM	TRIM SCHEME	MODEL SERIES
					STANDARD CAB TRIM-BENCH-(A6)	
					BLOCKWEAVE AND CRUSH VINYL	
01	11				LT. GRAY	C600-700-750-800, CT800
					OPTIONAL H.D. VINYL FOR STD. CABS-BENCH-(A8)	
					LEATHER GRAIN HEAVY DUTY VINYL	
36		4B	4A		BLACK	C600-700-750-800, CT800
					STANDARD SEAT H.D. VINYL FOR STD. CAB-BENCH-(A8)	
					LEATHER GRAIN HEAVY DUTY VINYL	
36	4A	4B			BLACK	C900-CT900
					OPT. COMFORT SEAT FOR STD. CAB-BENCH-(A7)	
					TWILL STRIPE PLASTIC AND CRUSH VINYL	
11		12			GRAY MULTI-COLOR LT. GRAY	C600-700-750-800-900, CT800-900
					CUSTOM CAB TRIM-BENCH-(A7)	
					TWILL STRIPE PLASTIC AND CRUSH VINYL	
11				A2	GRAY MULTI-COLOR LT. GRAY	C600-700-750-800-900, CT800-900
					OPT. H.D. VINYL FOR CUSTOM CABS-BENCH-(A8)	
					LEATHER GRAIN HEAVY DUTY VINYL	
36			DB		BLACK	C600-700-750-800-900, CT800-900

CY1729-A

FIG. 8 Trim, Seat, Body/Cab Type Identification

TILT CAB

ENGINEERING CODE	RATING PLATE TRIM CODE DRIVER	RATING PLATE TRIM CODE DRIVER W/PASSENGER	TRIM SCHEME	MODEL SERIES
			INDIVIDUAL SEATS	
			UNISON ACTION (LIER SIEGLER)	
26	43	4C	AS STANDARD SEAT FOR STANDARD CAB LEATHER GRAIN VINYL BLACK	C6000-700-8000
26	43	4C	AS OPTIONAL SEAT FOR STANDARD CAB LEATHER GRAIN VINYL BLACK	C600-700-750-800-900, CT800-900
26	D3	DC	AS STANDARD SEAT FOR CUSTOM CAB LEATHER GRAIN VINYL BLACK	C6000-7000-8000
26	D3	DC	AS OPTIONAL SEAT FOR CUSTOM CAB LEATHER GRAIN VINYL BLACK	C600-700-750-800-900, CT800-900
			HI-WAY TRACTOR	
7F	G4	GD	UNISON #675 WITH ROADRUNNER SUSPENSION AS STANDARD SEAT — NON SLEEPER CRINKLE VINLY (SADDLE)	W-WT-9000
8F	G4	GD	AS STANDARD SEAT — SLEEPER CRINKLE VINYL (SADDLE)	W-WT-9000
			BOSTROM SEAT — WEST COASTER	
7F	G5	GE	AS OPTIONAL SEAT — NON SLEEPER LEATHER GRAIN VINYL (SADDLE)	W-WT-9000
8F	G5	GE	AS OPTIONAL SEAT — SLEEPER LEATHER GRAIN VINYL (SADDLE)	W-WT-9000
			CUSH-N-AIRE	
77F	G7	GG	AS OPTIONAL SEAT — NON SLEEPER LEATHER GRAIN VINYL (SADDLE)	W-WT-9000
78F	G7	GG	AS OPTIONAL SEAT — SLEEPER LEATHER GRAIN VINYL (SADDLE)	W-WT-9000
			BOSTROM SEAT — LEVELAIR	
7F	G8	GH	AS OPTIONAL SEAT — NON SLEEPER LEATHER GRAIN VINYL (SADDLE)	W-WT-9000
8F	G8	GH	AS OPTIONAL SEAT — SLEEPER LEATHER GRAIN VINYL (SADDLE)	W-WT-9000

CY1730-A

FIG. 9 Trim, Seat, Body/Cab Type Identification

TRUCK SERIES CODES

Type	
U	Bronco

Basic Series	
U15	U100 (Wagon) 4x4

ECONOLINE

100 Series

Conventional	Super	
E01	—	E100 Club Wagon 5 passenger
E02	—	E100 Club Wagon 8 Passenger
E04	—	E100 Cargo Van
E05	—	E100 Window Van
E06	—	E100 Display Van

150 Series

E11	S11	E150 Club Wagon 5 Passenger
E12	S12	E150 Club Wagon 8 Passenger
E14	S14	E150 Cargo Van
E15	S15	E150 Window Van
E16	S16	E150 Display Van

250 Series

E21	S21	E250 Club Wagon 5 Passenger
E22	S22	E250 Club Wagon 8 Passenger
E23	S23	E250 Club Wagon 12 Passenger
—	S29	E250 Club Wagon 15 Passenger
E24	S24	E250 Cargo Van
E25	S25	E250 Window Van
E26	S26	E250 Display Van

350 Series

—	S32	E350 Club Wagon 8 Passenger
—	S33	E350 Club Wagon 12 Passenger
—	S39	E350 Club Wagon 15 Passenger
E34	S34	E350 Cargo Van
E35	S35	E350 Window Van
E36	S36	E350 Display Van

ECONOLINE "CUTAWAY" MODEL

E27	E250 Cutaway
E37	E350 Cutaway

PARCEL DELIVERY

E28	E250 Cutaway
E38	E350 Cutaway

CONVENTIONAL — F-SERIES — GAS

Chassis Cab	Pick-Up	Basic Series
F17	F10	F100
F16	F14	F150 4x4
F19	F15	F150
F27	F25	F250
F28	F26	F250 4x4
F37	F35	F350
X17	X10	F100
X19	X15	F150
X27	X25	F250
X37	X35	F350

CONVENTIONAL — F-500-600 — GAS

F50	F500
F60	F600
F61	F600
F65	F600 4x4
F66	F600 4x4

BUS — B-SERIES — GAS

B50	B500
B60	B600
B61	B600

CONVENTIONAL — F-SERIES — GAS

F50	F500
F60	F600 GVW Range Split
F61	F600 GVW Range Split
F65 4x4	F600 GVW Range Split
F66 4x4	F600 GVW Range Split
F70	F700
F75	F750
F88	F880

F-Series — Diesel	
K70	F7000

BUS CHASSIS COWLS — B-SERIES

B50	B500
B60	B600 GVW Range Split
B61	B600 GVW Range Split
B70	B700
B75	B750

B-Series — Diesel	
J70	B7000

PARCEL — GAS

P50	P500
P60 (DSO)	P600

CONVENTIONAL — L-SERIES

L-Series — Gas	
F80, F81	L800
F90, F91	L900

L-Series — Diesel	
K80	L8000
K81	L8000
K90	L9000

LT-Series — Gas	
T80, T81	LT800
T88	LT880
T90, T91	LT900

LT-Series — Diesel	
U80, U81	LT8000
U90, U91	LT9000

LTS-Series — Gas	
V80, V81	LTS800
V90, V91, V92	LTS900

LTS-Series — Diesel	
Y80, Y81	LTS8000
Y90, Y91	LTS9000

SHORT CONVENTIONAL — LN-SERIES

LN-Series — Gas	
N60	N600
N61, N62	N600
N70, N71	N700
N75, N76	N750
N80, N81	N800
N90, N91	N900

LN-Series — Diesel	
R60	N6000
R61	N6000
R70, R71	N7000
R80, R81	N8000
R90	N9000

LNT-Series — Gas	
S80, S81	NT800
S88, S90, S91	NT900
	NT880

LNT-Series — Diesel	
W80, W81	NT8000
W90, W91	NT9000

LOW TILT CABS — C-SERIES

C-Series — Gas	
C60	C600
C61	C600
C70	C700
C75	C750
C80	C800
C90, C91	C900

C-Series — Diesel	
D60, D61	C6000
D70	C7000
D80	C8000

CT-Series — Gas	
L80	CT800
L90, L91	CT900

CT-Series — Diesel	
Q80	CT8000

HIGH TILT CABS — W-SERIES

W-Series — Diesel	
Z90	W9000
X90, X91	WT9000

CY1700-C

ENGINE CODES: BRONCO — LT. TRUCK — MED. TRUCK — SCHOOL BUS — 1000 THRU 600 VEHICLE NUMBERING SYSTEM

Code	Engine CID	Cyl.
	Gas (Bronco)	
G	302-2V	8
	Gas (Light F-100-350)	
B	300-1V	6
G	302-2V	8
Z	(DSO)	
H	351-2V	8
S	400-2V	8
J	460-4V	8
	Gas (Medium F & B 500-600)	
B	300-1V	6
B	300-1V H.D.	6
	(600 Series)	
C	330-2V M.D.	8
D	330-2V X.D.	8
E	361-4V X.D.	8
P	361-2V X.D.	8
F	391-4V X.D.	8
U	330-2V LPG (DSO)	8
W	361-4V LPG (DSO)	8
M	361-2V LPG (DSO)	8
X	391-4V LPG (DSO)	8
J	300-2V LPG (DSO)	6
Z	(DSO)	
	Gas (Export Low Comp)	
2	300-1V	6
4	330-2V X.D.	8
5	361-2V X.D.	8
8	351-2V	8

ECONOLINE — CLUB WAGON

Code	Engine CID	Cyl.
	Gas (Econoline)	
B	300-1V	6
H	351-2V	8
A	460-4V	8

GAS ENGINE CODES: 1977 FORD HEAVY & EXTRA-HEAVY TRUCK SERIES 700 THRU 900, N-600-C600 'F & B500-600 — PARCEL' VEHICLE NUMBERING SYSTEM

Low Comp. Code	Code	Parcel
—	G	300-IV H.D.
		F & B 500-600
2	B	300" 1V
—	B	300" 1V H.D. (600 Series)
—	C	330" 2V MD
4	D	330" 2V X.D.
—	E	361" 4V X.D.
5	P	361" 2V X.D.
—	F	391" 4V X.D.
—	U	330" 2V-LPG (DSO)
—	W	361" 4V-LPG (DSO)
—	M	361" 2V-LPG (DSO)
—	X	391" 4V-LPG (DSO)
—	J	300" 2V-LPG (DSO)
—	Z	DSO

Low Comp. Code	Code	Parcel
		700 Thru 900 — N-C600
—	G	300-IV H.D.
—	D	330-2V
5	P	361-2V
—	E	361-4V H.D.
—	F	391-4V H.D.
—	J	475-4V
—	K	477-4V S.D.
—	L	534-4V S.D.
—	Z	DSO

DIESEL ENGINE CODES: 1977 FORD HEAVY & EXTRA-HEAVY TRUCK SERIES 700 THRU 9000, N600-C600 'F & B 500-600 — PARCEL' VEHICLE NUMBERING SYSTEM

Less 9000 Series

	Detroit
7	568 8V71N 263 H.P. 2100 RPM
6	568 8V71N 280 H.P. 2100 RPM
T	568 8V71N 304 H.P. 2100 RPM
N	568 8V71T 308 H.P. 2100 RPM
E	568 8V71T 335 H.P. 2100 RPM
Y	568 8V71T 350 H.P. 2100 RPM
4	568 8V71TT 305 H.P. 1950 RPM
A	SPECIAL ORDER DETROIT
	Caterpillar
B	636 3208 V190 175 H.P. 2800 RPM
D	636 3208 V225 210 H.P. 2800 RPM
Q	636 3208 V200 H.P. 2800 RPM
H	893 3406 280 H.P. 2100 RPM
J	893 3406 280 H.P. 1900 RPM
M	893 3406 325 H.P. 2100 RPM
C	SPECIAL ORDER CATERPILLAR
	Cummins
1	855 NTC-230 230 H.P. 2100 RPM
R	855 NTC-230 230 H.P. 1900 RPM
F	855 NTC-250 250 H.P. 2100 RPM
2	855 NTC-250 250 H.P. 1900 RPM
K	855 NTC-270 PT 270 H.P. 2100 RPM
3	855 NTC-290 255 H.P. 2100 RPM
9	855 NTC-290 255 H.P. 1900 RPM
V	855 NTC-290 290 H.P. 2100 RPM
U	855 NTC-290 290 H.P. 1900 RPM
W	855 NTC-350 300 H.P. 2100 RPM
X	855 NTC-350 300 H.P. 1900 RPM
8	855 NTC-350 320 H.P. 2100 RPM
G	855 NTC-350 320 H.P. 1900 RPM
O	855 NTC-350 335 H.P. 2100 RPM
I	855 NTC-350 335 H.P. 1900 RPM
L	855 NTC-350 350 H.P. 2100 RPM
P	855 NTC-350 350 H.P. 1900 RPM
S	SPECIAL ORDER CUMMINS

9000 Series

	Detroit
4	8V-71 TT INE 395 H.P. 1900 RPM
2	6-7 IN 238 H.P. 2100 RPM
7	8V-7 INE 253 H.P.
6	8V-7 IN 280 H.P.
T	8V-7 IN 304 H.P.
B	8V-71T 308 H.P.
E	8V-71T 335 H.P.
Y	8V-71T 350 H.P.
	Cummins
U	NTC-290 H.P. 1900 RPM
K	NTC-270 PT 270 H.P.
V	NTC-290 290 H.P. 2100 RPM
L	NTC-350 350 H.P.
O	NTC-350 335 H.P.
8	NTC-350 320 H.P.
G	V903 295 H.P.
Z	Special Engine (DSO)
S	Special Order Engine Cummins (DSO)
A	Special Order Engine Detroit (DSO)
C	Special Order Engine Caterpillar (DSO)

ASSEMBLY PLANTS CODE LETTERS

Code	Assembly Plant
C	Ontario Truck
E	Mahwah
H	Lorain
I	Highland Park
K	Kansas City
L	Michigan Truck
N	Norfolk
P	Twin Cities
R	San Jose
S	Allen Park
U	Louisville
V	Kentucky Truck

CY1701-C

ECONOLINE CLUB WAGONS VEHICLE NUMBERING SYSTEM

The Uniform Sequential Serial and Warranty Numbering System for the $977 Model Year Program is outlined as follows:

SERIAL & WARRANTY NO. BLOCKS BASED UPON THE SCHEDULED MONTH

1977 Model Program

*Job #1 1977				
August*	000,000 — 019,999	January	X80,000 — X99,999
September	020,000 — 039,999	February	Y00,000 — Y19,999
October	040,000 — 059,999	March	Y20,000 — Y39,999
November	060,000 — 079,999	April	Y40,000 — Y59,999
December	080,000 — 099,999	May	Y60,000 — Y79,999
		June	Y80,000 — Y99,999
		July	Z00,000 — Z19,999
		August	Z20,000 — Z99,999

1976 Model Program

For record purposes the 1976 Model Year Serial Number is shown to reflect August thru 1976 Model Build Serial Numbers.

*Job #1 1976	1975 Calendar Year		1976 Calendar Year	
August*	A00,000 — A24,999	January	B25,000 — B49,999
September	A25,000 — A49,999	February	B50,000 — B74,999
October	A50,000 — A74,000	March	B75,000 — B99,999
November	A75,000 — A99,999	April	C00,000 — C24,999
December	B00,000 — B24,999	May	C25,000 — C49,999
		June	C50,000 — C74,999
		July	C75,000 — C99,999
		August	D00,000 — D24,999

BRONCO-LT TRUCK-MED TRUCK-SCHOOL BUS-100 THRU 600 VEHICLE NUMBERING SYSTEM

SERIAL & WARRANTY NO. BLOCKS BASED UPON THE SCHEDULED MONTH

Starting Serial Number for all Bronco F100-350 F & B 500-600 is 000,000

*Job #1 1977	1976 Calendar Year		1977 Calendar Year		
		Kentucky Truck Plt. F & B 500-600			Kentucky Truck Plt. F & B 500-600
August	000,000 — 019,999	000,000 — 004,999	January	X80,000 — X99,999	X80,000 — X84,999
September	020,000 — 039,999	020,000 — 024,999	February	Y00,000 — Y19,999	Y00,000 — Y04,999
October	040,000 — 059,999	040,000 — 044,999	March	Y20,000 — Y39,999	Y20,000 — Y24,999
November	060,000 — 079,999	060,000 — 064,999	April	Y40,000 — Y59,999	Y40,000 — Y44,999
December	080,000 — 099,999	080,000 — 084,999	May	Y60,000 — Y79,999	Y60,000 — Y64,999
			June	Y80,000 — Y99,999	Y80,000 — Y84,999
			July	Z00,000 — Z19,999	Z00,000 — Z04,999
			August	Z20,000 — Z99,999	Z20,000 — Z24,999

For record purposes the 1976 Model Year Serial Numbering is shown starting Serial Number for all Bronco F100-350 F & B 500-600 is A00,000

*Job #1 1976	1975 Calendar Year		1976 Calendar Year	
August	A00,000 — A24,999	January	B25,000 — B49,999
September	A25,000 — A49,999	February	B50,000 — B74,999
October	A50,000 — A74,999	March	A75,000 — B99,999
November	A75,000 — A99,999	April	C00,000 — C24,999
December	B00,000 — B24,999	May	C25,000 — C49,999
		June	C50,000 — C74,999
		July	C75,000 — C99,999
		August	D00,000 — D24,999

FORD HEAVY & EXTRA-HEAVY TRUCK SERIES 700 THRU 9000, N600-C600 'F & B 500-600-PARCEL' VEHICLE NUMBERING SYSTEM

SERIAL & WARRANTY NUMBER BLOCKS BASED UPON THE SCHEDULED MONTH

1977 Model Program for Heavy, Extra-Heavy and Parcel Trucks

*Job #1 1977	1976 Calendar Year		1977 Calendar Year	
August*	005,000 — 019,999	January	X85,000 — X99,999
September	025,000 — 039,999	February	Y05,000 — Y19,999
October	045,000 — 059,999	March	Y25,000 — Y39,999
November	065,000 — 079,999	April	Y45,000 — Y59,999
December	085,000 — 099,999	May	Y65,000 — Y79,999
		June	Y85,000 — Y99,999
		July	Z05,000 — Z19,999
		August	Z25,000 — Z99,999

1977 Model Program for F-B500-600 — Med. Trucks

*Job #1 1977	1976 Calendar Year		1977 Calendar Year	
August*	000,000 — 004,000	January	X80,000 — X84,999
September	020,000 — 024,999	February	Y00,000 — Y04,999
October	040,000 — 044,999	March	Y20,000 — Y24,999
November	060,000 — 064,999	April	Y40,000 — Y44,999
December	080,000 — 084,999	May	Y60,000 — Y64,999
		June	Y80,000 — Y84,999
		July	Z00,000 — Z04,999
		August	Z20,000 — Z24,999

1976 Model Program for Heavy, Extra-Heavy and Parcel Trucks

For record purposes the 1976 Model Year Serial Numbering is shown

*Job #1 1976	1975 Calendar Year		1976 Calendar Year	
August*	A05,000 — A24,999	January	B35,000 — B49,999
September	A35,000 — A49,999	February	B60,000 — B74,999
October	A60,000 — A74,999	March	B85,000 — B99,999
November	A85,000 — A99,999	April	C10,000 — C24,999
December	B10,000 — B24,999	May	C35,000 — C49,999
		June	C60,000 — C74,999
		July	C85,000 — C99,999
		August	D10,000 — D24,999

1976 Model Program for F-B500-600 Med. Trucks

*Job #1 1976	1975 Calendar Year		1976 Calendar Year	
August*	A00,000 — A04,999	January	B25,000 — B34,999
September	A25,000 — A34,999	February	B50,000 — B59,999
October	A50,000 — A59,999	March	B75,000 — B84,999
November	A75,000 — A84,999	April	C00,000 — C09,999
December	B00,000 — B09,999	May	C25,000 — C34,999
		June	C50,000 — C59,999
		July	C75,000 — C84,999
		August	D00,000 — D09,999

TRUCK EXTERIOR COLOR CODES (See Footnote)

Color	Suff#	Spec#	Ref#	ECONOLINE	BRONCO LIGHT MEDIUM	KENTUCKY TRUCK PLANT	Econo Vans Wagons & Cutaways: Std. & Cust. Vans / Std. Club and Std. Cutaway	Econo Vans Wagons & Cutaways: All Chateaus / Cust. Club & Custom Cutaway	BRONCO	LIGHT 100-350	MEDIUM F-500-600	KENTUCKY TRUCK HEAVY-PARCEL F-600 4x4	Truck Sales Name
		(XXA)	(A)	Code									
Black	C1A	JASA	1724	1C(A)	1C(A)	1C(A)	A	A	*A	A	A	A	Raven Black
Silver Met.	90P	SPLC	5299	1G(J)	1G(J)		J	J		▲J▼			Silver Met.
Med. Silver Met.	B5P	EPKC	5488		1M(V)	1M(V)			V	V	V	V	Silver Met.
Candyapple Red	80D	JDMA	2008	2E(T)	2E(T)	2E(T)	T	T	T	T	T	T	Candyapple Red
Brt. Red	78D	CDJA	5440		2R(K)	2R(K)			K	K	K	K	Brt. Red
Rangoon Red	79D	JDNA	1515			2V(J)						J	Rangoon Red
Coral	77D	JDKA	1730		2A(N)					▲N			Coral
Med. Blue Met.	G4B	TBMC	5087	3D(N)			N	N					Brook Blue Met.
Brt. Dk. Blue Met.	H9B	SBQC	5094	3G(S)	3G(S)	3G(S)	S	S	S	S	S	S	Midnight Blue Met.
Brt. Med. Blue	C8B	QBMA	5004		3T(I)	3T(I)			I	I	I	I	Bahama Blue
Lt. Blue	87B	EBLA	5467	3U(8)	3U(8)	3U(8)	8	8	8	8	8	8	Lt. Blue
Blue Met.	A1B	EBMC	5474		3Y(D)				•D	•D			
Dk. Jade Met.	16K	AKQC	5328	46(B)	46(B)	46(B)	B	B	B	B	B	B	Dk. Jade Met.
Dk. Green	D7G	QGQA	5005		49(O)	49(O)			O#	O#	O#	O#	Mallard Green
Copper Met.	25C	SCLC	5035		5B(Z)	5B(Z)			Z	Z	Z	Z	Copper Met.
Tan	40U	YUMA	5297		5V(3)					+3			Autumn Tan
Brt. Yellow	24V	SVPA	5080		6E(5)					▲5			Brt. Yellow
Chrome Yellow	07V	JVMA	1526	6S(G)	6S(G)	6S(G)	*G	*G	*G	*G	*G	*G	Chrome Yellow
Lt. Tan	52U	CULA	5441	6U(X)	6U(X)	6U(X)	X	X	X	X	X	X	Indio Tan
Lt. Jade	12R	CRJA	5445	7A(R)	7A(R)	7A(R)	R	R	R	R	R	R	Lt. Jade
Holly Green	89R	JRQA	1237			7D(L)						L	Holly Green
Chartreuse	B2G	CGHA	5497		7R(L)					▲L			Chartreuse
Med. Emerald	08M	EMNA	5500		7U(W)				W				Brt. Emerald
Dk. Brown (Tu-Tone Only)	41T	QTQA	5064		8D(6)					+6			Dk. Brown
Tangerine	13E	CEKA	5459	8F(2)			2	2					Tangerine
Dk. Brown Met.	70T	ZTQC	5282		82(H)				•H	•H			
Vista Orange	25E	EEKA	5466		8G(U)				U				
Med. Copper	82C	CCMA	5475		8Q(2)	8Q(2)			2	2	2	2	Med. Copper
White	43W	ZWFA	5418		9D(7)					+7			Pollar White
Special White	32W	JWGA	1525			9E(C)						*C	Pure White
White	26W	JWFA	1619	9A(M)	9A(M)	9A(M)	M	M	M	M	M	M	Wimbledon White
Dk. Brown Met.	75T	YTQC	5477	5Q(F)			F	F					
$ NOTE: Kentucky Truck Plant only will code 1619A White with codes M, D, E, or H White (KTP only) 26W JWFAXXA 1619A													
$ Unique Kentucky Truck Coding Only required for sound level decibel D-83 dbA — E=86 dbA — H=88 dbA — M=none												$D $E $H	
@ NOTE: KTP only uses color code N to identify units built less cab — less paint.												@N	
Red Prime Gray				← 99(9) →			← 9 →						Prime
RPO Unique Colors (Non Polish) "D"													
Tan Met.	41U	YUMD	5298		5U(4)					+4			Tan Glow
Jade Met.	62R	ERVD	5505	7N(Y)	7N(Y)	7N(Y)	Y	Y	Y	Y	Y	Y	Jade Glow
Nectarine Met.	06T	CTMD	5507	8T(E)			E	E					Nectarine Met.
Dk. Nectarine Met.	08T	ETQD	5506		8U(P)	8U(P)			P	P	P	P	Cinnamon Glow

★Ext. Color Codes 1G-3D-46-5B-7N-8T not available Parcel Delivery Van Cutaway

* RPO — Less Uniques
\# LPO Fleet
• Explorer 77½
\+ Lux. Decor
▲ Unique San Jose
▼ Unique Twin City

FOOTNOTE:
Due to the truck single code limited paint identification system it will be necessary to reflect Econoline codes and the KTP Heavy Truck codes as separate paint code systems. This will allow duplicate codes to be utilized to identify different paint colors or unique code conditions. (Ex. J Econo Silver, K KTP Red)

Econoline — Bronco — Light and Medium Trucks will use the new double code system but will convert the double paint code to a single paint code (as shown in ( ) parenthesis for the rating plate paint color code identification. (Refer to truck code column).

CY1732-B

FRONT AXLE CODES, LIGHT AND MEDIUM TRUCKS

Bronco and F-100-350			F & B 500 — 600			
W/Power Steering	Code	Front Axle/Power Steering	P/Steering Delete	W/Power Steering		Front Axle
J	—	Power Steering	A	J	—	Power Steering
R	9	3,800# Dana — 60F	—	K	2	5,500
E	5	3,800#	—	L	3	6,000
G	7	High Alt.	D	M	4	7,000
H	8	High Alt. Not Required	E	N	5	9,000
			Standard Front Axles will not be punched on FB-500-600.			

FRONT AXLE CODES, HEAVY TRUCKS

W/Power Steering	Code	#Front Axle — GVW
K	2	5,500
L	3	6,000
M	4	7,000
N	5	9,000
P	7	12,000
	8	12,000 Steer Ease
S	—	16,000
T	—	18,000
U	—	20,000

DISTRICT CODES

11 BOSTON	41 CHICAGO	71 LOS ANGELES
12 BUFFALO	42 CLEVELAND	72 SAN JOSE
13 NEW YORK	43 MILWAUKEE	73 SALT LAKE CITY
14 PITTSBURGH	45 LANSING	74 SEATTLE
15 NEWARK	46 INDIANAPOLIS	75 PHOENIX
16 PHILADELPHIA	47 CINCINNATI	76 DENVER
17 WASHINGTON	48 DETROIT	
21 ATLANTA	52 DALLAS	83 GOVERNMENT
22 CHARLOTTE	53 KANSAS CITY	84 HOME OFFICE RESERVE
23 MEMPHIS	54 OMAHA	85 AMERICAN RED CROSS
24 JACKSONVILLE	55 ST. LOUIS	89 TRANSPORATION SERVICES
25 RICHMOND	56 DAVENPORT	87 BODY COMPANY
26 NEW ORLEANS	57 HOUSTON	
28 LOUISVILLE	58 TWIN CITIES	90's EXPORT

Ford of Canada

MERCURY REGIONS	FORD REGIONS
A1 CENTRAL	B1 CENTRAL
A2 EASTERN	B2 EASTERN
A3 ATLANTIC	B3 ATLANTIC
A4 MIDWESTERN	B4 MIDWESTERN
A6 WESTERN	B6 WESTERN
A7 PACIFIC	B7 PACIFIC
12 EXPORT	12 EXPORT

NOTE: EXPORT ALPHABETICAL I

CY1702-C

MODEL CODES AND GROSS VEHICLE WEIGHT RATINGS

ECONOLINE CLUB, CUSTOM & CHATEAU WAGONS

Code			GVW	
Conv.	Super	Passenger	Conv.	Super
E-100 Series				
E-010	*	5	5,500	*
E-011		5	5,700	
E-012		5	5,900	
E-020		8	5,900	
E-021		8	6,000	
E-150 Series				
E-100		5	6,200	
E-111		5	6,200	
E-112		5	6,400	
E-113		5	6,600	
E-120		8	6,300	
E-121		8	6,500	
E-122		8	6,600	
E-123		8	6,300	
E-124		8	6,500	
E-125		8	6,600	

Code			GVW	
Conv.	Super	Passenger	Conv.	Super
E-250 Series				
E-210		5	6,900	
E-211		5	7,100	
E-212		5	7,800	
E-220		8	6,900	
E-221		8	7,100	
E-222		8	7,300	
E-223		8	7,500	
E-224		8	7,700	
E-225		8	8,200	
E-230		12	7,700	
E-231		12	7,900	
E-232		12	8,100	
E-233		12	8,500	
E-234		12	8,900	

ECONOLINE CARGO, WINDOW, DISPLAY VANS & CUTAWAY, CUTAWAY PARCEL DELIVERY MODELS

Code						GVW	
Conv. Cargo	Super Cargo	Conv. Window	Super Window	Conv. Display	Super Display	Conv.	Super
E-100 Series							
E-040	*	E-050	*	E-060	*	5,150	*
E-041		E-051		E-061		5,750	
E-150 Series							
E-140		E-150		E-160		6,150	
E-250 Series							
E-240		E-250		E-260		6,800	
E-241		E-251		E-261		7,500	
E-242		E-252		E-262		8,300	
E-350 Series							
E-340		E-350		E-360		8,600	
E-341		E-351		E-361		9,550	
E-342		E-352		E-362		9,850	

Cutaway	GVW	Cutaway Parcel Delivery	GVW
E-250 Series			
E-270	8,400	E-280	7,700
E-350 Series			
E-370		—	8,750 Single Rear
E-371		—	9,650 Single Rear
E-372		—	8,750 Dual Rear
E-373		—	10,000 Dual Rear
E-374		—	11,000 Dual Rear
—		E-380	8,750 Dual Rear
—		E-381	9,850 Dual Rear
—		E-382	10,000 Dual Rear
—		E-383	10,500 Dual Rear

*SUPER Requirements to be determined.

CY1703-C

MODEL CODES AND GROSS VEHICLE WEIGHT RATINGS

BRONCO, LT TRUCK, MED TRUCK, SCHOOL BUS — 100 THRU 600

Bronco

Code	G.V.W.	Nom Ton-½
U 15 0	4,400	U-100
U 15 1	4,600	
U 15 2	4,900	HD Package

Light and Medium

Pick-Ups	Chassis Cab	G.V.W.	Wheel-Base
	F-100 4x2		
F-101	F-171	4,700	133
F-103	F-173	4,900	117
F-105	F-175	5,100	133
F-106	F-176	5,250	117
F-107	F-177	5,400	133
	F-150 4x2		
F-150	F-190	6,050	133
	F-150 4x4		
F-140	F-160	6,050	117
F-141	F-161	6,150	133
F-143	F-163	6,350	133
	F-250 4x2		
F-250	F-270	6,200	133
F-251	F-271	6,800	133
F-252	F-272	7,700	133
F-253	F-273	7,900	133
	F-250 4x4		
F-260	F-280	6,750	133
F-261	F-281	7,500	133
F-262	F-282	7,700	133
	F-350 4x2		
—	F-370	6,600	137
F-351	F-371	6,750	161
—	F-372	8,000	137
F-353	F-373	8,200	161
—	F-374	8,300	137
—	F-375	8,500	161
—	F-377	9,500	137, 161
—	F-378	10,000	137, 161
F-354	—	8,300	140
F-356	—	8,900	140
F-358	—	9,900	140
	Super-Cab F-100 4x2		
X-108	X-178	5,500	139
X-109	X-179	5,650	155
X10N	X17N	5,200	139, 155
	F-150 4x2		
X-150	X-190	6,050	139, 155
	F-250 4x2		
X-251	X-271	6,800	139
X-254	X-274	6,300	139
X-255	X-275	6,550	155
X-256	X-276	7,800	139
X-257	X-277	7,050	155
X-258	X-278	7,600	139
X-259	X-279	8,100	155
X-25N	X-27N	7,500	155
	F-350 4x2		
X-359	X-379	9,250	155

Model Code	G.V.W.
F-500 4x2	
F-500	14,000
F-501	16,000
F-502	17,400
F-503	19,200
F-600 4x2	
F-600	16,000
F-601	17,000
F-610	19,700 Ryder
F-611	20,200
F-612	21,000
F-613	22,000
(6,000 Frt. 6,160 Rear)	
F-614	22,000
(7,000 Frt. 15,000 Rear)	
F-615	23,000
F-616	24,000
F-618	17,900 U-Haul
F-600 4x4	
F-650	17,200
F-660	21,700
F-661	24,000
B-500 Bus 4x2	
B-502	17,400
B-503	19,200
B-600 Bus 4x2	
B-602	19,200
B-610	19,700
B-611	20,200
B-613	21,000
(6,000 Frt. 15,000 Rear)	
B-614	22,000
(6,000 Frt. 17,500 Rear)	
B-615	22,000
(7,000 Frt. 15,000 Rear)	
B-616	23,000
B-617	24,500

FORD HEAVY & EXTRA-HEAVY TRUCK SERIES
700 THRU 9000, N600-C600 'F & B 500-600 — PARCEL'

BUS CHASSIS COWL	
B-Series — Gas	
B-500	
B-502	17,400
B-503	19,200
B-600	
B-602	19,200
B610	19,700
B-611	20,200
B-613	21,000 GAWR Frt. 6,000 Rear 15,000
B-614	22,000 GAWR Frt. 6,000 Rear 17,500
B-615	22,000 GAWR Frt. 7,000 Rear 15,000
B-616	23,000
B-617	24,500
B-700	
B-700	19,700
B-701	21,000
B-702	21,000
B-703	22,000
B-704	23,000
B-705	24,000
B-706	24,000
B-707	25,500
B-708	22,000

BUS CHASSIS COWL	
B-750	
B-750	21,500
B-751	22,000
B-752	23,000
B-753	24,000
B-754	24,000
B-755	25,500
B-756	22,000
B-Series — Diesel	
B-7000	
J-700	20,200
J-701	22,000
J-702	23,000
J-703	24,000
J-704	24,000
J-705	25,500
J-706	22,000

CONVENTIONAL 'F' SERIES CAB	
F-Series — Gas	
F-500	
F-500	14,000
F-501	16,000
F-502	17,400
F-503	19,200

CONVENTIONAL 'F' SERIES CAB			
F-600			
F-600	16,000		
F-601	17,000		
F-602	19,200		
F-610	19,700 Ryder		
F-611	20,200		
F-612	21,000		
F-613	22,000 GAWR Frt. 6,000 Rear 6,160		
F-614	22,000 GAWR Frt. 7,000 Rear 15,000		
F-615	23,000		
F-616	24,000		
F-618	17,900 U-Haul		
F-600 4x4			
F-650	17,200	F-880	
F-660	21,700	F-880	25,500
F-661	24,000	F-881	27,500
F-700			
F-700	19,200		
F-701	21,000		
F-702	22,000		
F-703	23,000		
F-704	24,000		
F-705	24,000		
F-706	25,500		
F-707	22,000		

CY1704-C

MODEL CODES AND GROSS VEHICLE WEIGHT RATINGS

CONVENTIONAL 'F' SERIES CAB	
F-750	
F-750	21,500
F-751	22,000
F-752	23,000
F-753	24,000
F-754	24,000
F-755	25,500
F-756	27,500
F-757	21,500
F-758	22,000
F-7000 — (Diesel)	
K-700	19,200
K-701	21,000
K-702	22,000
K-703	23,000
K-704	24,000
K-705	24,000
K-706	25,500
K-707	27,500
K-708	22,000

CONVENTIONAL 'L' SERIES CAB	
L-Series — Gas	
L-800	
F-802	24,500
F-803	25,500
F-804	27,500
F-805	29,000
F-806	31,000
F-808	34,000
F-809	31,000
F-810	22,100
F-811	31,800
F-812	22,100
F-813	31,800
F-814	34,000

L-900	
F-900	25,500
F-902	27,500
F-905	31,000
F-906	32,000
F-908	34,000
F-909	35,000
F-912	23,100
F-913	31,800
F-914	31,000
L-Series — Diesel	
L-8000	
K-802	25,500
K-803	27,500
K-805	31,000
K-806	32,000
K-807	34,000
K-808	35,000
K-812	23,100
K-813	31,800
L-9000	
K-902	32,000
K-904	35,000
K-907	28,000
K-908	31,800
LT-Series — Gas	
LT-800 & LT-880	
T-800	37,000
T-802	39,000
T-804	43,000
T-806	46,000
T-807	50,000

LT-SERIES — GAS	
LT-800 AND LT-880	
T-811	41,000
T-812	44,800
T-880	39,000
T-881	41,000
T-882	43,000
T-883	44,800
T-884	46,000
T-885	41,000
LT-900	
T-900	39,000
T-902	41,000
T-904	43,000
T-906	46,000
T-907	50,000
T-908	50,000
T-909	54,000
T-911	60,000
T-914	44,800
T-915	48,000
T-916	52,000
T-917	58,000
LT-Series — Diesel	
LT-8000	
U-800	39,000
U-805	46,000
U-806	50,000
U-807	50,000
U-808	54,000
U-809	60,000
U-815	41,000
U-816	44,800
U-817	61,000
U-810	55,000

LT-9000	
U-900	43,000
U-903	46,000
U-904	50,000
U-905	50,000
U-906	54,000
U-908	60,000
U-911	52,000
U-914	44,800
U-915	61,000
U-916	48,000
U-917	58,000
LTS-Series — Gas	
LTS-800	
V-800	39,000
V-804	46,000
V-805	50,000
V-809	41,000
V-810	44,000
LTS-900	
V-900	39,000
V-904	46,000
V-905	50,000
V-906	50,000
V-907	52,000
V-908	54,000
V-909	56,000
V-911	58,000
V-912	60,000
V-913	62,000
V-914	64,000
V-918	41,000
V-919	54,000
V-920	48,000

LTS-Series — Diesel	
LTS-8000	
Y-800	39,000
Y-804	46,000
Y-805	50,000
Y-806	50,000
Y-807	52,000
Y-808	54,000
Y-812	60,000
Y-814	64,000
Y-818	41,000
LTS-9000	
Y-900	43,000
Y-903	50,000
Y-904	50,000
Y-905	52,000
Y-906	54,000
Y-907	56,000
Y-909	58,000
Y-910	60,000
Y-911	62,000
Y-918	70,000
Y-919	48,000

SHORT CONVENTIONAL 'N' SERIES CAB	
N-Series — Gas	
N-600	
N-604	16,000
N-605	19,200
N-610	21,000
N-611	22,000
N-612	23,000
N-615	24,000
N-618	17,900
N-619	20,200
N-620	22,000
N-621	22,000

N-700 & N-750	
N-700	22,000
N-702	23,000
N-703	24,000
N-704	25,500
N-709	19,200
N-710	21,000
N-711	22,000
N-712	24,000
N-752	23,000
N-753	24,000
N-754	25,500
N-760	27,500
N-762	21,500
N-763	22,000
N-764	22,000
N-765	24,000
N-800	
N-802	24,500
N-803	25,500
N-804	27,500
N-805	29,000
N-806	31,000
N-808	34,000
N-811	31,000
N-812	22,100
N-813	31,800
N-814	22,100
N-815	31,800
N-816	34,000

CY1705-C

MODEL CODES AND GROSS VEHICLE WEIGHT RATINGS

SHORT CONVENTIONAL 'N' SERIES CAB — Cont'd	
N-Series — Gas	
N-900	
N-900	25,500
N-902	27,500
N-905	31,000
N-906	32,000
N-908	34,000
N-909	35,000
N-911	23,100
N-912	31,800
N-Series — Diesel	
N-6000	
R-602	16,000
R-603	19,200
R-610	21,000
R-611	22,000
R-612	23,000
R-615	24,000
R-616	20,200
R-617	22,000
R-618	22,000
N-7000	
R-700	22,000
R-702	23,000
R-703	24,000
R-704	25,500
R-707	27,500
R-709	19,200
R-710	21,000
R-711	22,000
R-712	24,000

NT-Series — Gas — Cont'd	
NT-900	
S-900	39,000
S-902	41,000
S-904	43,000
S-906	46,000
S-907	50,000
S-909	54,000
S-914	44,800
S-915	48,000
S-916	52,000
NT-Series — Diesel	
NT-8000	
W-800	39,000
W-805	46,000
W-806	50,000
W-807	50,000
W-808	54,000
W-812	41,000
W-814	44,800
W-815	55,000
W-816	60,000
W-817	61,000
NT-9000	
W-903	46,000
W-904	50,000
W-906	54,000
W-907	43,000
W-911	44,800
W-912	48,000
W-913	52,000

C-Series — Diesel	
C-6000	
D-602	17,000
D-611	22,000
D-612	23,000
D-615	20,200
D-616	21,200
C-7000	
D-702	25,500
D-705	27,500
D-707	21,200
D-708	23,000
C-8000	
D-802	27,500
D-806	25,100
D-807	32,000
D-808	35,000
CT-Series — Gas	
CT-800	
L-800	43,000
L-802	39,000
L-806	42,000
L-807	46,000
L-808	47,100
L-809	48,000
CT-900	
L-900	39,000
L-913	42,000
L-914	46,000
L-915	47,100
L-916	50,000
L-917	51,100
L-918	54,000
L-919	50,000

N-8000	
R-802	25,500
R-803	27,500
R-805	31,000
R-806	32,000
R-807	34,000
R-808	35,000
R-810	23,100
R-811	31,800
N-9000	
R-902	32,000
R-904	35,000
R-906	28,000
R-907	31,800
NT-Series — Gas	
NT-800 & NT-880	
S-800	37,000
S-802	39,000
S-804	43,000
S-806	46,000
S-807	50,000
S-811	41,000
S-812	44,800
S-880	39,000
S-881	41,000
S-882	43,000
S-883	44,800
S-884	46,000
S-885	41,000

LOW TILT 'C' SERIES CAB	
C-Series — Gas	
C-800	
C-602	17,000
C-611	22,000
C-612	23,000
C-616	20,200
C-617	21,200
C-700	
C-702	25,500
C-706	21,200
C-707	23,000
C-750	
C-752	25,500
C-755	27,500
C-756	23,000
C-800	
C-802	27,500
C-807	25,100
C-900	
C-904	27,500
C-906	31,000
C-907	32,000
C-910	34,000
C-912	36,000
C-913	31,000
C-914	25,100
C-915	39,000

CT-Series — Diesel	
CT-8000	
Q-800	43,000
Q-802	39,000
Q-803	45,000
Q-805	41,000
Q-807	46,000
Q-808	47,100
Q-809	50,000
HIGH TILT 'W' SERIES CAB	
W, WT-Series — Diesel	
W-9000	
Z-903	36,000
Z-904	29,900
Z-905	35,000
Z-906	36,000
Z-907	29,640
WT-9000	
X-905	44,800
X-906	46,000
X-907	46,000
X-908	47,100
X-909	44,600
X-915 •	44,800
X-916 •	46,000
X-917 •	46,000
X-918 •	47,100
X-919 •	44,600

(• DSO)

AXLE RATIO CODES

Econoline Non-Locking

Code	Description	#Capacity	Ratio
01	Ford	2750	3.00
05	Ford	2750	2.75
13	Ford	3750/3600	2.75
14	Ford	3750/3600	3.00
16	Ford	3750/3600	3.50
15	Ford	3750/3600	3.25
22	Dana	5300	3.07
23	Dana	5300	3.31
38	Dana	5300	3.73
24	Dana	5300	4.10
36	Dana	7400	3.73
27	Dana	7400	4.10

Econoline — Locking

H2	Ford	3750/3600	3.50
H4	Ford	3750/3600	3.25
C8	Dana	5300	3.73
D7	Dana	7400	4.10

Bronco — F-100 — 350

18	Ford	2900	2.50
03	Ford	2900	4.11
12	Ford	2900	3.00
07	Ford	2900	3.25
06	Ford	2900	2.75
B8	Ford Limited Slip	2900	3.50
A3	Ford Limited Slip	2900	4.11
02	Ford	3300	3.00
17	Ford	3300	3.25
08	Ford	3300	3.50
11	Ford	3300	2.75
14	Ford	3750	3.00
15	Ford	3750	3.25
16	Ford	3750	3.50
13	Ford	3750	2.75
19	Ford	3750	4.11
H2	Ltd. Slip	3750	3.50
H9	Ltd. Slip	3750	4.11
H4	Ltd. Slip	3750	3.25
23	Dana 61	5300	3.31
22	Dana 61	5300	3.07
24	Dana 60	5300	4.10
37	Dana 60	5300	3.54
38	Dana 60	5300	3.73
B4	Dana 60 Limited Slip	5300	4.10
C7	Dana 60 Limited Slip	5300	3.54
C8	Dand 60 Limited Slip	5300	3.73
27	Dana 70	7400	4.10
28	Dana 70	7400	4.56
36	Dana 70	7400	3.73
D7	Dana 70 Limited Slip	7400	4.10

F & B 500-600

41	Rockwell D-140	13000	5.83
42	Rockwell D-140	13000	6.20
62	Rockwell F-106	15000	6.20
64	Rockwell F-106	15000	6.80
66	Rockwell F-106	15000	7.20
F2	Eaton 15201	15000 2-Speed	5.83/8.12
F3	Eaton 15201	15000 2-Speed	6.33/8.81
52	Rockwell H-170	17500	5.86
53	Rockwell H-170	17500	6.14
54	Rockwell H-170	17500	6.83
55	Rockwell H-170	17500	7.17
E1	Eaton 16244	17500 2-Speed	5.57/7.75
E2	Eaton 16244	17500 2-Speed	6.17/8.58
E3	Eaton 16244	17500 2-Speed	6.50/9.04
FQ	Eaton 17121	18500	6.14
GQ	Eaton 17121	18500	6.50
HQ	Eaton 17121	18500	7.17
EH	Eaton 17221	18500 2-Speed	5.57/7.60
FH	Eaton 17221	18500 2-Speed	6.14/8.38
GH	Eaton 17221	18500 2-Speed	6.50/8.87
HH	Eaton 17221	18500 2-Speed	7.17/9.77

Medium — Parcel — School Bus
F & B 500-600 & Parcel

Code	Description	#Capacity	Ratio
24	Dana 60 Parcel	5200	4.10
25	Dana 60 Parcel	5200	4.56
22	Dana 70 Parcel	7400	4.88
28	Dana 70 Parcel	7400	4.56
42	Rockwell D-140	13000	6.20
41	Rockwell D-140	13000	5.83
62	Rockwell F-106	15000	6.20
64	Rockwell F-106	15000	6.80
66	Rockwell F-106	15000	7.20
F2	Eaton 15201	15000 2-Speed	5.83/8.12
F3	Eaton 15201	15000 2-Speed	6.33/8.81
52	Rockwell H-170	17500	5.86
53	Rockwell H-170	17500	6.14
54	Rockwell H-170	17500	6.83
55	Rockwell H-170	17500	7.17
E1	Eaton 16244	17500 2-Speed	5.57/7.75
E2	Eaton 16244	17500 2-Speed	6.17/8.58
E3	Eaton 16244	17500 2-Speed	6.50/9.04
EH	Eaton 16221	18500 2-Speed	5.57/6.60
FH	Eaton 16221	18500 2-Speed	6.15/8.38
GH	Eaton 16221	18500 2-Speed	6.50/8.87
HH	Eaton 16221	18500 2-Speed	7.17/9.77
FQ	Eaton 17121	15800 2-Speed	6.14
GQ	Eaton 17121	15800 2-Speed	6.50
HQ	Eaton 17121	15800 2-Speed	7.17

Heavy

41	Rockwell D-140	13000	5.83
42	Rockwell D-140	13000	6.20
44	Rockwell D-140	13000	6.80
62	Rockwell F-106	15000	6.20
64	Rockwell F-106	15000	6.80
66	Rockwell F-106	15000	7.20
F2	Eaton 15201	15000 2-Speed	5.83/8.12
F3	Eaton 15201	15000 2-Speed	6.33/8.81
52	Rockwell H-170	175000	5.86
53	Rockwell H-170	175000	6.14
54	Rockwell H-170	175000	6.83
55	Rockwell H-170	175000	7.17
E1	Eaton 16244	17500 2-Speed	5.57/7.57
E2	Eaton 16244	17500 2-Speed	6.17/8.58
E3	Eaton 16244	17500 2-Speed	6.50/9.04
FQ	Eaton 17121	18500	6.14
GQ	Eaton 17121	18500	6.50
HQ	Eaton 17121	18500	7.17
EH	Eaton 17221	18500 2-Speed	5.57/7.60
FH	Eaton 17221	18500 2-Speed	6.14/8.38
GH	Eaton 17221	18500 2-Speed	6.50/8.87
HH	Eaton 17221	18500 2-Speed	7.17/9.77
DK	Eaton 18121	22000	6.50
EK	Eaton 18121	22000	7.17
DB	Eaton 18221	22000 2-Speed	5.57/7.60
EB	Eaton 18221	22000 2-Speed	6.14/8.38
FB	Eaton 18221	22000 2-Speed	6.50/8.87
GB	Eaton 18221	22000 2-Speed	7.17/9.77
AG	Eaton 19121	23000	4.11
BG	Eaton 19121	23000	4.33
HG	Eaton 19121	23000	4.56
CG	Eaton 19121	23000	4.88
DG	Eaton 19121	23000	5.43
EG	Eaton 19121	23000	6.17
FG	Eaton 19121	23000	6.67
GG	Eaton 19121	23000	3.70
GP	Eaton 19221	23000 2-Speed	4.11/5.60
CP	Eaton 19221	23000 2-Speed	5.43/7.39
DP	Eaton 19221	23000 2-Speed	6.17/8.40
EP	Eaton 19221	23000 2-Speed	6.67/9.08
AP	Eaton 19221	23000 2-Speed	4.35/5.90
H1	Rockwell R-171	23000	4.11
H2	Rockwell R-171	23000	4.33
H3	Rockwell R-171	23000	4.63
H4	Rockwell R-171	23000	4.88
H5	Rockwell R-171	23000	5.29
H6	Rockwell R-171	23000	5.86
H7	Rockwell R-171	23000	6.14
H9	Rockwell R-171	23000	3.70
1A	Rockwell R-170	23000	4.11
2A	Rockwell R-170	23000	4.33
3A	Rockwell R-170	23000	5.29
4A	Rockwell R-170	23000	6.14
7A	Rockwell R-170	23000	5.86
JA	Rockwell R-170 w/Traction	23000	4.11
KA	Rockwell R-170 w/Traction	23000	4.33
LA	Rockwell R-170 w/Traction	23000	5.29
MA	Rockwell R-170 w/Traction	23000	6.14
EC	Eaton 30-DSC	*32000	6.50
FC	Eaton 30-DSC	*32000	7.17
GC	Eaton 30-DSC	*32000	7.60
JF	Eaton 34-DSC	*34000	4.11
BF	Eaton 34-DSC	*34000	4.33
CF	Eaton 34-DSC	*34000	4.56
DF	Eaton 34-DSC	*34000	4.88
LF	Eaton 34-DSC	*34000	3.70
FF	Eaton 34-DSC	*34000	5.57
GF	Eaton 34-DSE	*34000	6.14
HF	Eaton 34-DSE	*34000	6.50
MF	Eaton 34-DSE	*34000	7.17
KF	Eaton 34-DSE	*34000	7.60
DN	Eaton 34-DPC	*34000	6.21
FN	Eaton 34-DPC	*34000	7.60
FW	Eaton 34-DTE	*34000	6.14/8.38
GW	Eaton 34-DTE	*34000	6.50/8.87
HW	Eaton 34-DTE	*34000	7.17/9.77
B1	Rockwell Slhd. (Hendrickson)	*34000	4.11
B2	Rockwell Slhd. (Hendrickson)	*34000	4.44
B3	Rockwell Slhd. (Hendrickson)	*34000	4.63
B4	Rockwell Slhd. (Hendrickson)	*34000	4.88
B6	Rockwell Slhd. (Hendrickson)	*34000	5.83
B7	Rockwell Slhd. (Hendrickson)	*34000	6.17
B8	Rockwell Slhd. (Hendrickson)	*34000	6.83
B9	Rockwell Slhd. (Hendrickson)	*34000	7.80
BB	Rockwell Slhd. (Hendrickson)	*34000	8.60
AJ	Eaton 38-DSC	*38000	4.56
BJ	Eaton 38-DSC	*38000	4.88
CJ	Eaton 38-DSC	*38000	5.57
FJ	Eaton 38-DSC	*38000	4.11
GJ	Eaton 38-DSC	*38000	4.33
HJ	Eaton 38-DSC	*38000	5.29
LJ	Eaton 38-DSC	*38000	3.70
DJ	Eaton 38-DSE	*38000	6.14
EJ	Eaton 38-DSE	*38000	6.50
JJ	Eaton 38-DSE	*38000	7.17
KJ	Eaton 38-DSE	*48000	7.60
AR	Eaton 38-DPC	*38000	5.05
DR	Eaton 38-DPC	*38000	6.22
ER	Eaton 38-DPC	*38000	6.65
FR	Eaton 38-DPC	*38000	7.60
D1	Rockwell Sqhd. (Hendrickson)	*38000	4.11
D2	Rockwell Sqhd. (Hendrickson)	*38000	4.44
D3	Rockwell Sqhd. (Hendrickson)	*38000	4.63
D4	Rockwell Sqhd. (Hendrickson)	*38000	5.29
D5	Rockwell Sqhd. (Hendrickson)	*38000	5.83
D6	Rockwell Sqhd. (Hendrickson)	*38000	6.83
D7	Rockwell Sqhd. (Hendrickson)	*38000	7.80
D8	Rockwell Sqhd. (Hendrickson)	*38000	4.88
DA	Rockwell Sqhd. (Hendrickson)	*38000	6.17
AV	Eaton 42-DPB	*44000	7.60
CV	Eaton 42-DPB	*34000	5.05
DV	Eaton 42-DPB	*44000	5.91
AX	Eaton 50-DP	*50000	5.61

* Tandem

CY1707-C1

TRANSMISSION CODES

Code	Description
Econoline — Club Wagon	
C	3 Speed Manual Ford
G	Automatic
Z	Cruisomatic C-6
Bronco — F-100-350	
G	Automatic
C	Ford Manual 3-Speed
F	Warner T-18 4-Speed
A	New Process 435 4-Speed
F & B500-600	
L	Allison AT540
P	Warner T-19 4-Speed
G	C-6 Automatic
4	Clark 280-VO Overdrive 5-Speed
2	Clark 282-V Direct 5-Speed
M	Clark 285-V Direct 5-Speed
6	Clark 390-V Direct 5-Speed
Z	Clark 397-V Direct 5-Speed
A	New Process 435 4-Speed
9	New Process 542 Direct 5-Speed
O	New Process 542-FL Direct 5-Speed
T	New Process 542-FO Overdrive 5-Speed
7	Spicer CM-5052 Direct 5-Speed
D	Spicer CM-5252 Direct 5-Speed
Q	Spicer CM-5052A Direct 5-Speed
S	Spicer CM-6052B Direct 5-Speed
N	Spicer CM-6052C Direct 5-Speed

HEAVY
Parcel & Heavy — Less 9000 'W' Series

Gas	Diesel	
L	—	Allison AT-540 Automatic
8	—	Allison MT-640 Automatic
H	H	Allison MT-650 Automatic
4	—	Clark 280 5-Speed
2	2	Clark 282 5-Speed
M	M	Clark 285 5-Speed
—	6	Clark 390 5-Speed
—	Z	Clark 397 5-Speed
W	—	Ford C-6 Automatic
J	—	Ford FMX Automatic
C	C	Fuller RT-610 10-Speed
P	P	Fuller RT-613 13-Speed
—	X	Fuller T-905A 5-Speed
—	O	Fuller T-905B 5-Speed
—	3	Fuller RT-906 6-Speed
—	V	Fuller RT-910 10-Speed
—	5	Fuller RTO-910 10-Speed O/D
—	Q	Fuller RT-1110 10-Speed
—	8	Fuller RT-9509A 9-Speed
—	T	Fuller RTO-9509B 9-Speed O/D
—	4	Fuller RT-9513 13-Speed
—	J	Fuller RTO-9513 13-Speed O/D
—	E	Fuller RT-12510 10-Speed
—	F	Fuller RTO-12513 10-Speed O/D
A	—	New Process NP-435 4-Speed
9	—	New Process NP-542-FD 5-Speed
O	—	New Process NP-542-FL 5-Speed
T	—	New Process NP-542-FO 5-Speed

AUXILIARY TRANSMISSION
FORD HEAVY AND EXTRA-HEAVY TRUCK — PARCEL

Code	Description
4	Spicer 7231-D
5	Spicer R-8341-2
8	Spicer 7041

MED — SCHOOL BUS — F-B 500-600

Code	Description
4	Clark 280-VO Overdrive 5-Speed
2	Clark 282-V Direct 5-Speed
M	Clark 285-V Direct 5-Speed
9	New Process 542 Direct 5-Speed
O	New Process 542-FL Direct 5-Speed
T	New Process 542-FO Overdrive 5-Speed
7	Spicer CM-5052 Direct 5-Speed
D	Spicer CM-5252 Direct 5-Speed
Q	Spicer CM-6052A Direct 5-Speed
S	Spicer CM-6052B Direct 5-Speed
L	Allison AT-540
P	Warner T-19 4-Speed
G	C-6 Automatic
A	New Process 435 4-Speed
N	Spicer CM-6052C Direct 5-Speed
6	Clark 390-V Direct 5-Speed
Z	Clark 397-V Direct 5-Speed

—	G	Spicer SST-1007-2A 7-Speed
—	A	Spicer SST-1010 10-Speed
7	7	Spicer CM-5052A 5-Speed
D	D	Spicer CM-5252A 5-Speed
Q	—	Spicer 5652 5-Speed
S	—	Spicer 5656-B 5-Speed
B	B	Spicer CM-6052A 5-Speed
K	K	Spicer CM-6052B 5-Speed
R	R	Spicer CM-6052C 5-Speed
N	N	Spicer 6352 5-Speed
U	U	Spicer 6852G 5-Speed
—	Y	Spicer RP-85163-A 16-Speed
9000 'W' Series		
O		Fuller T-905B Direct 5-Speed
3		Fuller RT-906 Direct 6-Speed
5		Fuller RTO-910 Overdrive 10-Speed
V		Fuller RT-910 Direct 10-Speed
Q		Fuller RT-1110 Direct 10-Speed
8		Fuller RT-9509A Direct 9-Speed
4		Fuller RT-9513 Direct 13-Speed
E		Fuller RT-12510 Direct 10-Speed
J		Fuller RTO-9513 Overdrive 13-Speed
F		Fuller RTO-12513 Overdrive 13-Speed
G		Spicer SST-10072A Direct 7-Speed
A		Spicer SST-10 Direct 10-Speed

CY1707-C2

WHEELS AND TIRES

GROUP 11 (1000 & 2000)

General Wheel and Tire Service 11-01
Wheels and Tires — Drop-Center Rim 11-02
Wheels and Tires — Three-Piece Rim 11-04
Wheels and Tires — Two-Piece Rim 11-03
Wheel Hubs and Bearings — Front (Except Front Drive) 11-10
Wheel Hubs and Bearings — Front Wheel Drive 11-12
Wheel Hubs and Bearings Rear (Semi Floating Axle) 11-11
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General Wheel and Tire Service

PART 11-01

APPLIES TO ALL MODELS

SUBJECT	PAGE
SAFETY	01-1
DIAGNOSIS AND TESTING	01-3
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Balancing Wheels	01-6
Procedure to Diagnose Tire and Wheel Runout	01-6
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CLEANING AND INSPECTION	
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SAFETY

When replacing tires, use the same size, load range and construction type (bias, bias belted or radial) as originally installed on your vehicle. When replacing wheels, use original equipment manufacturers wheels or equivalent available from your Ford dealer with equivalent capacity, width, offset and mounting configuration as those originally installed on your vehicle. Use of improper replacement wheels and tires may adversely affect ride, handling, load carrying capacity, bearing life, tire clearance to body and chassis components, vehicle ground clearance, vehicle width and brake cooling.

SAFETY PRECAUTIONS WHEN SERVICING TRUCK TIRES

CAUTION AND SAFETY FIRST are bywords when handling tires, **particularly truck tires.** Careful attention to the suggestions that follow may prevent crippling injuries, or even death. **Make it a rule to respect the terrific force contained in an inflated tire.** You may be glad some day that you did.

Prepare for any tire repair operation in a safe and efficient way. In changing tires on drop center wheels, remove the wheel and tire from the truck, **as changing tires with the wheel on the truck is hazardous, more difficult, and takes more time.** In servicing of all tires use caution not to drop them (or the wheels or assemblies) on the feet, hands

F1857-A

FIG. 1 Handling Wheels and Tires

F1853-A

FIG. 2 Safe Air Removal

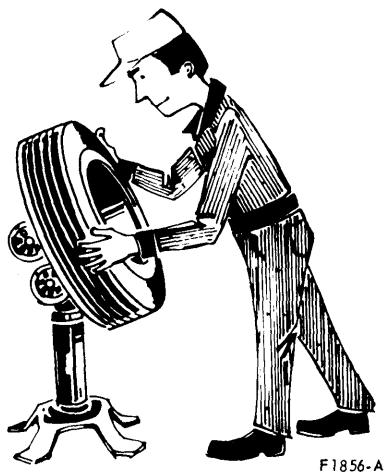

F1856-A

FIG. 3 Changing Tire on Drop Center Rim

or body, or heavily on the floor (Fig. 1). Practice good methods of lifting; use your legs as well as your arms and your body. This will help to prevent painful, internal injury. When carrying tires or wheels don't step in oil or grease. **Keep the floor clean and dry.**

Deflating a tire properly is very important to your safety. First, reduce the pressure as much as you possibly can by pushing the valve core plunger. **Only then should you remove the valve core.** Keep your eyes away from the valve: Fig. 2 shows the safe way to do it.

Demounting tires from wheels or rims requires special care. Tires on drop center rims are best handled on a wheel holder, or tire-changing machine (Fig. 3).

F1858-A

FIG. 4 Use of Tire Irons

This can help prevent cuts on hands and wrists and will make it unnecessary to use a mallet for seating the tire.

Use only standard tire mounting tools and equipment. The use of makeshift tools, screwdrivers or pliers to force tires on or off rims or wheels is dangerous.

Always lubricate tire beads to assure sealing of tire beads on rim.

The Rotunda tire changer includes a bead seater/inflator using an automatically adjustable inflation ring, which aids in properly seating the bead for inflation. To properly operate the Rotunda tire changer, follow the instructions provided.

As with the drop-center rims, be certain on split-rim assemblies that all air is out before unlocking a rim or ring. **Use special care when using tire irons.** Grip them firmly and keep them free of oil and grease. They can slip and fly with tremendous force (Fig. 4).

A careful inspection should be made of the tire and all necessary repairs should be performed. A tire spreader is very helpful (Fig. 5) but use care when working around it. Keep the spreader arms closed when the machine is idle.

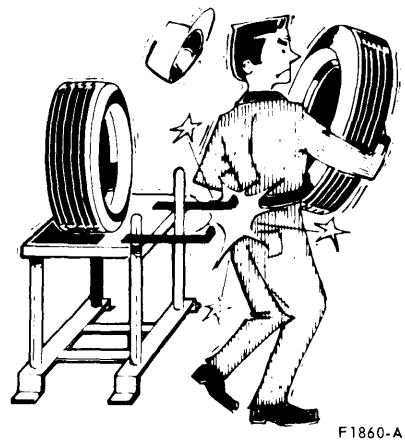

F1860-A

FIG. 5 Tire Spreader

Inspect the rim parts carefully for rust, damage or distortion (Fig. 6). Never use rims, locking rings or flanges which are out of shape, rusted or cracked or broken in any way. **Never use a ring or other rim parts of different manufacture than the original rims or any different size or type.**

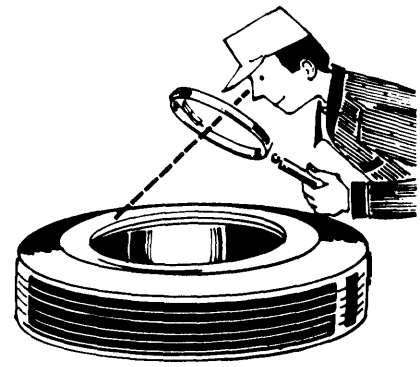

F1854-A

FIG. 6 Visual Inspection

Tires and rims often require a buffing operation before being mounted once the regular repairs have been made.

Always wear Safety Goggles, or a face shield when performing any buffing operation.

Avoid hammering rings or rims with steel hammers. Small bits of steel may be broken off the hammer or rim, flying into the eyes (wear safety goggles) face or body. Use rubber-covered, steel-headed hammers wherever possible (Fig. 7). Rubber mallets only should be used on passenger car tires; although with modern tire changing equipment no pounding is necessary.

Make certain the rim ring is seated to full depth of the groove, fits tightly all around, and is securely locked.

F1859-A

FIG. 7 Seating of Rings

Stand away from the valve stem as far as possible while inflating tires. Avoid a position where the face or body is immediately over the work being done on any tire in which there is pressure.

F1855-A

FIG. 8 Inflation Details

With certain types of wheels, however, it is necessary to seat the rings while the tire is being inflated. In either case **before inflating study the next step.**

Attach a portable safety device, made especially for the purpose, to the assembly. This portable device should be used with all types of wheels and rims.

If the assembly is not of the type which requires inflation to seat the rings, a **Safety Cage** should be used, although the portable device is the best (Fig. 8).

Use only accurate, tested gauges to insure proper air pressure. Check all gauges regularly with a master gauge.

Play it SAFE. Set a good example for others who work with you. Follow the above suggestions completely. **If you are ever tempted to take a short cut because you are in a hurry, that is the time that you could get hurt.**

Finally, always remember, a jack is provided for wheel and tire maintenance only. **Never run the engine when the vehicle is supported by a jack.**

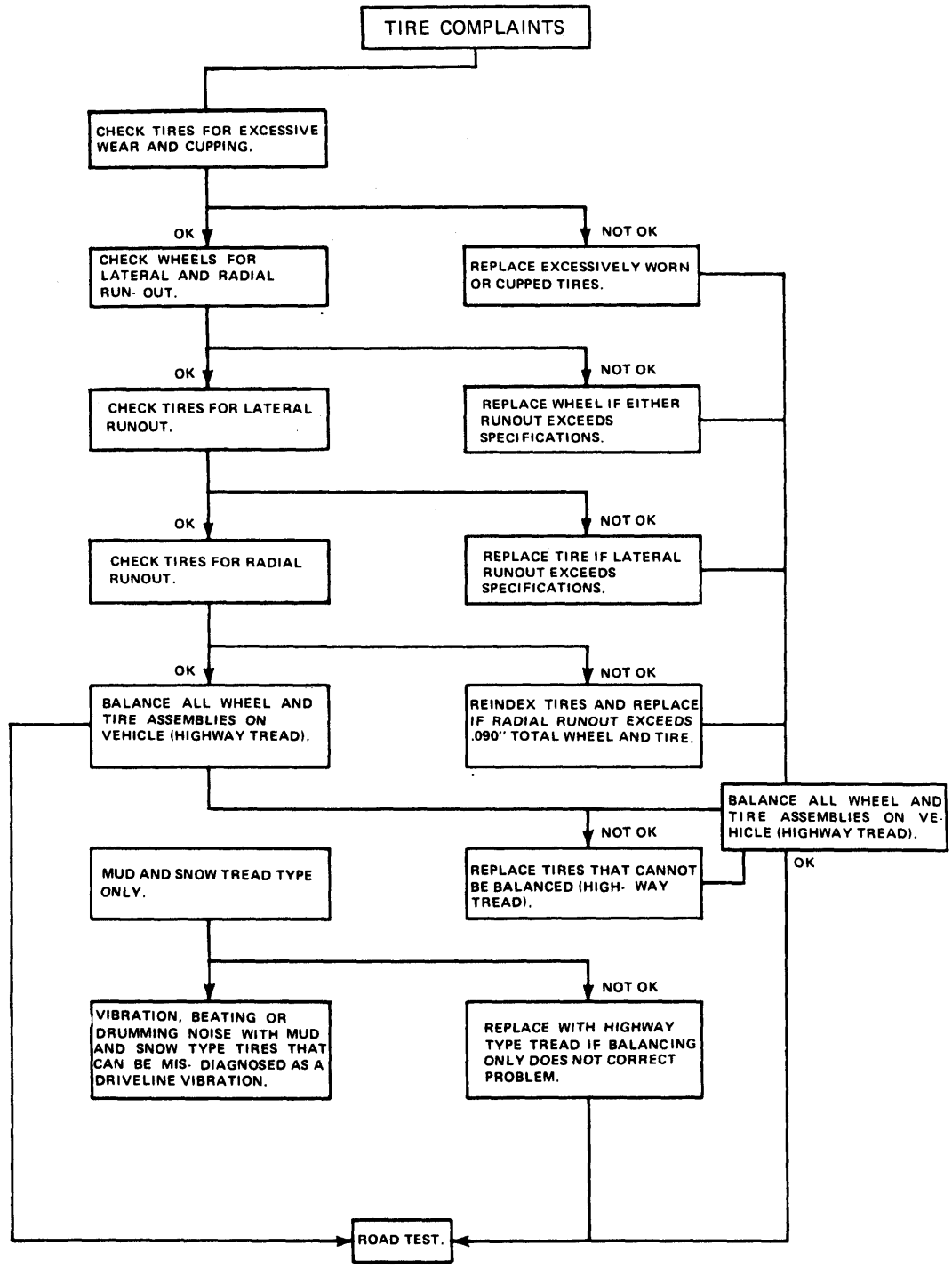
DIAGNOSIS AND TESTING

DIAGNOSIS CHARTS

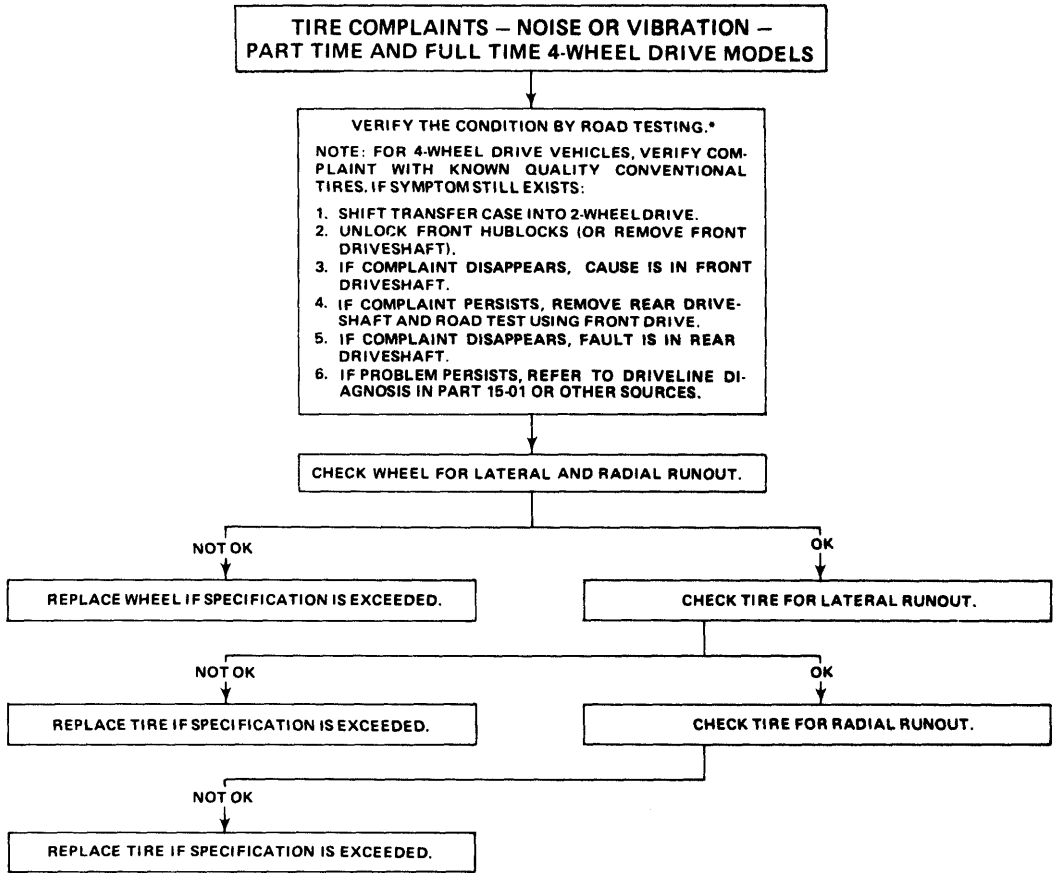
The following charts can be used as an aid in wheel and tire service diagnosis.

PROBLEM	POSSIBLE CAUSE	CORRECTION
• Tires show excess wear on edges of tread	• Underinflated tires • Vehicle overloaded • High speed cornering • Incorrect toe setting	• Adjust air pressure in tires • Correct as required • Correct as required • Set toe to specifications
• Tires show excess wear in center of tread	• Tires overinflated	• Adjust air pressure in tires
• Excessive tire wear problems	• Improper tire pressure • Incorrect tire/wheel usage • Loose or leaking shock absorbers • Front wheels out of alignment • Front wheel bearings out of adjustment • Loose, worn or damaged steering linkage or joints • Loose, worn or damaged suspension components, bushings and ball joints • Wheels and tires out of balance • Excessive lateral and/or radial runout of wheels and tires	• Adjust air pressure in tires • Install correct tire/wheel combination • Tighten or replace as necessary • Align front wheels • Adjust front wheel bearings • Inspect, repair or replace as required • Inspect, repair or replace as required • Balance wheels and tires • Check, repair or replace as required

CF2458-A


TIRE COMPLAINTS
CHECK TIRES FOR EXCESSIVE WEAR AND CUPPING.
OK
NOT OK
CHECK WHEELS FOR LATERAL AND RADIAL RUN- OUT.
REPLACE EXCESSIVELY WORN OR CUPPED TIRES.
OK
NOT OK
CHECK TIRES FOR LATERAL RUNOUT.
REPLACE WHEEL IF EITHER RUNOUT EXCEEDS SPECIFICATIONS.
OK
NOT OK
CHECK TIRES FOR RADIAL RUNOUT.
REPLACE TIRE IF LATERAL RUNOUT EXCEEDS SPECIFICATIONS.
OK
NOT OK
BALANCE ALL WHEEL AND TIRE ASSEMBLIES ON VEHICLE (HIGHWAY TREAD).
REINDEX TIRES AND REPLACE IF RADIAL RUNOUT EXCEEDS .090" TOTAL WHEEL AND TIRE.
BALANCE ALL WHEEL AND TIRE ASSEMBLIES ON VEHICLE (HIGHWAY TREAD).
NOT OK
OK
MUD AND SNOW TREAD TYPE ONLY.
REPLACE TIRES THAT CANNOT BE BALANCED (HIGH- WAY TREAD).
NOT OK
VIBRATION, BEATING OR DRUMMING NOISE WITH MUD AND SNOW TYPE TIRES THAT CAN BE MIS- DIAGNOSED AS A DRIVELINE VIBRATION.
REPLACE WITH HIGHWAY TYPE TREAD IF BALANCING ONLY DOES NOT CORRECT PROBLEM.
ROAD TEST.

CF2458-A1



* FULL TIME DRIVE EXCEPTIONS:

1. REMOVE FRONT DRIVE SHAFT.
2. SHIFT TRANSFER CASE INTO HI LOCK AND ROAD TEST.
3. IF COMPLAINT PERSISTS, REMOVE REAR DRIVE SHAFT, SHIFT TRANSFER CASE TO HI LOCK AND ROAD TEST USING FRONT DRIVE AXLE.

ALL OTHER INFORMATION APPLIES TO FULL AND PART TIME 4-WHEEL DRIVE.

CF2458-A2

ADJUSTMENTS

WHEEL AND TIRE CHECKING PROCEDURE

Inspect tires for wear from incorrect mounting misalignment, loose wheel bearings, bent wheels, or cupping or scalping from inbalance. Tires which show irregularities and definite roughness must be replaced.

See the instructions provided with the Rotunda Wheel Balancer.

Make certain that the brakes are not dragging and wheel bearings are properly adjusted before attempting to spin the wheels. On vehicles equipped with disc brakes, push the brake shoes into the caliper to free the rotor.

Procedure to Diagnose Tire and Wheel Runout

NOTE: Remove mud and snow type tires before attempting to correct any moving vehicle vibration problems.

1. Promptly after road test, raise vehicle on a hoist to prevent tire flat spots.
2. Spin front wheels fast enough by hand to check bearings for roughness.
3. Using a tire dial indicator Fig. 9 check the radial and lateral runout of the tire and wheel assembly. If both runouts are less than .090 inch, proceed to tire balancing.

NOTE: To insure an accurate reading, rotate the tire and wheel assembly by hand, slowly so that the indicator pickup roller does not vibrate or chatter.

4. If the LATERAL RUNOUT of the tire and wheel assembly is more than .090 inch, check the wheel runout. If the wheel lateral runout is more than .045 inch, replace the wheel. If the lateral run-out is less than .045 inch, replace the tire. After replacing a wheel and/or tire recheck run-outs.
5. If the RADIAL RUNOUT of the tire and wheel assembly is more than .090 inch, mark the point of the highest runout on the tire. Check the radial runout of the wheel. If the runout is more than .045 inch, replace the wheel. If the runout is less than .045 inch, mark the point of the lowest runout on the wheel, dismount the tire from the wheel and align the mark on the tire (high spot) and the mark on the wheel (low spot). Remount the tire on the wheel. Recheck the tire radial runout and if it is still more than .090 inch, replace the tire with an original equipment level tire. After replacing a wheel and/or tire, recheck runouts.

NOTE: When remounting tire on wheel, use ample lubricant on tire and wheel bead area. Overinflate tire to seat bead (but not more than 45 psi for passenger type tires, or 80 psi for tube-type or 60 psi for tubeless truck type tires), then bleed to recommended pressure.

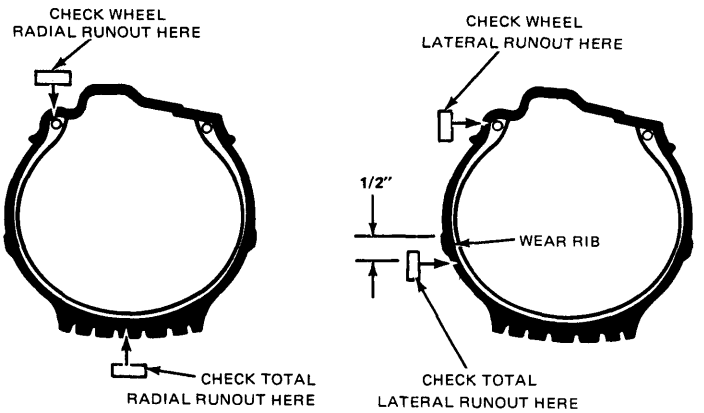


FIG. 9 Correct Placement of Runout Indicator Pickup

6. Balance all four wheel and tire assemblies using an on-the-vehicle balancer.
7. Remove balance equipment, spin tire to speed and allow to coast down to verify balance.
8. Imbalanced brake drums can also cause a vibration similar to wheels and tires, or driveline. Remove rear wheels and tires, engage transmission. Drive rear hubs and drums 30-50 MPH, if vehicle vibrates static and dynamic balance drums; and then wheels, tires and drums as an assembly. Install on vehicle and check for vibration. Road test for final result.

BALANCING WHEELS

Balancing Single Rear Wheels

Don't use the spinner on any single rear wheels.

Jack up one rear wheel at a time, locate the jack securely under the frame, approximately one-foot ahead of the rear wheel. Make sure the jack is secure and safe.

Spin the wheel with the engine and transmission in high gear at 30—40 mph on the speedometer. Do not spin powered wheels with a wheel spinner. Start the wheel as gradually as possible. Take care to avoid jerking condition on trucks equipped with an automatic shift. Use an accelerator pedal prop on vehicles not equipped with a hand throttle.

To balance, place the pick-up as close to the wheel as possible; then, with the wheel spinning at the speed where the maximum vibration is showing, read the strobe and follow the same procedure as balancing front wheels.

Balancing Rear Wheels of Truck with Semi-lock Differential

Use one of the following methods for rear wheels:

1. Place a jack under the frame, one foot ahead of the rear wheel you want to balance. Jack up the wheel. Place another jack under the axle near the opposite rear wheel, and raise the wheel. Place the pick-up under the wheel. Spin the wheel with the motor to approximately 60—70 mph, to where the most vibration shows. Read the strobe and follow the same procedure required for balancing front wheels.
2. Jack up the rear wheels as noted in step 1. Remove the rear wheel opposite the wheel you are to balance. Balance the rear wheel on the vehicle and reinstall the other wheel. After reversing the position of the jacks, balance the opposite rear wheel. Do not remove the first rear wheel.

Balancing Dual Wheels and Wheels of Trucks Equipped with Full Floating Axles

Jack up the rear wheels with the jack located securely under the differential housing. Raise the wheels 1-1/2 inches from the floor.

Disconnect the wheel from the axle drive by removing the hub flange nuts or screws. Pull the hub flange out to clear the studs at least 1/2 inch.

Spin Dual Wheels with an 800-C2 or 500-C Heavy-Duty Truck Spinner or equivalent.

FRONT WHEEL BEARING MAINTENANCE

Wheel bearings are adjustable. Satisfactory operation and long life of bearings depend on proper adjustment and correct lubrication. **If bearings are adjusted too tightly, they will overheat and wear rapidly. An adjustment that is excessively loose can cause pounding and contribute to uneven tire wear, steering difficulties and inefficient brakes. The bearing adjustment should be checked at regular inspection intervals.**

CLEANING AND INSPECTION

WHEELS

Wheel stud nuts should be inspected and tightened twice within the first 500 miles of operation. After the first 1000 miles of operation, they should again be inspected and tightened. Loose wheel stud nuts may cause shimmy and vibration. Elongated stud holes in the wheels may also result from the loose stud nuts.

Keep the wheels and hubs clean. Stones or lumps of mud wedged between the wheel and drum will unbalance a wheel and tire.

Check for damage that would affect the runout of the wheels. Wobble or shimmy caused by a damaged wheel will eventually damage the wheel bearings and cause uneven tire wear. Inspect the wheel rims for dents that could permit air to leak from the tires.

TIRES

The tires should be checked frequently to be sure that the air pressures agree with those specified for the tires and vehicle model. Inspect the tire tread, and remove all stones, nails, glass or other objects that may be wedged in the tread. Check for holes or cuts that may permit air leakage from the tire, and make the necessary repairs.

Inspect the tire side walls for cuts, bruises, and other damage. If internal damage is suspected, demount the tire from the wheel for further inspection, repair or replacement.

Check the tire valve for air leaks, and replace the valve if necessary. Replace any missing valve caps.

On F-100, -250, -350, Econoline and Bronco models, it is important that all wheels be balanced. Fig. 10 describes common tire wear conditions.

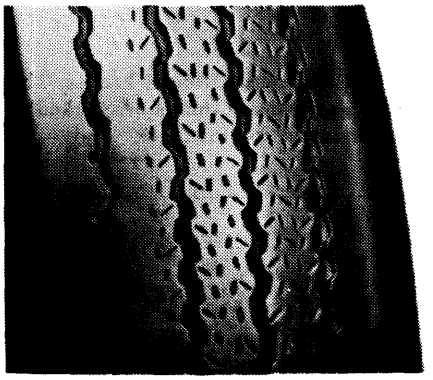
FRONT WHEEL BEARINGS

Wheel bearings are adjustable, to correct for bearing and shoulder wear of the spindle. Satisfactory operation and long life of bearings depend on proper adjustment and correct lubrication. **If bearings are adjusted too tightly, they will overheat and wear rapidly. An adjustment that is excessively loose can cause pounding and contribute to uneven tire wear, steering difficulties and inefficient brakes. The bearing adjustment should be checked at regular inspection intervals.**

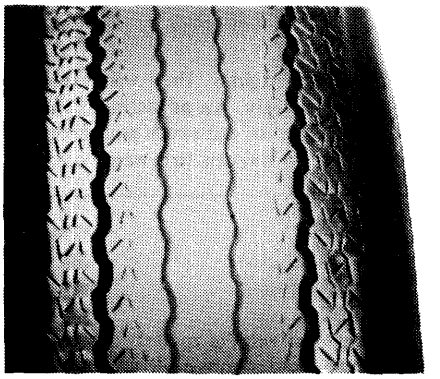
Front hub assemblies and bearings should be cleaned, inspected and lubricated whenever the hub assemblies are removed or at the mileage/time periods indicated in the maintenance schedule.

New hub assembly grease seals should be installed when the hub is removed. A damaged or worn seal may permit bearing lubricant to reach the brake linings, resulting in ineffective brake operation and necessitating premature replacement of linings.

Bearing adjustment is described in Part 11-10 for front wheels. Part 11-12 covers front drive bearing adjustment. Parts 11-11 and 11-14 cover rear wheel bearing adjustments.

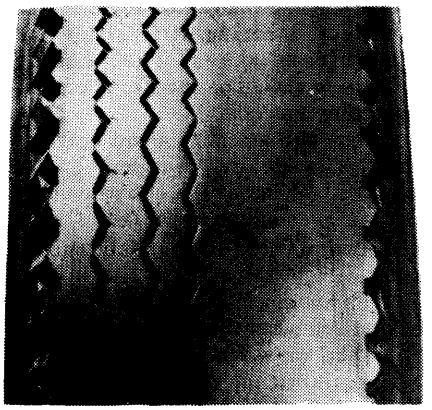


UNDERINFLATION

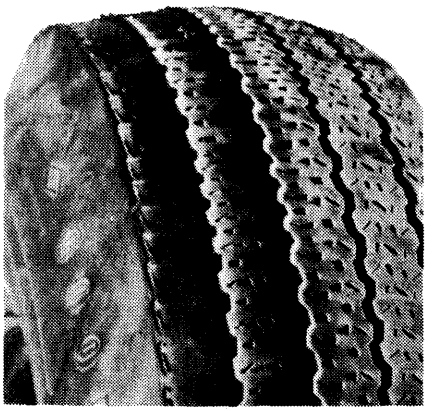


OVERINFLATION

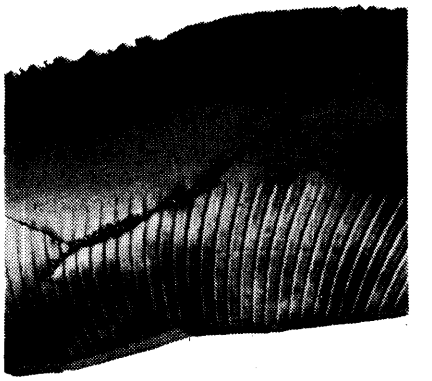
CUPPING–UNDERINFLATION AND/OR MECHANICAL IRREGULARITIES



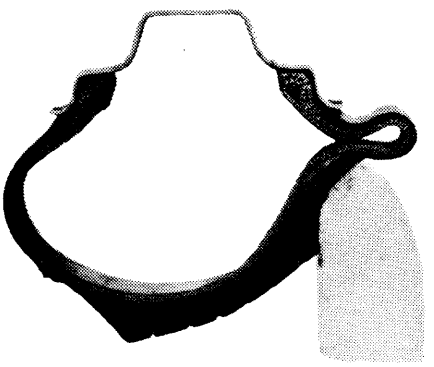
INCORRECT TOE-IN OR EXTREME CAMBER



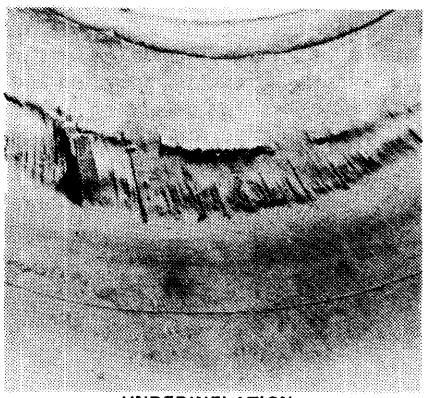
FEATHERING DUE TO MISALIGNMENT OR SEVERE CORNERING



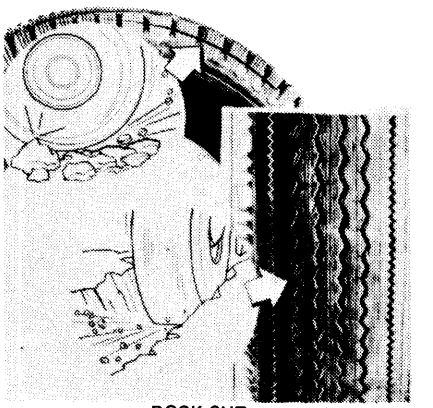
STONE BRUISE



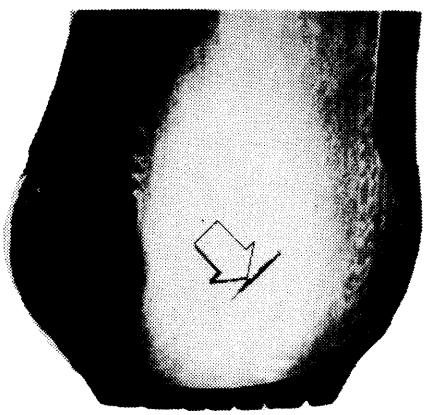
STONE BRUISE



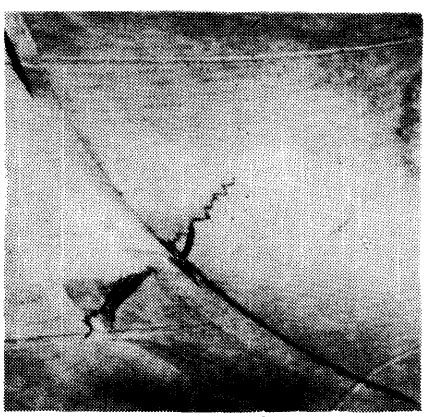
UNDERINFLATION



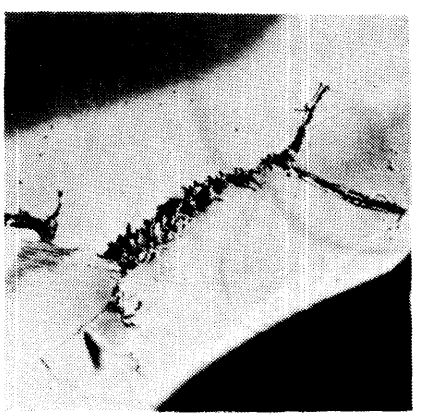
ROCK CUT



BRUISE



HEAT BRUISE



DOUBLEBRUISE–SHARP OBJECT AND RESULTING FATIGUE F1467-D

FIG. 10 Tire Wear Conditions

Wheels and Tires — Drop-Center Rim

PART 11-02

APPLIES TO BRONCO, E-100-E-350, F-100-F-350, P-500, AND MEDIUM TRUCKS

SUBJECT	PAGE
DESCRIPTION	
Front Wheel Assembly	02-1
Front Wheel Assembly — Four Wheel Drive	02-1
Rear Wheel Assembly	02-1
REMOVAL AND INSTALLATION	
Tire Replacement Precautions	02-2
Wheel Replacement	
Light Vehicles	02-1
Medium Vehicles	02-2
SPECIFICATIONS	02-2

DESCRIPTION

FRONT WHEEL ASSEMBLY

Each front wheel and tire assembly is bolted to its respective front hub and brake drum or rotor assembly. Two opposed tapered roller bearings are installed in each hub (Fig. 1). A grease retainer is installed at the inner end of the hub to prevent lubricant from leaking. The entire assembly is retained on its spindle by the lock nut and/or adjusting nut and cotter pin.

FRONT WHEEL ASSEMBLY—FOUR-WHEEL DRIVE

The front axles used on 4-wheel drive models are described in Parts 15-30, 15-32 and 15-33 of this manual. The locking hub assemblies are described in Part 11-12.

REAR WHEEL ASSEMBLY

Information on rear wheels may be found in Group 11, Parts 11 and 14.

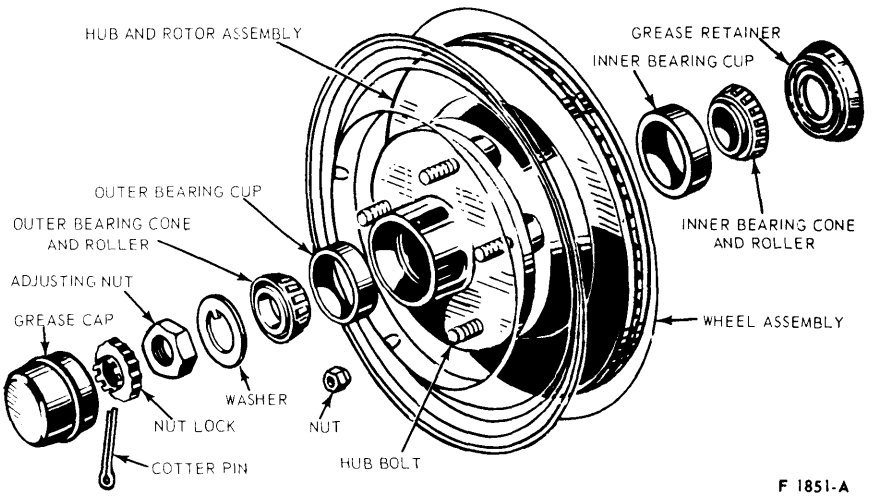


FIG. 1 Front Hub, Bearings and Grease Retainer—Disc Brakes—F100-F350, E100-E350

REMOVAL AND INSTALLATION

WHEEL REPLACEMENT

Light Vehicles

Removal

1. Pry off the hub cap or wheel cover (if the vehicle is so equipped), and loosen but do not remove the wheel stud nuts.
2. Raise the vehicle until the wheel and tire clear the floor. When installing the hub cap, notice the wheel hubs. The hub cap should be positioned on the wheel over one of the retaining nubs and the two locating nubs. Be sure that the lip of the hub cap is firmly seated in the groove of the retaining nub, and then force the cap over the other retaining nub. **Any other procedure necessitates heavy pounding with possible damage to the hub cap.**
3. Remove the wheel stud nuts and the wheel and tire from the hub and drum assembly, or the hub and rotor assembly.

Installation

1. Clean all dirt from the hub and rotor assembly. The replacement wheel and tire must be clean.
2. Position the wheel and tire on the hub and rotor assembly, and install the

wheel stud nuts. Tighten the stud nuts enough to hold the wheel firmly in place. **Always tighten alternate nuts to draw the wheel evenly against the hub and drum (or hub and rotor).**

On dual wheels, except E-350 and F-350 be sure to back off the outer nut before tightening the inner nut. Then tighten the outer nut. E-350 and F-350 dual wheels have mounting bolt holes which are alternately flared inward and outward. These surfaces must be mated when the wheels are mounted. Fig. 2 illustrates the dual wheel radial alignment locating pin used on E-350 and F-350.

3. Lower the vehicle to the floor, and tighten the wheel stud nuts to the specified torque. **On a new vehicle, and each time a wheel and tire is installed, the wheel nuts should be tightened to specification and rechecked at 500 miles.**

Medium Vehicles

Removal

1. Loosen but do not remove the wheel stud nuts.
2. Raise the vehicle until the wheel and tire clear the floor.
3. Remove the wheel stud nuts and the wheel and tire from the hub and drum.

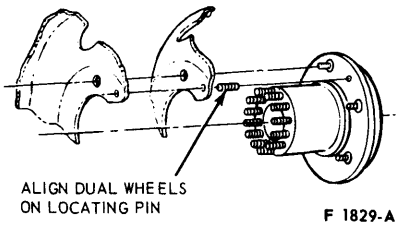


FIG. 2 Dual Wheel Radial Alignment to Hub (E-350, F-350)

Installation

1. Clean all dirt from the hub and drum. The replacement wheel and tire must be clean.
2. Position the wheel and tire on the hub and drum, and install the wheel stud nuts. Tighten the stud nuts enough to hold the wheel firmly in place. **Always tighten alternate nuts to draw the wheel evenly against the hub and drum.**

   On dual wheels, be sure to back off the outer nut before tightening the inner nut. Then tighten the outer nut.
3. Lower vehicle to the floor, and tighten the wheel stud nuts to the specifications. **On a new vehicle, and each time a wheel and tire is installed, the wheel nuts should be checked for tightness.**

TIRE REPLACEMENT PRECAUTIONS

The tire must be completely deflated before removal, and the bead must not be damaged by a tire iron.

After installation, a tube tire should be inflated to recommended pressure, deflated, and then inflated again to insure that the tube is not folded inside the tire. Be sure the tube flap is properly positioned before inflating the tire. **On F-100, -250, -350, Econoline, and Bronco series, it is important that each front and rear tire and wheel be balanced.**

When installing tires on F-100/350, and E-100/350 vehicles, thoroughly lubricate the tire beads. Inflate the tire until both bead seats against the rim of the wheel, then deflate to the specified "Tire Inflation Pressures" shown in the 1977 Truck Owners Manual for each vehicle series. To seat the tire beads, the initial inflation for passenger-type tires is 45 psi maximum; for truck-type tubeless tires, 60 psi maximum; for truck-type tube tires 80 psi maximum. Follow the instructions supplied with the Rotunda (35-002, 35-0010 or equivalent) tire changer. Refer to Part 11-01 for diagnosis and testing procedures, safety procedures and illustrations.

SPECIFICATIONS

WHEEL TORQUE LIMITS – F-100 THRU F-350, ECONOLINE, BRONCO, P-500

Model	Nut Size	Ft-Lb
E-100, E150 F-100, F-150 (4 x 4), U-100 (Std. Wheel) F-250 (4 x 2 and 4 x 4)	1/2-20	90
F-350, E-350	9/16-18	135
E-350 E-250 E-350 S/R E-350 D/R	 1/2-20 9/16-18 9/16-18	 135 135 210

Model	Nut Size	Ft-Lb
E-350, F-350, (W/Dual Wheels)① (and 7400 lb Axle)②	9/16-18	210
P-500	3/4-16 or 1-1/8-16	450

① E-350, F-250 and F-350 Single Rear Wheel Lug Nuts are Black in Color.

② E-350, F-350, Dual Rear Wheel Lug Nuts are Zinc Plate in Color.
The Lug Nuts Should not be mixed. The Dual Wheel Lug Nuts are Left Handed Threads for Left Rear Wheels Only.

CF1804-E

Wheels and Tires — Two-Piece Rims

PART 11-03

APPLIES TO F-250, F-350 VEHICLES

SUBJECT	PAGE	SUBJECT	PAGE
DESCRIPTION	03-1	Tire Removal and Mounting (Cont'd)	
REMOVAL AND INSTALLATION		Two-Piece Semi-Drop Center Rims	03-2
Tire Removal and Mounting Two-Piece Rims	03-1		

DESCRIPTION

Two-piece rims are used on disc and cast wheels with tube-type tires only.

Refer to Part 11-01 for diagnosis and testing procedures, safety procedures and illustrations.

REMOVAL AND INSTALLATION

The tire must be completely deflated before removal, and the bead must not be damaged by a tire iron.

After installation, a tube tire should be inflated to recommended pressure, deflated, and then inflated again to insure that the tube is not folded inside the tire. Be sure the tube flap is properly positioned before inflating the tire.

It is recommended that tire-changing equipment be used in changing all truck tires. See Safety Precautions in Part 11-01.

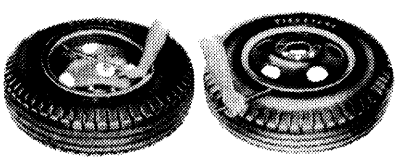
TIRE REMOVAL AND MOUNTING—TWO-PIECE RIM

Removing Tire from Wheel

If no tire-changing machine is available, remove tire as detailed in following Steps.

1. First, remove valve core and completely deflate the tire. Then, place the wheel (ring side up) on the floor. Insert the hook end of the rim tool between the ring flange and the tire and press downward on bead. Continuing around the ring, pry the tire off the tapered seat of the ring (Fig. 1).
2. To remove the ring, insert the straight end of the rim tool into the notch, and force ring opposite the notch down with foot, and pry off. Be careful not to bend side ring.
3. Force upper tire bead into well opposite the valve slot and with tire tool pry opposite portion of bead over edge of rim.
4. Stand assembly in vertical position. Lubricate second bead. At top of assembly insert straight end of tool between bead and back flange of rim at about a 45 degree angle. Turn tool so that it is perpendicular to rim. Pry second bead off.
5. Turn tire over. With rim tools, loosen bead on opposite bead seat. This can be further aided by using foot pressure.

   Make sure one portion of second bead is still in the rim well, then pry opposite portion of bead over edge of rim. This will free the tire from the rim.

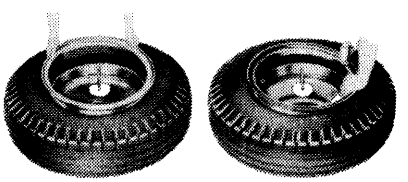


F1460-B

FIG. 1 Removing Rim and Removing Tire—Two-Piece Rim

Mounting Tire to Wheel

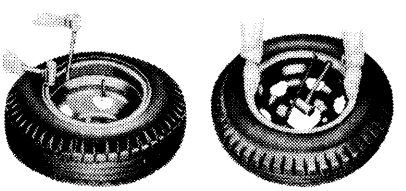
1. Place tire on rim so that valve is in line with rim slot and insert valve through the slot (Fig. 2). Force first bead down into well of rim just to side of valve. Mount first bead over rim lip with rim tool, progressing around the tire.



F1027-B

FIG. 2 Positioning and Starting Ring—Two-Piece Rim

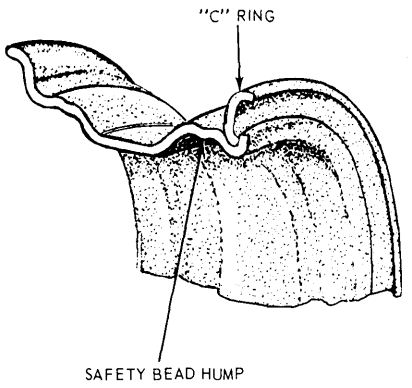
2. To apply second bead, start at point opposite valve and press tire bead over rim lip and into rim well (Fig. 3). Mount remainder of bead over rim lip by means of thin tire tool, being careful not to pinch tube. If necessary, insert second tire tool and lubricate last 6 inches of bead before completing mounting.



F1028-B

FIG. 3 Installing and Checking Ring—Two-Piece Rim

3. Place half of side ring under the rim lip with cutaway portions in position as shown. Insert thin end of rim tool or heavy screwdriver and pull ring



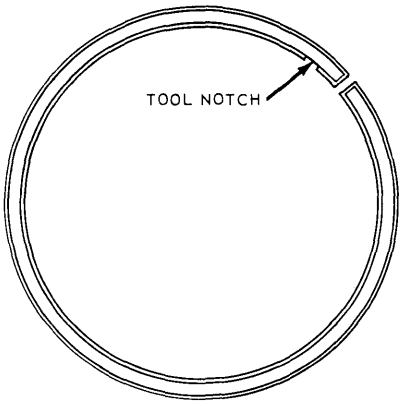


FIG. 4 Two-Piece Split Ring—Light Truck

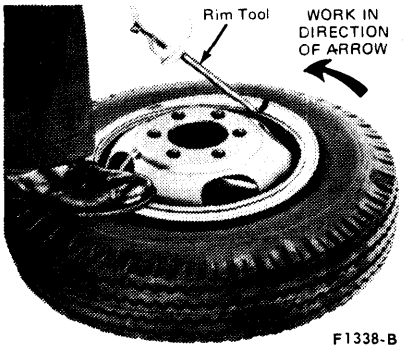


FIG. 6 Removing Split Ring

outward toward centered position. Strike with mallet to start ring over rim lip, then strike remaining portion to force it over rim lip.

TIRE REMOVAL AND MOUNTING—TWO-PIECE SEMI-DROP CENTER RIM—F250-F350

Recent developments make possible the removal and mounting of tires from this type of wheel-rim combination with mechanical tire-changing equipment. If available, follow instructions of equipment manufacturer. Otherwise, use the following instructions.

This two-piece wheel uses a split C-type ring, as shown in Fig. 4.

Removal of Side Ring from Rim with Tire

1. Deflate tire completely and place the wheel (ring side up) on the floor.
2. Break the tire bead free from the rim, being careful not to damage the bead (Fig. 5).
3. Insert the straight end of the rim tool into and under the notch in the ring (Fig. 6).
4. Force the tool downward to disengage the ring from the rim gutter. Work the tool around the rim, freeing the ring from the rim, and remove the ring.
5. Turn the wheel over and loosen the opposite tire bead from the rim by driving the hook end of the rim tool between the rim flange and the tire bead. Pry the tire bead away from the taper, and remove the tire from the rim (Fig. 7).

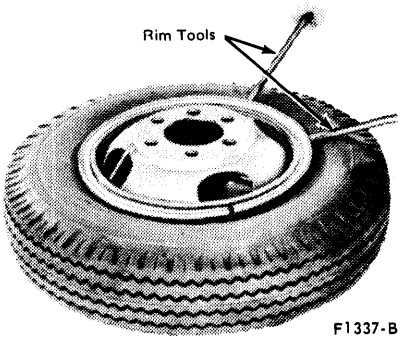


FIG. 5 Loosening Tire Bead

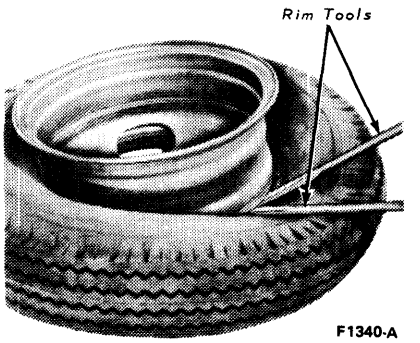


FIG. 7 Removing Tire From Rim

Mounting Tire to Wheel

1. Position the tube in the tire and place the wheel (gutter side up) on the floor. Soap both beads of the tire and position the tire on the rim. It is important that the tire be soaped well as it must be forced over the safety bead hump and the rim edge (Fig. 8).
2. Position the ring with the notch about 3 inches from the valve stem.
3. Insert the rim tool under the ring at a position approximately 180 degrees from the notch and pry tire onto rim. Work the remaining section of rim over the gutter with a second tool.
4. Make certain that the ring is entirely seated in the gutter. If the ring is not seated correctly as described, it may be forced off violently, either during inflation or when the vehicle is operated.

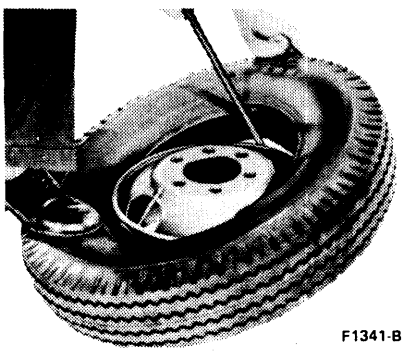


FIG. 8 Installing First Tire Bead on Wheel

5. After installation, inflate the tire and tube to 80 psi maximum to snap the tire beads over the bead hump and fully seat the tire against the rim and lock ring. Deflate the tire, then reinflate it to recommended pressure to insure that the tube is not folded inside the tire. Be sure the tube flap is properly positioned before inflating the tire. **Always use a cage or safety chain during initial inflation.**

Wheels and Tires — Three-Piece Rims

PART 11-04

APPLIES TO ALL 500-9000 SERIES VEHICLES

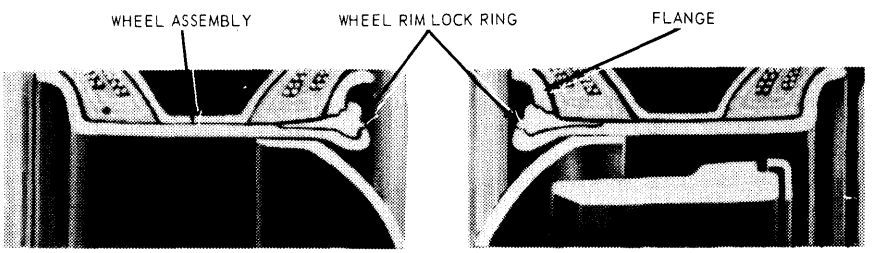
SUBJECT	PAGE	SUBJECT	PAGE
DESCRIPTION	04-1	Tire Removal and Mounting (Cont'd)	
REMOVAL AND INSTALLATION		Three-Piece Rims	04-1
Tire Removal and Mounting			
Cast Wheels	04-2		

CF2463-A

DESCRIPTION

Three-piece rims are used on disc and cast wheels. Fig. 1 shows a dual wheel sectional view.

Demountable rims for cast-spoke wheels are secured by a ramp at the back edge of each spoke, together with a lug retained by a stud and nut at the edge of each spoke. Refer to Part 11-01 for diagnosis and testing procedures, safety procedures and illustrations.



F1806-A

FIG. 1 Three-Piece Rim—Dual Wheel Sectional View

REMOVAL AND INSTALLATION

The tire must be completely deflated before removal, and the bead must not be damaged by a tire iron.

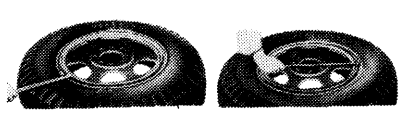
After installation, a tube tire should be inflated to recommended pressure, deflated, and then inflated again to insure that the tube is not folded inside the tire. Be sure the tube flap is properly positioned before inflating the tire.

TIRE REMOVAL AND MOUNTING—THREE-PIECE RIM

Tire mounting procedures are the same for disc wheels and for cast wheels equipped with the three-piece rims. However, cast wheels require special final centering and runout adjustment.

Removing Tire from Wheel

1. Place the wheel and deflated tire on the floor, with the ring up.
2. Insert the straight end of the rim tool in the locking ring depression and loosen the tire bead by pressing down on the side ring (Fig. 2).
3. Insert the straight end of the rim tool in the notch provided in the locking ring, and pry the locking ring out of the gutter (Fig. 2).
4. Lift out the locking ring, and remove the slide ring (Fig. 3).



F1461-A

FIG. 2 Loosening Tire Bead and Locking Ring—Three-Ring Rim

F1462-A

FIG. 3 Removing Locking Ring and Positioning Locking Ring—Three-Piece Rim

5. Turn the wheel over and loosen the tire bead from the rim by driving the hooked end of the rim tool between the rim flange and the tire bead.
6. Pry the tire bead away from the taper all around the rim until tire is free and remove the tire.

Mounting Tire to Wheel

1. Position the wheel (gutter side up) on the floor. Soap both beads of the tire and position the tire on the rim.
2. Position the solid side ring on the tire and insert the tapered toe of the split locking ring between the rim and the side ring (Fig. 3).
3. Using a soft hammer, drive the locking ring into place (Fig. 4). Start at one end of the split ring and progressively drive the ring into the gutter until the entire ring is seated (Fig. 4).

The ring must be entirely seated around the entire circumference of the rim. The split ends must be engaged in the gutter, or the ring will be forced off

violently during inflation or when vehicle is driven. When inflating the tire do not stand in front of the ring. See Safety Precautions in Part 11-01.

TIRE REMOVAL AND MOUNTING—CAST WHEELS

Removal

1. To remove the rim and tire from a cast wheel, apply the parking brake, and block at least one wheel. Raise the vehicle and remove the rim clamps.
2. With dual rear wheels, lift off the outer rim and tire, remove the spacer rim, and the inside rim and tire assembly.

Installation

1. To install the tire and rim on a dual wheel, place the inner tire and wheel on the wheel hub. The rim must ride high enough up on the tapered retainer flange of the inner section of the wheel to prevent the assembly from sliding down on the tapered surface.
2. Position the spacer between the inner and outer rim.
3. Place the outer rim and tire assembly on the wheel, and install the clamps (Fig. 5).

F1463-A

FIG. 4 Starting Locking Ring and Locking Ring Installed—Three-Piece Rim

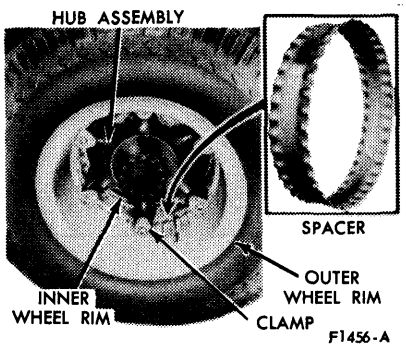
4. Tighten the top clamp until the spacer pushes the inner rim onto the tapered surface of the wheel inner section.
5. Tighten the bottom clamp to help center the rim on the wheel.
6. Tighten the remaining clamps alternately and evenly, and tighten all wheel nuts to specification.

NOTE: The recommended procedure for tightening five spoke cast wheels is by "triangulation" as shown in Fig. 6. Turn nut number 1 until snug, then rotate the wheel and rim assembly until nut number 3 is at the top position. Turn the nut until snug. Rotate the wheel and rim assembly until nut number 4 is at the top postion and turn the nut until snug. Since the entire weight of the wheel and rim assembly is on the top spoke position, this procedure allows equal application of force against three points of the rim for proper alignment. Repeat the triangle procedure, tightening each nut to the recommended specifications. Tighten the remaining nuts (2 and 5) to specifications.

See the manufacturers recommendations for tightening procedures for six spoke wheels and three spoke single or double clamp wheels.

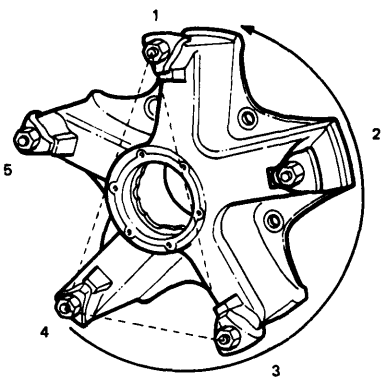
After 50-100 miles of operation, the nuts should again be tightened to specifications and thereafter periodically inspected and tightened.

Lateral or side runout should not exceed 1/8-inch for the front rims and 1/4-inch for the dual rear rims. **Lateral or side runout must be checked at the outer bead surface of the wheel.**



F1456-A

FIG. 5 Three-Piece Rim Installed on Cast Wheel



F2462-A

FIG. 6 Five Spoke Cast Wheel Nut Tightening Procedure

Wheels, Hubs and Bearings — Front (Except Front Drive)

PART 11-10

APPLIES TO ALL MODELS

SUBJECT	PAGE
DESCRIPTION	
Front Wheel Assembly	10-1
ADJUSTMENTS	
Front Wheel Bearing	
All Medium, Heavy and Extra Heavy Trucks	10-4
Double Nut with Double Washer (12000 — Pound Center Point Axle)	10-4
Double Nut with Lock Ring 9000 and 12000 Pound Front Axle	10-4
15000 Pound Front Axle	10-4
Single Nut with Cotter Pin 5000-7000 Pound Front Axle	10-4
16000, 18000 and 20000 Pound Front Axle	10-4
F-100 — F-350 (4x2) and E-100 — E-350	10-4
P-500	10-4
REMOVAL AND INSTALLATION	
Disc Brakes	
Medium, Heavy and Extra Heavy Vehicles	10-5
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Medium, Heavy, Extra Heavy Vehicles	10-6
SPECIFICATIONS	10-8

DESCRIPTION

FRONT WHEEL ASSEMBLY

Each front wheel and tire assembly is bolted to its respective front hub and brake drum or rotor assembly. Two opposed tapered roller bearings are installed in each hub, Figs. 1 and 2. A grease retainer is installed at the inner end of the hub to prevent lubricant from leaking into the drum or onto the rotor. The entire assembly is retained to its spindle by the lock nut and/or adjusting nut and cotter pin, or an adjusting nut and lock nut combination.

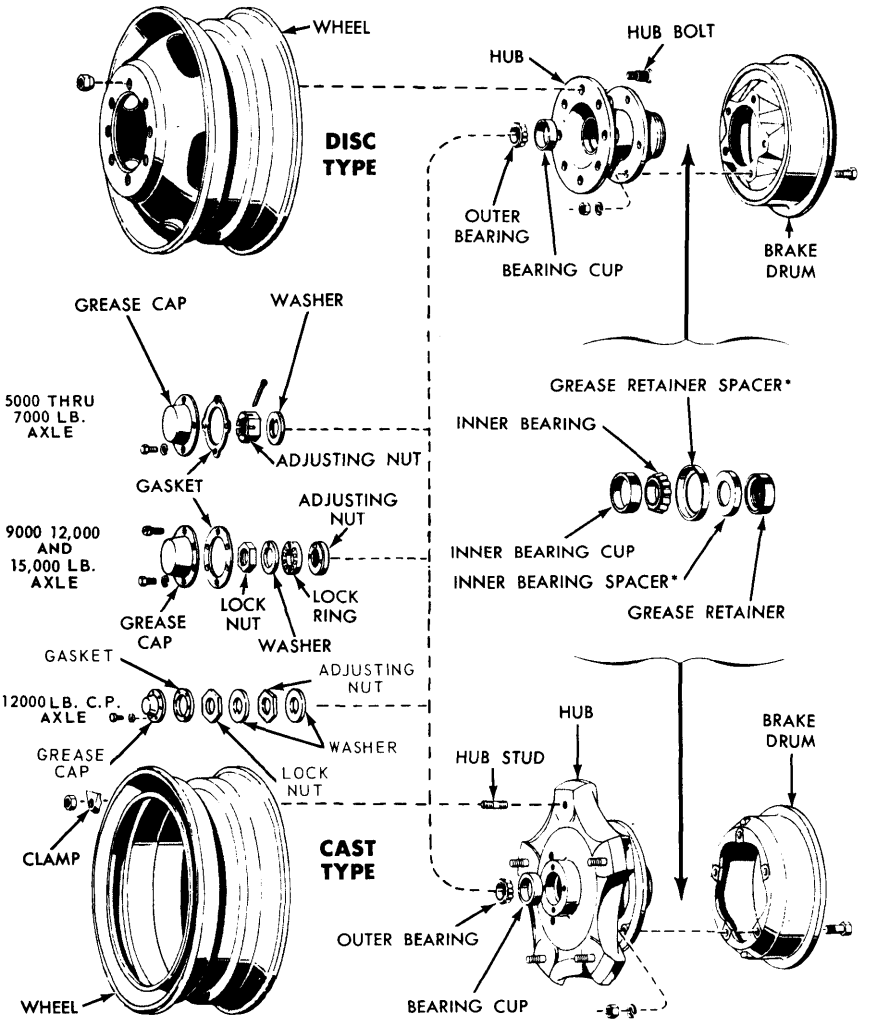

FIG. 1 Typical Front Hubs and Bearings

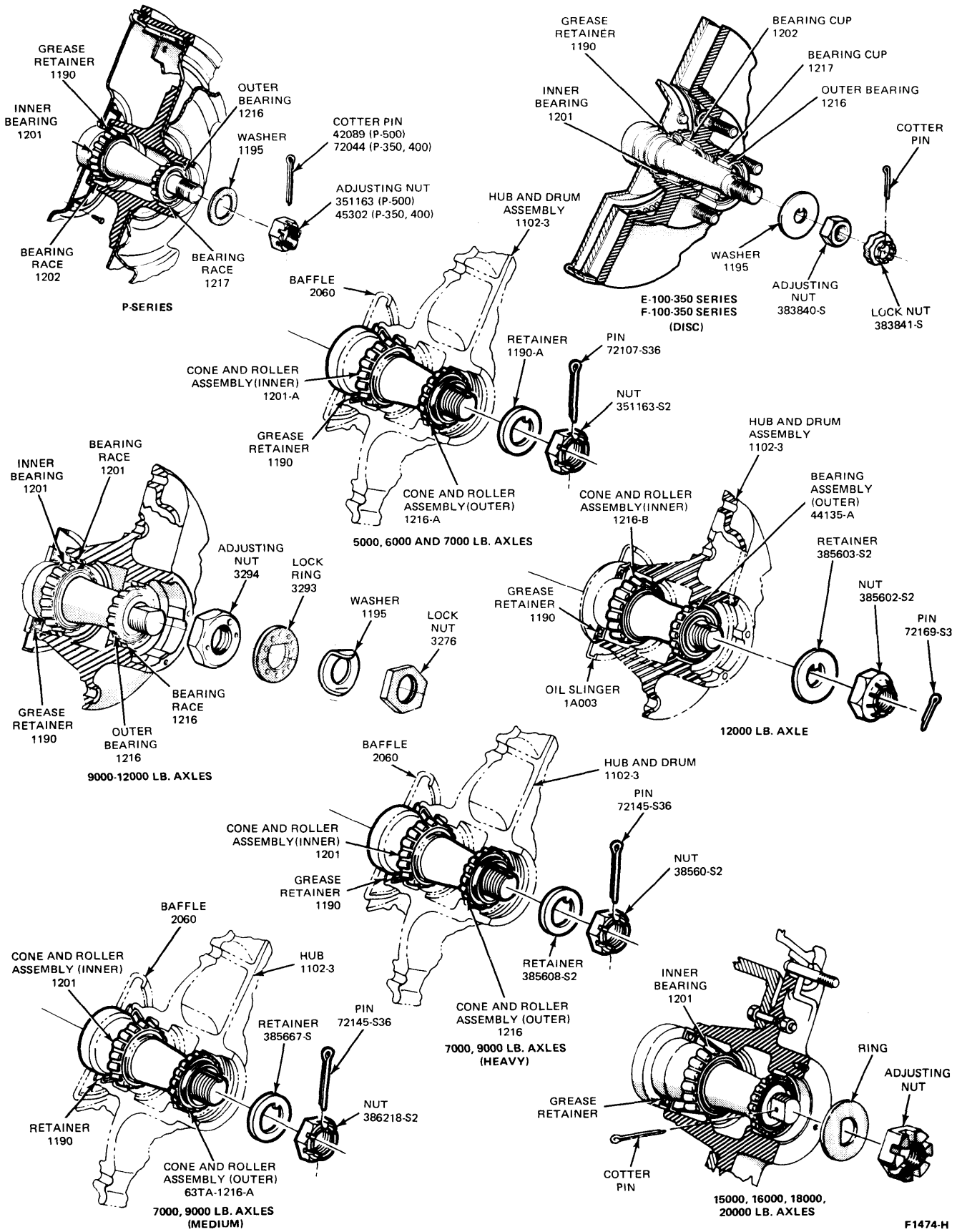

FIG. 2 Front Hubs, Bearings and Grease Retainers

ADJUSTMENTS

FRONT WHEEL BEARING ADJUSTMENT

To check the wheel bearing adjustment, raise the front of the vehicle. Then, grasp the tire at the sides, and alternately push inward and pull outward on the tire. If any looseness is felt, adjust the front wheel bearings.

F100-F350 (4x2) AND E100-E350

1. Remove the hub cap or wheel cover, wheel and tire assembly, disc brake caliper and pads, (refer to Part 12-24), dustcap, retainer and cotter pin.
2. Tighten wheel retention nut to 22-25 ft-lbs while rotating the disc brake rotor in the opposite direction.
3. Back off the wheel retention nut 1/4 turn and install retainer and cotter pin without additional movement of wheel nut.
4. Re-install dustcap, caliper, pads and wheel and tire assembly.

P-500

1. Remove hub cap, if so equipped, and remove grease cap from hub.
2. Remove any excess grease from the end of the spindle and remove the adjusting nut cotter pin.
3. While rotating the wheel, tighten the adjusting nut, (see Fig. 2), to 40-50 ft-lb to seat the bearings.
4. If necessary, back off the adjusting nut to the next slot so nut aligns with the cotter pin hole. Then, back off the adjusting nut two slots and install the cotter pin.
5. Check the front wheel rotation. If the wheel rotates freely with no noticeable end play, install the grease cap. If the wheel is still loose, or if it rotates roughly or noisily, the bearing cones, rollers and cups are dirty or worn and should be cleaned or replaced.
6. Install the hub cap, if so equipped.

ALL MEDIUM, HEAVY AND EXTRA-HEAVY TRUCKS

Single Nut with Cotter Pin (5000-7000 Pound Front Axles)

1. While rotating the wheel, torque the adjusting nut, 70 to 100 ft-lb, to seat the bearings.
2. Back off the adjusting nut 180 degrees (one half turn).
3. Hand tighten the adjusting nut finger tight (13 to 17 in-lb) while moving the top part of the tire in and out.
4. If the cotter pin hole lines up with a slot in the nut, insert and secure a new cotter pin. If it does not, back off the adjusting nut to align a slot with the first available cotter pin hole. Final bearing adjustment must provide .001 to 010-inch end play.
5. Install the gasket and grease cap and adjust the brakes. **The final adjustment must not result in a preloaded bearing.**

Double Nut with Lock Ring (15000-Pound Front Axle)

1. While rotating the wheel in both directions, torque the adjusting nut, 100 to 125 ft-lb to seat the bearings.
2. Back off the adjusting nut one complete turn, Fig. 2.
3. Again, rotate the wheel in both directions, and re-torque the adjusting nut, 40 to 55 ft-lb.
4. Back off the adjusting nut to obtain an initial .004 to .010-inch end play between the wheel hub and spindle.
5. Install the lock ring. Make sure that adjacent nut dowel is inserted into a lock ring hole.
6. Install the washer with the dimple indexed in one of the holes in the lock ring.
7. Install lock nut and tighten, 100 to 125 ft-lb.
8. Re-check the end play. (Final bearing adjustment must allow .001 to .010 end play.) Re-adjust if necessary.
9. Bend the washer outward in two places, on opposite sides of lock nut, to lock the nut in position.
10. Install the gasket and grease cap and adjust the brakes. **The final adjustment must not result in a preloaded bearing.**

Double Nut with Double Washer (12000-Pound Center Point Axle)

1. While rotating the wheel in both directions, tighten the adjusting nut, 100 to 125 ft-lb to seat the bearings.
2. Back off the adjusting nut one complete turn, Fig. 2.
3. Again, while rotating the wheel in both directions, re-tighten the adjusting nut, 40 to 55 ft-lb.
4. Back off the adjusting nut to obtain an initial .004 to .010-inch end play between the hub and spindle.
5. Install the outer washer and lock nut and tighten, 100 to 125 ft-lb.
6. Re-check the end play (final limit .001 to .010 inch). Re-adjust if necessary.
7. Bend the washer outward in two places, on opposite sides of lock nut, to lock the outer nut in position.
8. Install the gasket and grease cap and adjust the brakes. **The final adjustment must not result in a preloaded bearing.**

Single Nut with Cotter Pin (16000-, 18000-and 20000-Pound Front Axle)

1. While rotating the wheel in both directions, tighten the adjusting nut, 100 to 125 ft-lb to seat the bearings.
2. Back off the adjusting nut one complete turn, Fig. 4.
3. Again rotate the wheel in both directions, and re-torque the adjusting nut, 50 to 70 ft-lb.
4. If necessary, back off the adjusting nut to align a slot with the next cotter pin hole.
5. Using the same cotter pin hole as a reference point, back off the adjusting nut to the next slot to allow the wheel to rotate freely within the limits of .001 to .010-inch end play.
6. Insert and secure the cotter pin.
7. Install the gasket and grease cap and adjust the brakes. **The final adjustment must not result in a preloaded bearing.**

Double Nut with Lock Ring (9000-and 12000-Pound Front Axle)

1. While rotating the wheel in both directions, tighten the adjusting nut, 100 to 125 ft-lb to seat the bearing.
2. Back off the adjusting nut one complete turn.
3. Then, again rotate the wheel in both directions, and re-torque the adjusting nut, 50 to 70 ft-lb.
4. Back off the adjusting nut to obtain an initial .004 to .010-inch end play between the hub and spindle.
5. Install the lock ring making sure the adjusting nut dowel is inserted into the lock ring.
6. Install the outer washer, locating dimple in washer in one of the lock ring holes, and install the lock nut. Tighten, 100 to 150 ft-lb.
7. Re-check to make sure the final bearing adjustment allows .001 to .010-inch end play. Re-adjust if necessary.
8. Bend the washer outward in two places, on opposite sides of the lock nut, to lock the outer nut in position.
9. Install the gasket and grease cap and adjust the brakes. **The final adjustment must not result in a preloaded bearing.**

REMOVAL AND INSTALLATION

FRONT WHEEL GREASE SEAL AND BEARING REPLACEMENT AND REPACKING

Wheel bearing lubricant is a lithium-base grease, Ford specification ESA-M1C75-B or equivalent.

Sodium-base grease is not compatible with lithium-base grease and should not be intermixed. Therefore, do not lubricate front and/or rear wheel bearings without first ascertaining the type of original wheel bearing lubricant. Usage of incompatible bearing lubricants could result in premature lubricant breakdown.

If bearing adjustment will not eliminate looseness or rough and noisy operation, the hub and bearings should be cleaned, inspected, and repacked with specified wheel grease. If the bearing cups or the cone and roller assemblies are worn or damaged, they should be replaced.

DRUM BRAKES

P-500

1. Raise the vehicle until the wheel and tire clear the floor. Remove wheel and tire from hub. If drums will not remove easily, back off the brake shoe adjusting screw so that the shoes do not contact the brake drum. Remove grease cap from the hub.
2. Remove the cotter pin, nut lock, adjusting nut and washer from the spindle, Fig. 2.
3. Remove the outer bearing cone and roller. Pull the hub and drum assembly off the wheel spindle. Then, remove and discard the grease retainer. Remove the inner bearing cone and roller from the hub. **Remove all traces of old lubricant from bearings, hubs, and axle spindle.**
4. Inspect the cups for scratches, pits or cracks. If the cups are worn or damaged, remove them with a drift.
5. Clean the inner and outer bearing cones and rollers with solvent and dry thoroughly. **Do not spin the bearings dry with compressed air.**
6. Inspect the cones and rollers for cracks, nicks, brinelling, or seized rollers. Inspect the grease retainer and replace it if it is cracked, nicked, or dented.
7. Cover the spindle with a clean cloth and brush all loose dust and dirt from the brake assembly. **Remove the cloth from the spindle carefully to prevent dirt from falling on the spindle.**
8. Install the inner and outer bearing cups in the hub with T56P-1217-A installing tool, Fig. 3. Be sure to seat the cups properly in the hub. The cups will be properly seated when they are fully bottomed.
9. Pack the inside of the hub with Multi-Purpose Lubricant Ford specification ESA-M1C75-B or equivalent. Fill the hub until the grease is flush with the inside diameters of both bearing cups. Pack the bearing cones and rollers with wheel bearing grease. Use a bearing packer for this operation. If a packer is not available, work as much lubricant as possible between the rollers and cages. Lubricate the cone surfaces with grease.
10. Place the inner bearing cone and roller in the inner cup and install the grease retainer (Fig. 4) with the appropriate driving tool. Be sure that the retainer is fully bottomed.
11. Install the hub and drum on the wheel spindle. **Keep the hub centered on the spindle to prevent damage to the grease retainer or the spindle threads.**
12. Install the outer bearing cone and roller and the flat washer on the spindle, then install the adjusting nut, and adjust the wheel bearing as outlined under Adjustments. Install the adjusting nut lock, cotter pin and grease cap.

DISC BRAKES

F-100—F-350, E-100—E-350

1. Raise the vehicle until the tire clears the floor and remove the wheel and tire assembly from the hub and rotor.
2. Remove the brake caliper, (refer to Part 12-24), and wire it to the underbody to prevent damage to the brake hose. It is not necessary to disconnect the hose from the caliper. Do not let the caliper hang with its weight on the brake hose or the hose may become stretched, twisted or ruptured.
3. Remove the grease cap, cotter pin, retainer, nut and washer.
4. Remove the outer bearing cone and roller.
5. Pull the hub and rotor off the spindle and remove and discard the grease retainer.
6. Remove the inner bearing cone and roller from the hub. Remove all traces of old lubricant from bearings, hub and axle spindle.
7. Inspect the cups for scratches, pits or cracks. If the cups are worn or damaged, remove them with a drift. Clean the inner and outer bearing cones and rollers with solvent and dry thoroughly. **Do not spin the bearings dry with compressed air.**
8. Inspect the cones and rollers for cracks, nicks, brinelling, or seized rollers. Inspect the grease retainer and replace it if it is cracked, nicked, or dented.
9. Cover the spindle with a clean cloth and brush all loose dust and dirt from the brake assembly. **Remove the cloth from the spindle carefully to prevent dirt from falling on the spindle.**
10. If inner or outer bearing cups were removed, install replacement inner and outer bearing cups in the hub with tool T56P-1217-A, (Fig. 3). Be sure to seat the cups properly in the hub. The cups will be properly seated when they are fully bottomed.
11. Pack the inside of the hub with C1AZ-19590-B Multi-Purpose Lubricant or equivalent. Fill the hub until the grease is flush with the inside diameters of both bearing cups. Pack the bearing cones and rollers with wheel bearing grease. Use a bearing packer for this operation. If a packer is not available, work as much lubricant as possible between the rollers and cages. Lubricate the cone surfaces with grease.
12. Place the inner bearing cone and roller in the inner cup and install the new grease retainer with driving tool T37T-1190-B, (Fig. 4). Be sure that the retainer is fully bottomed.
13. Install the hub and rotor on the wheel spindle. **Keep the hub centered on the spindle to prevent damage to the grease retainer or the spindle threads.**
14. Install the outer bearing cone and roller and the flat washer on the spindle, then install the adjusting nut, and adjust the wheel bearing as outlined under Adjustments. Install the grease cap.
15. Install the caliper, (refer to part 12-24).
16. Install the wheel and tire assembly on the hub.
17. Lower the vehicle and tighten the lug nuts to specification. Re-install the wheel cover or hub cap.

MEDIUM, HEAVY AND EXTRA-HEAVY VEHICLES

There are two basic types of hubs, disc and cast, shown in Fig. 1. The basic design of the hub bearings is the same in all hubs, but minor differences in size exist between the various models. The outer bearing attaching parts differ according to front axle weight capacity as indicated in Fig. 1. For further detailed views of hubs, bearings, and grease retainers, see Fig. 2.

1. Raise the vehicle until the tires clear the floor and install safety stands to support the front axle. Remove the grease cap and gasket from the hub.
2. To check the wheel bearing adjustment, alternately push inward and outward on the tire. If there is

any excessive looseness, or if there is no end play, adjust the front wheel bearing.

3. With 5000, 5500, 6000, 7000, 16000, 18000 or 20000-pound capacity front axles, remove the cotter pin, adjusting nut and flat washer from the spindle. Proceed to Step 4.

   With 9000, 12000 or 15000-pound capacity front axles, remove the lock nut, washer, locking ring and the adjusting nut and pin. Proceed to Step 4.

   With a 12000-pound capacity center point front axle, remove the lock nut, inner washer, adjusting nut and outer washer.
4. Inspect the condition of the spindle and nut threads to insure a free running nut when reassembling.
5. Remove the outer bearing cone and roller. Pull the hub and drum assembly off the spindle.
6. Remove the inner bearing and seal using a brass drift. **Be careful not to damage the bearing cage.**
7. Remove all traces of old lubricant from the bearings, hubs and axle spindle. Inspect the cups for pitting, galling or unusual wear. If either cup is worn or damaged, remove it with a brass drift.
8. Clean the inner and outer bearing cones and rollers with solvent and dry them thoroughly. **Do not spin the bearings dry with compressed air.**
9. Inspect the cones and rollers for pitting, galling or unusual wear. Closely inspect the rollers for end wear and flat or rough spots. Replace all worn or damaged assemblies. It is recommended that the cone and roller assemblies and cups be replaced in sets.
10. Replace the grease retainer.
11. Cover the spindle with a clean cloth and brush all loose dust and dirt from the brake assembly. Remove the cloth from the spindle carefully to prevent dirt falling on the spindle.
12. Install the inner and outer bearing cups in the hub with tool T56P-1217-A, (Fig. 5). Check for proper seating of the new bearing cups by trying to insert a 0.0015-inch feeler gauge between the cup and wheel hub, the feeler gauge should not enter.
13. Pack the inside of the hub with lithium-base wheel bearing grease Multi-Purpose lubricant Ford specification EAA-M1C75-B or equivalent. Fill the hub until the grease is flush with the inside diameters of both bearing cups.

    Pack the bearing cones and rollers with wheel bearing grease. Use a bearing packer for this operation. If a packer is not available, work as much lubricant as possible between the rollers and cages. Lubricate the cone surfaces with grease.

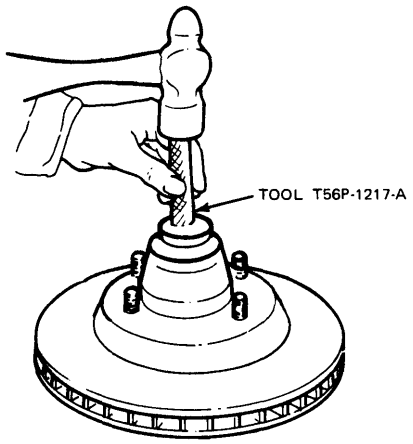

FIG. 3 Installing Bearing Cups

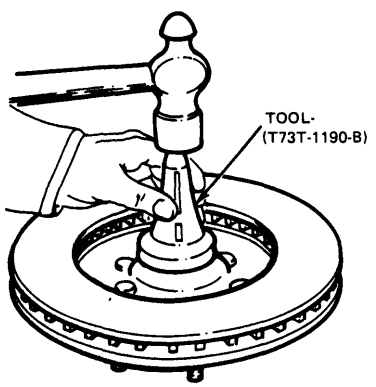

FIG. 4 Installing Grease Retainer

14. Place the inner bearing cone and roller in the inner cup and install the grease retainer with the appropriate tool. Be sure the retainer is fully bottomed.

    On all synthetic-type seals, coat the seal lips with wheel bearing grease such as Multi-Purpose lubricant Ford specification ESA-M1C75-B or equivalent, before installing the hub and drum. On seals not coated on the OD with sealer by the supplier, coat the grease seal bore in the hub with a thin coat of non-hardening sealer prior to installing the grease seal.
15. Install the hub and drum on the wheel spindle. **Keep the hub centered on the spindle to prevent damage to the grease retainer or the spindle threads.**
16. With 5000, 5500, 6000, 7000, 16000, 18000 or 20000-pound capacity front axles, install the outer bearing cone and roller and the flat washer on the spindle. Then, install the adjusting nut.

    With 9000, 12000 and 15000-pound capacity front axles, install the outer bearing cone and roller and the bearing adjusting nut.

    With a 12000-pound capacity center point front axle, install the washer and adjusting nut. Make the final bearing adjustment. See Adjustments, this Part.

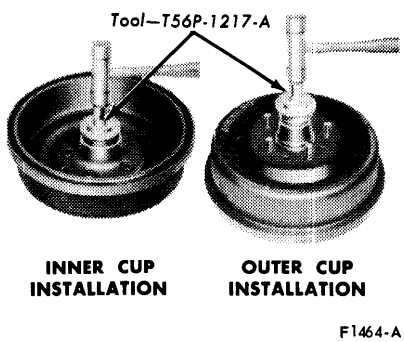

FIG. 5 Installing Bearing Cups

MEDIUM, HEAVY AND EXTRA HEAVY VEHICLES (OIL LUBRICATION)

Stemco Seals and National Seals, available as regular production options, provide sealing where oil is used for bearing lubrication. The tools required for Stemco Seal Installation are only available from the Stemco warehouse. Refer to Specifications for the tooling required. Fig. 6 illustrates a front wheel Stemco Seal Installation.

FRONT HUB SEAL INSTALLATION

Stemco Seals

Clean all parts thoroughly before starting the installation.

1. Oil the spindle and push the axle ring flush against the axle face where applicable.
2. Remove all burrs from the wheel hub bore seal area, and clean again.
3. Pack grease between the spring and the seal lip. This will prevent the spring from dislocating when the seal is installed.
4. Position the seal in the hub bore (Part Number Up). Drive the seal into position using the correct tool. It must be perfectly square with the bore, and bottom evenly.
5. Install the wheel and adjust the bearings. Install the Stemco hub cap.
6. Remove the filler plug and add premium oil Ford specification ESW-M2C105-BSAE 90 or equivalent. Double check the oil level before releasing the vehicle for service. Oil level must be between the oil level line on the hub cap to 1/4-inch above the line.

NATIONAL SEALS

Install (Fig. 7) as follows:

1. Clean all parts, remove rough spots and install axle ring flush against face where applicable.
2. Position the seal into the hub (notice oil side marking) with drive tool and lightly hammer into a press fit.
3. Install the wheel and adjust the bearings the same as for any seal installation. Install the see-through hubcap and the retaining screws.
4. Remove the filler plug and add oil to level on see-through hubcap.

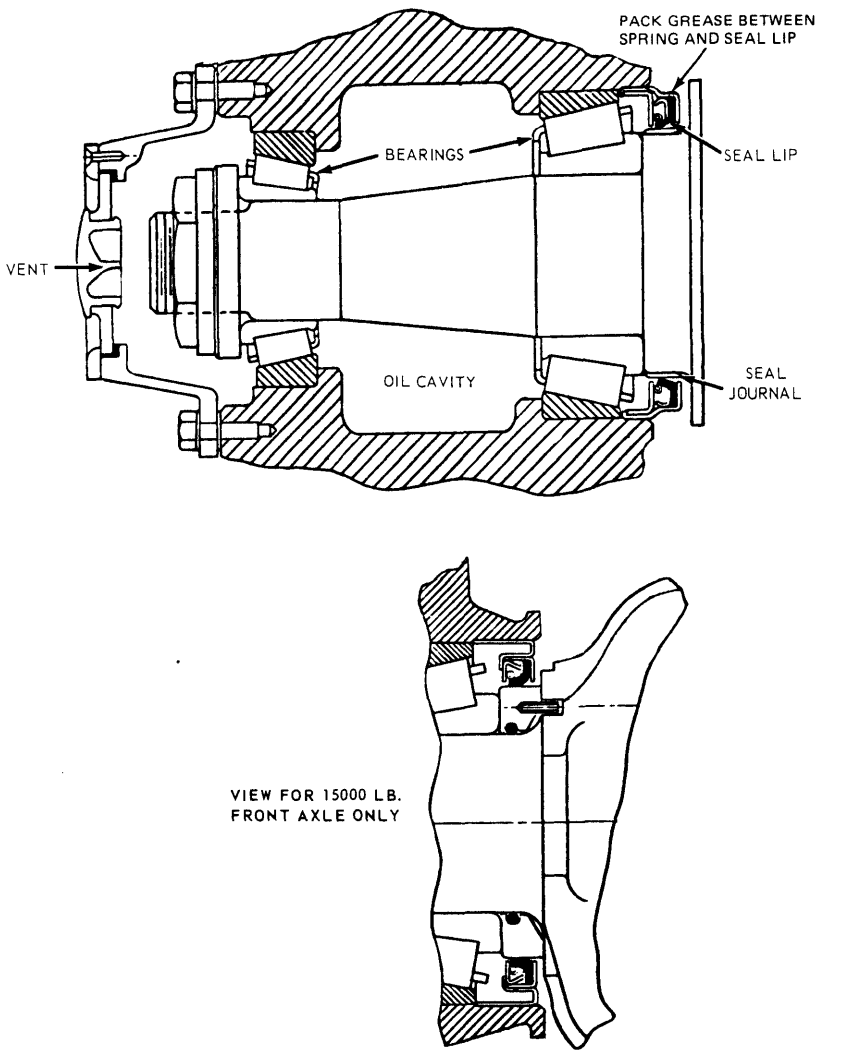

FIG. 6 Front Seal Installation (Stemco)

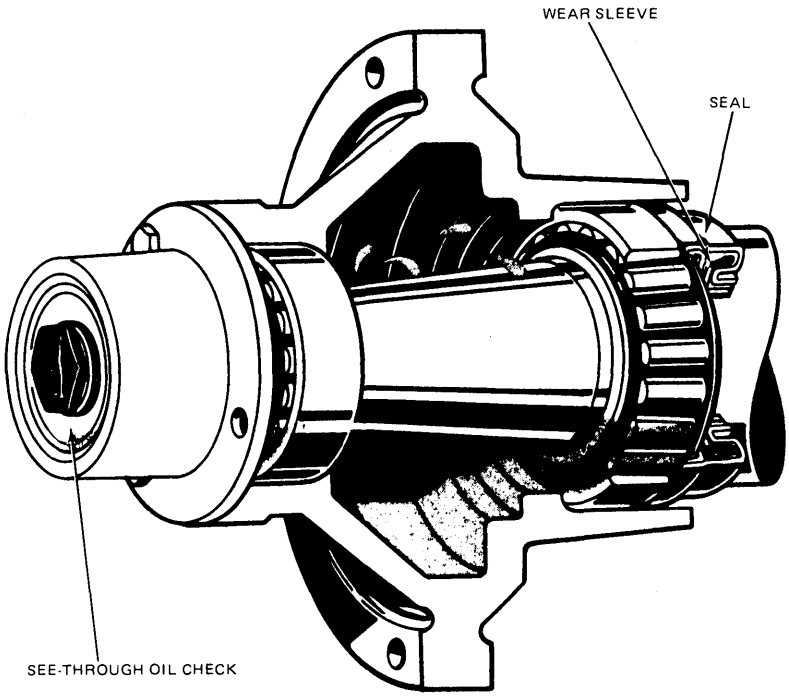

FIG. 7 National Seal Installation

SPECIFICATIONS

WHEEL TORQUE LIMITS—F-100 THRU F-350, ECONOLINE, BRONCO, P-SERIES

Model	Nut Size	Ft-Lb
E-100, E-150	1/2-20	90
F-100 (4 x 4), U-100 (Std. Wheel) F-250-250 (4 x 4)		90
E-250 (Std. Wheel) (W/Single Rear Wheels)	1/2-20	135
F-350, E-350	9/16-18	135
F-350, (W/Dual Wheels and 7400-lb. Axle)	9/16-18	210
E-350 (W/Dual Rear Wheels)	9/16-18	210

WHEEL TORQUE LIMITS—500 THRU 9000 SERIES

Description	Nut Size	Ft-Lb
Disc Wheel Nut	All	400-500
Cast Wheel Rim Nut	3/4-10	220-260

SPECIAL SERVICE TOOLS

Tool No.	Description
T-59T-1197-B	Front Wheel Bearing Adjustment Spanner Wrench
Tool 1175-AB	Grease Seal Remover Head
T50T-100-A	Impact Slide Hammer
T56P-1217-A	Front Hub Bearing Cup Replacer
T73T-1190-B	Shielded Grease Seal Installer

SPECIAL SERVICE TOOLS—STEMCO

Ford Seal Kit Part No.	Stemco Tool No.	Ford Seal Kit Part Name
DOHZ-1190-A	5064–5351	Kit – Front Hub Grease Retainer and Wiper
DOHZ-1190-B	5061–5062 5066–5353	
DOHZ-1190-C	5067–5398	
DOHC-1190-D	None–5386	
DOHZ-1190-E	5007–5358	
Kits c		

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