



A NAVISTAR COMPANY

WORKStar®

Medium & Heavy Conventional

Body Builder Book
February 2014 Edition
PBB-50100

TABLE OF CONTENTS

Preface	iii
Government Requirements	1
Chassis Diagrams	19
7300 SFA 4x2 with EGR	19
7400 and 7500 SFA 4x2 with EGR	33
7400 and 7500 4x2 with EGR	46
7600 SFA 4x2 with EGR	47
7300 and 7400 SFA 4x4 with EGR	61
7500 SFA 4x4 with EGR	69
7400 SFA 6x4 with EGR	77
7400 6x4 with EGR	89
7500 SFA 6x4 with EGR	91
7500 6x4 with EGR	102
7600 SFA 6x4 with EGR	105
7400 SFA 6x6 with EGR	125
7500 SFA 6x6 with EGR	133
7400 SFA 4x2 with SCR	141
7400 SBA 4x2 with SCR	147
7400 4x2 with SCR	154
7500 SFA 4x2 with SCR	155
7500 SBA 4x2 with SCR	161
7500 4x2 with SCR	168
7600 SFA 4x2 with SCR	169
7600 SBA 4x2 with SCR	172
7600 4x2 with SCR	175
7400 SFA 6x4 with SCR	177
7400 6x4 with SCR	189
7500 SFA 6x4 with SCR	191
7500 6x4 with SCR	202
7400 SFA 6x4 with SCR	205
7400 6x4 with SCR	217
7500 SFA 6x4 with SCR	219
7500 6x4 with SCR	230
7600 SFA 6x4 with SCR	233

7600 SBA & SFA 6x4 with SCR	239
7600 SBA 8x6 with SCR	241
Applications - Models with EGR	245
Applications - Models with SCR	251
Frames	257
Introduction	257
General Frame Recommendations	257
Identification of Frame Rail Material	258
Frame Damage	258
Welding and Reinforcement	259
Corrosion	262
Frame Alignment	262
Repair and Reinforcement Recommended Procedures	264
Bolt and Torque Information	275
Special Service Tools	284
Aftermarket Modifications	287
Wheelbase Alterations	289
Frame Rail Cross-Section Specifications	290
Crossmembers	291
Intermediate Crossmember Locations	293
Intermediate Crossmember Locations (continued)	321
AF Crossmember Locations	340
Frame Drilling Guidelines	346
Frame Drilling Restrictions	347
Maximum Wheelbase Frame Stretching	350
Frame Height Calculation - at Centerline of Front Axle	352
Frame Height Data - Front Suspension	353
Frame Height Calculation - at Centerline of Rear Axle	355
Bump Heights – Rear	356
Single Axle Frame and Bump Height Data – Rear	357
Tandem Axle Frame and Bump Height Data – Rear	359
Frame Height Calculation – At Front and Rear Rail Ends	360
Front Bumper, Tow Hooks and Extensions	361
Tire Carrier	378

Front Axles.....	379	Engine	519
Front Axle Tread	379	Engine Location	519
Brakes.....	381	Engine Port Location (EGR)	520
Air Brake Modifications	381	Engine Port Location (SCR)	522
Brake Restrictions	382	Sen-Dure Water Cooler	528
Antilock Air Brake System Schematic	383	Front Mounting PTO Effects	529
Routing Guidelines	384	Engine Parameters - Fire Pumper	531
Air Operated Auxiliary Attachments	385	Engine Parameters - Loader and Rear Packer	539
Tube Fitting Installation Instructions.....	386	Engine Parameters - Rollback Recovery	547
Removal and Insertion Procedures for Tubing in QC or PTC Fittings	386	Transmission.....	555
Air Brake Tubing	388	Front PTO	555
Inside Cab & Foot Valve Plumbing.....	390	Transmission PTO Data	556
Air ABS ECU (Electrical Control Unit)	391	Transfer Case	559
Air Tank Location - Models with EGR	392	Rear Axles & Suspensions.....	565
Air Tank Location - Models with SCR	401	Rear Axle Tread	565
Air Dryer Location	419	Bracket Locations and Hole Patterns.....	567
Exhaust System (EGR).....	423	Fuel Tanks	649
Guidelines for Aftertreatment Modifications	423	Fuel Tank Location (Single).....	649
Allowable Backpressure Tailpipe Modification Worksheet	428	Fuel Tank Location (Dual)	691
Exhaust System (SCR).....	434	Fuel/Hydraulic Tank Location.....	714
Guidelines for Aftertreatment Modifications	434	Under Cab Step Location	715
Backpressure Data Sheets	440	DEF System and Aftertreatment Information for SCR.....	718
Allowable Backpressure Tailpipe Modification Worksheet	441	Cab	729
Backpressure Test Procedure	444	Air Conditioning System Modifications	729
Exhaust System Aftertreatment	446	Cab Dimensions.....	730
Aftertreatment Diagrams — 7300, 7400 and 7500 with EGR	446	Door Swing Clearance	732
Aftertreatment Diagrams — 4x4 and 6x6 with EGR.....	462	Rear Cab Suspension	733
Aftertreatment Diagrams — Models with SCR	463	Instrument Panel	735
General Exhaust Information	471		
Electrical.....	477		
Battery Box Location - Models with EGR.....	477		
Battery Box Location - Models with SCR	492		
SCR Electrical Circuit Diagrams	502		
Fifth Wheel	505		