



# 2012 Cat<sup>®</sup> Tire Product Guide





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# Introduction

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## ***Cat® Tires***

As a Cat® dealer you understand the true importance of tires to the performance of every machine you sell. That's why we focus on offering a tire line that allows our customers to work efficiently in almost every application.

## ***Caterpillar Quality***

The renowned Caterpillar quality is achieved by ensuring the performance and durability of every component in every piece of equipment. And tires are no exception. You as a Cat dealer understand the challenging conditions and work requirements facing your customers' skid steer loaders, backhoe loaders, wheel loaders, and telehandlers. As the interface between the unpredictable terrain and the machine, you know that tires play a key role in overall productivity for your customers.

They must be stable, yet agile; durable, yet economical. The "Tire Product Guide" shows our expanded line of tires which reflects extensive research and engineering expertise that only Caterpillar and you, our dealers, can deliver to the customer.

## ***Tire Product Guide***

This Tire Product Guide contains the products and technical information related to tires for the skid steer loaders, backhoe loaders, telehandlers, compact wheel loaders, wheel loaders, and integrated toolcarriers.

The General Tire Information section of this manual provides you with enough detailed information to help your customer make an informed decision on which type of tire to purchase. The section starts with a complete list of current Cat tire part numbers and related specifications. That section is followed by application recommendations and shipping weights.

The Tire and Wheel Application by Cat Machine section of the manual provides specific tire specifications and part numbers for Cat machines. This section is further broken down into the machine categories of skid steer loader, backhoe loader, telehandler, compact wheel loader, wheel loader, and integrated toolcarrier.

A Tire and Wheel Application by Competitive Machine section provides you with cross reference information to put Cat tires on competitive machines. Fitting competitive equipment with Cat tires can significantly increase your sales of tires.

Finally, a Tire and Service Literature Information section provides information on Cat service tools and procedures for changing tires. Also included is warranty and related information. If needed, a glossary helps you familiarize yourself with terms and tire and rim design features.



## Tire Specifications

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### Cat® Flexport Tires

#### For Skid Steer Loaders and Wheel Loaders



#### COMFORTABLE, STABLE, DURABLE

The Cat® Flexport™ Tires are designed specifically for your wheel loaders and skid steer loaders. Available in three different tread patterns — construction, smooth-tread and OTR (off the road).

Created with operator comfort in mind, Flexport Tires use a series of elliptical-shaped ports molded through the outer ring of the sidewalls. The ports increase tire flexibility to produce a smoother, more cushioned ride on any surface—from waste and scrap to quarry and glass. The ports won't crush under the weight of a full bucket, and the innovative design also improves machine stability when lifting and carrying.

##### Features & Benefits

- Patented sidewall ports make the ride more comfortable for operators.
- Elliptical ports won't collapse under heavy loads, reducing stress points for longer wear life.
- Greater machine stability when carrying maximum loads.
- Deep tread delivers long wear life and excellent traction—on any surface.
- Tread pattern handles tough terrain, and allows easy, smooth transitions from unimproved to improved surfaces.
- Highest quality rubber compound manufactured to Caterpillar® specifications means durability for longer wear life and a consistent product.
- Puncture-proof design puts an end to fixing flats.
- One-piece tire-and-rim design reduces tire-servicing costs.

# General Tire Information

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## Construction Tread



Flexport Tires' construction tread design is the right choice for maximum performance in your toughest environments. It is designed for smaller machine applications where better traction is required.

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## Smooth – Tread

Cat® Flexport Tires Smooth-Tread design is ideal for special applications where debris is an issue like scrap yards, recycling centers and some waste transfer Stations.





## Off the Road (OTR)

The OTR design has a block pattern that provides a degree of traction in applications where debris is not an issue.

Applications	Flexport™ Construction	Flexport™ Smooth Tread	Flexport™ OTR
Building & Farming	X		X
Demolition	X	X	X
Hammering	X		X
Industrial & Waste	X	X	
Landscaping	X		X
Loading	X		X
Pavement Profiling	X		
Quarry Cleanup		X	X
Recycling		X	X
Scrap Yard		X	X
Transfer Station		X	X



## Cat® Flexport Tires for Skid Steer Loaders

Cat® Flexport tires for Skid Steer Loaders are a 1-piece tire / rim design and are available in directional construction, smooth and OTR tread patterns.

For most applications, the machine width can be customized by altering the placement of the rim on the machine.

Cat Flexport tires are available on both new machines and from your Cat® Dealer as service parts.



## Flexport Tire & Rim Assemblies for Skid Steer Loaders

Machine Application	Flexport Tire Assembly PIN	Tread Design	Flexport Size	Pneumatic Size Equivalent	Tire Assembly Weight (kg)
216B3, 226B3, 242B3	329-6989 <sup>(1)</sup>	Construction	31 x 6 x 10	10 x 16.5	107
216B3, 226B3, 242B3	329-6990	Construction	31 x 6 x 10	10 x 16.5	107
216B3, 226B3, 242B3	345-7585	Smooth	31 x 6 x 10	10 x 16.5	102
236B3, 246C, 252B3, 262C2, 272D	329-6783 <sup>(1)</sup>	Construction	33 x 6 x 11	12 x 16.5	125
236B3, 246C, 252B3, 262C2, 272D	329-6784 <sup>(1)</sup>	Construction	33 x 6 x 11	12 x 16.5	125

<sup>1</sup> Construction tread tires are directional and require different part numbers on the left and right side of the machine to maintain proper tire rotation direction and rim offset. Please verify part numbers before ordering.

# General Tire Information

Machine Application	Flexport Tire Assembly PIN	Tread Design	Flexport Size	Pneumatic Size Equivalent	Tire Assembly Weight (kg)
236B3, 246C, 252B3, 262C2, 272D	329-6785	Smooth	33 x 6 x 11	12 x 16.5	154
236B3, 246C, 252B3, 262C2, 272D	324-3427	OTR	33 x 6 x 11	12 x 16.5	141
272D	324-3428 <sup>(2)</sup>	Construction	36 x 7 x 11.5	14 x 17.5	158
272D	324-3429 <sup>(2)</sup>	Construction	36 x 7 x 11.5	14 x 17.5	158
272D	345-7586	Smooth	36 x 7 x 11.5	14 x 17.5	178

## Flexport Rims for Skid Steer Loaders

		Rim Bolt Pattern			
Flexport Tire Assembly PIN	Rim Part Number	(No. of Holes Dia. Bolt Circle)	Rim Pilot Diameter (mm)	Tire & Rim Assembly to Axle Torque (N*m)	Tire & Rim Assembly Offset (mm)
329-6989, 329-6990, 345-7585	324-3422	8, 17, 203.2	152.5	163 +/- 7	32
329-6783, 329-6784, 329-6785, 324-3437	324-3423	8, 17, 203.2	152.5	163 +/- 7	45
324-3428, 324-3429, 345-7586	324-3424	8, 17, 203.2	152.5	163 +/- 7	74

## Cat® Flexport Tires for Compact Wheel Loaders



Cat® Flexport tires for Compact Wheel Loaders are a 1-piece tire / rim design and are available in directional construction, smooth and OTR tread patterns. Cat Flexport tires are available on both new machines and from your Cat® Dealer as service parts.

## Cat® Flexport Tires for Compact Wheel Loader (Continued)

### Flexport Tire & Rim Assemblies for Compact Wheel Loaders

Machine Application	Flexport Tire Assembly PIN	Tread Design	Flexport Size	Pneumatic Size Equivalent	Tire Assembly Weight (kg)
904B	329-7296 <sup>(2)</sup>	Construction	33 x 6 x 11	12 x 16.5	125
904B	329-7297 <sup>(2)</sup>	Construction	33 x 6 x 11	12 x 16.5	125
904B	329-7298	Smooth	33 x 6 x 11	12 x 16.5	154
904H	329-6091 <sup>(2)</sup>	Construction	33 x 6 x 11	12 x 16.5	125
904H	329-6092 <sup>(2)</sup>	Construction	33 x 6 x 11	12 x 16.5	125
904H	327-8482	OTR	33 x 6 x 11	12 x 16.5	140

<sup>2</sup> Construction tread tires are directional and require different part numbers on the left and right side of the machine to maintain proper tire rotation direction and rim offset. Please verify part numbers before ordering.

# General Tire Information

Machine Application	Flexport Tire Assembly PIN	Tread Design	Flexport Size	Pneumatic Size Equivalent	Tire Assembly Weight (kg)
906H2, 907H2	315-8629 <sup>(3)</sup>	Construction	38 x 7 x 13.5	12.5/80/18	220
906H2, 907H2	315-7844 <sup>(3)</sup>	Construction	38 x 7 x 13.5	12.5/80/18	220
906H2, 907H2	315-7843	OTR	38 x 7 x 13.5	12.5/80/18	231
908H	316-0014 <sup>(3)</sup>	Construction	40 x 7.5 x 13.5	12.5 x 20	246
908H	316-0012 <sup>(3)</sup>	Construction	40 x 7.5 x 13.5	12.5 x 20	246
908H	316-0016	OTR	40 x 7.5 x 13.5	12.5 x 20	255
914G	353-7103	OTR	53.5 x 9 x 16.5	15.5/17.5 x 25	557

## Flexport Rims for Compact Wheel Loaders

Flexport Tire Assembly PIN	Rim Part Number	Rim Bolt Pattern (No. of Holes, Hole Dia. Bolt Circle)	Rim Pilot Diameter (mm)	Tire & Rim Assembly to Axle Torque (N8m)	Tire & Rim Assembly Offset (mm)
329-7296, 329-7297, 329-7298	324-3425	6, 22, 203.2	152.4	520 +/- 70	55
329-6091, 329-6092, 327-8482	327-8481	6, 21.5, 205	161.8	300	16
315-8629, 315-7844, 315-7843	324-0025	8, 21, 275	221	360 +/- 25	48
316-0014, 316-0012, 316-0016	324-0026	8, 21, 275	221	360 +/- 25	40
353-7103	353-7104	8, 26, 200	144	300 +/- 40 & additional 60 +/- 5 degrees	53

## Cat® Flexport Tires for Small Wheel Loaders



Cat® Flexport tires for Small Wheel Loaders are a 2-piece tire / rim design and are available in smooth and OTR tread patterns.

Fitment of a Cat Flexport tire on a Small Wheel Loader requires the use of an adapter plate and hardware as shown.

Cat Flexport tires are available on both new machines and from your Cat® Dealer as service parts.

<sup>3</sup> Construction tread tires are directional and require different part numbers on the left and right side of the machine to maintain proper tire rotation direction and rim offset. Please verify part numbers before ordering.

# General Tire Information

## Flexport Tire & Rim for Small Wheel Loaders

Machine Application <sup>(4)</sup>	Flexport Tire Assembly PIN	Tread Design	Flexport Size	Pneumatic Size Equivalent	Tire, Rim, Adapter and Hardware Assembly Weight
IT18F, 928F, IT28F, 928G, IT28G, 924F, IT24F, 924GZ, 924G, 928GZ, IT28G, 924G, 928H, 924H, 930G, 924HZ, 924H, 928GZ, 930H, 924K, 930K	329-7949	OTR	59 x 9.5 x 21	20.5 x 25 LP	871
IT18F, 928F, IT28F, 928G, IT28G, 924F, IT24F, 924GZ, 924G, 928GZ, IT28G, 924G, 928H, 924H, 930G, 924HZ, 924H, 928GZ, 930H, 924K, 930K	324-3430	SMO	59 x 9.5 x 21	20.5 x 25 LP	899
IT18F, 928F, IT28F, 928G, IT28G, 924F, IT24F, 924GZ, 924G, 928GZ, IT28G, 924G, 928H, 924H, 930G, 924HZ, 924H, 928GZ, 930H, 924K, 930K	324-3436	OTR	60.5 x 10.5 x 21	20.5 x 25	918
IT18F, 928F, IT28F, 928G, IT28G, 924F, IT24F, 924GZ, 924G, 928GZ, IT28G, 924G, 928H, 924H, 930G, 924HZ, 924H, 928GZ, 930H, 924K, 930K	324-3437	SMO	60.5 x 10.5 x 21	20.5 x 25	956
938K	324-3436	OTR	60.5 x 10.5 x 21	20.5 x 25	905
938K	324-3437	SMO	60.5 x 10.5 x 21	20.5 x 25	943

## Flexport Rims and Adapter Discs for Small Wheel Loaders

Machine Applications <sup>(5)</sup>	Flexport Tire Assembly PIN	Rim / Adapter PIN	Adapter Bolt Pattern (No. of Holes, Hole Dia. Bolt Circle)	Adapter Pilot Diameter (mm)	Adapter to Rim Torque (N•m)	Axle Torque (N•m)
IT18F, 928F, IT28F, 928G, IT28G, 924F, IT24F, 924GZ, 924G, 928GZ, IT28G, 924G, 928H, 924H, 930G, 924HZ, 924H, 928GZ, 930H, 924K, 930K	329-7949, 324-3430, 324-3436, 324-3437	329-7948 / 336-8289	16, 26, 250	201	800 +/- 100	300 +/- 40 & additional 60 +/- 5 degrees
938K	324-3436, 324-3437	329-7948 / 369-4675	20, 26, 673	597	900 +/- 100	750 +/- 50

4 Construction tread tires are directional and require different part numbers on the left and right side of the machine to maintain proper tire rotation direction and rim offset. Please verify part numbers before ordering.

5 Machine applications are based on common bolt pattern and pilot dimensions between machine models. The machine must be weighed to verify ROPS compliance before installing Flexport tires.

## Wheel Loader

Machine Size	Machine Application <sup>(6)</sup>	Tire Assembly PIN	Cat Adapter Disc	Blank Adapter Disc	Adapter Mounting Instructions	Assembly Hardware (Bolt, Washer, Nut)	Assembly Hardware Quantity (Bolt, Washer, Nut) Per Machine Set	Adapter to Rim Torque (N•m)
Small Wheel Loader	IT18F, 928F, IT28F, 928G, IT28G, 924F, IT24F, 924GZ, 924G, 928GZ, IT28G, 924G, 928H, 924H, 930G, 924HZ, 924H, 928GZ, 930H, 924K, 930K	329-7949	336-8289	364-1287	DEEP SIDE OF RIM	8T-5878, 8T-1482, 8T-4001	80, 160, 80	800 +/- 100
Small Wheel Loader	IT18F, 928F, IT28F, 928G, IT28G, 924F, IT24F, 924GZ, 924G, 928GZ, IT28G, 924G, 928H, 924H, 930G, 924HZ, 924H, 928GZ, 930H, 924K, 930K	324-3430	336-8289	364-1287	DEEP SIDE OF RIM	8T-5878, 8T-1482, 8T-4001	80, 160, 80	800 +/- 100
Small Wheel Loader	IT18F, 928F, IT28F, 928G, IT28G, 924F, IT24F, 924GZ, 924G, 928GZ, IT28G, 924G, 928H, 924H, 930G, 924HZ, 924H, 928GZ, 930H, 924K, 930K	324-3436	336-8289	364-1287	DEEP SIDE OF RIM	8T-5878, 8T-1482, 8T-4001	80, 160, 80	800 +/- 100
Small Wheel Loader	IT18F, 928F, IT28F, 928G, IT28G, 924F, IT24F, 924GZ, 924G, 928GZ, IT28G, 924G, 928H, 924H, 930G, 924HZ, 924H, 928GZ, 930H, 924K, 930K	324-3437	336-8289	364-1287	DEEP SIDE OF RIM	8T-5878, 8T-1482, 8T-4001	80, 160, 80	800 +/- 100
Small Wheel Loader	938K	324-3436	369-4675	NA	DEEP SIDE OF RIM	8T-5878, 8T-1482, 8T-4001	80, 160, 80	900 +/- 100
Small Wheel Loader	938K	324-3437	369-4675	NA	DEEP SIDE OF RIM	8T-5878, 8T-1482, 8T-4001	80, 160, 80	900 +/- 100

## Cat® Flexport Tires for Medium Wheel Loaders

Cat® Flexport tires for Medium Wheel Loaders are a 2-piece tire / rim design and are available in smooth and OTR tread patterns.

Fitment of a Cat Flexport tire on a Medium Wheel Loader requires the use of an adapter plate and hardware as shown.

Cat Flexport tires are available on both new machines and from your Cat® Dealer as service parts



<sup>6</sup> Machine applications are based on common bolt pattern and pilot.

# General Tire Information

## Flexport Tire & Rim Assemblies for Medium Wheel Loaders

Machine Application <sup>(7)</sup>	Flexport Tire Assembly PIN	Tread Design	Flexport Size	Pneumatic Size Equivalent	Tire, Rim, Adapter and Hardware Assembly Weight
950G, 950H, 962G, 962G, 962H, IT62G, 950K, 962K	332-5712	OTR	65 x 13 x 25	23.5 x 25	1241
950G, 950H, 962G, 962G, 962H, IT62G, 950K, 962K	324-3431	SMO	65 x 13 x 25	23.5 x 25	1320
966, 814F, 966G II, 966H, 972G, 972G II, 972H, 966K, 972K	316-0529	OTR	70 x 14 x 28	26.5 x 25	1534
966, 814F, 966G II, 966H, 972G, 972G II, 972H, 966K, 972K	322-9596	SMO	70 x 14 x 28	26.5 x 25	1654
824G, 824G II, 824H, 825G, 834G, 834H, 980G, 980GII, 980H, 980H II, 980K	324-3432	OTR	74.5 x 14 x 31.5	29.5 x 25	1951
824G, 824G II, 824H, 825G, 834G, 834H, 980G, 980GII, 980H, 980H II, 980K	324-3433	SMO	74.5 x 14 x 31.5	29.5 x 25	2088

## Flexport Rims and Adapters Discs for Medium Wheel Loaders

Machine Application <sup>(7)</sup>	Flexport Tire Assembly PIN	Rim/Adapter PIN	Adapter Bolt Pattern (No. of Holes, Hole Dia, Bolt Circle)	Adapter Pilot Diameter (mm)	Adapter to Rim Torque (N•m)	Axle Torque (N•m)
950G, 950H, 962G, 962G, 962H, IT62G, 950K, 962K	332-5712, 324-3431	323-1707, 364-1289	20, 26, 310	262	800 +/- 100	570 +/- 80 additional 60 +/- 5 degrees
966, 814F, 966G II, 966H, 972G, 972G II, 972H, 966K, 972K	316-0529, 322-9596	316-0527, 364-1290	20, 26, 375	327	900 +/- 100	570 +/- 80 additional 60 +/- 5 degrees
824G, 824G II, 824H, 825G, 834G, 834H, 980G, 980GII, 980H, 980H II, 980K	324-3422, 324-3433	323-1708	NA	NA	NA	570 +/- 80 additional 60 +/- 5 degrees



<sup>7</sup> Machine applications are based on common bolt pattern and pilot dimensions between machine models. The machine must be weighed to verify ROPS compliance before installing.

## Cat® Adapter Disc

Machine Size	Machine Application <sup>(8)</sup>	Cat Adapter Disc	Blank Adapter Disc	Adapter Mounting Instructions	Assembly Hardware (Bolt, Washer Nut)	Assembly Hardware Quantity (Bolt, Washer, Nut) Per Machine Set	Adapter to Rim Torque (N•m)
Medium Wheel Loader	950G, 950H, 962G, 962G, 962H, IT62G, 950K, 962K	364-1289	336-8295	DEEP SIDE OF RIM	7X-2577, 267-3507, 268-8262	80, 160, 80	800 +/- 100
Medium Wheel Loader	950G, 950H, 962G, 962G, 962H, IT62G, 950K, 962K	364-1289	336-8295	DEEP SIDE OF RIM	7X-2577, 267-3507, 268-8263	80, 160, 80	800 +/- 100
Medium Wheel Loader	966, 814F, 966G II, 966H, 972G, 972G II, 972H, 966K, 972K	364-1290	316-0526	DEEP SIDE OF RIM	7X-2577, 267-3507, 268-8264	80, 160, 80	1000 +/- 100
Medium Wheel Loader	966, 814F, 966G II, 966H, 972G, 972G II, 972H, 966K, 972K	364-1290	316-0526	DEEP SIDE OF RIM	7X-2577, 267-3507, 268-8265	80, 160, 80	800 +/- 100

## HEAD-TO-HEAD COMPARISON RESULTS

Flexport elliptical design for superior to round design

	<p><b><i>Other tire companies manufacture tires with round holes.</i></b></p> <ul style="list-style-type: none"> <li>• The round design easily collapses into a flat shape under a load, which creates corners that cause “pinch” or “stress” points.</li> <li>• Stress point damage will typically result in cracking and chunking of a tire.</li> </ul>
	<p><b><i>Caterpillar designed Flexport Tires with elliptical-shaped ports.</i></b></p> <ul style="list-style-type: none"> <li>• Flexport’s elliptical ports are designed not to crush when compressed by heavy weight.</li> <li>• Because the ports don’t crush, this reduces stress points—and increases wear life.</li> </ul>

<sup>8</sup> Machine applications are based on common bolt pattern and pilot dimensions between machine models. The machine must be weighed to verify ROPS compliance before installing.

# General Tire Information

## Premium Conventional Tires



Cat® Premium Conventional tires are engineered to deliver the trademark Cat durability—which says a lot. Skid steer sizes are equipped with the industry's deepest tread depth, thickest side wall (on a premium conventional model), and heaviest rim guard.

Cat tires outperform the competition.

### Advantages

- Self-cleaning, open tread design for reduced maintenance time
- Extra large, tapered lugs for traction in slippery conditions and maximum wear life
- Dual side wall construction for puncture and tear protection
- An advanced blend of natural and synthetic rubber and a reinforced bead area for maximum wear life
- Heavy rim guard reduces potential for damage to tire bead and wheel flange

### Applications: Highly Recommended

- Dry Soil
- Snow

### Applications: Recommended

- Rock & Shale
- Quarries
- Rocky Soil
- Wet Soil
- Sandy Soil

				Inflated Dimensions			Load Specifications @ 5 mph				
Part Number	Tire Width	Wheel Diameter	Ply Rating	Rim Width	Section Width	Outside Diameter	Maximum Inflation	Suggested Inflation	Suggested Inflation	Maximum Load	Tread Depth
Skid Steer Loaders											
185-9932	254 mm (10 in)	419 mm (16.5)	8	209 mm (8.2 in)	271 mm (10.7 in)	784 mm (30.9 in)	413kPa (60 psi)	310 kPa (45 psi)	1,800 kg (4,145 lb)	24 kg (52 lb)	19 mm (24/32)
185-9933	304 mm (12 in)	419 mm (16.5 in)	10	247 mm (9.7 in)	312 mm (12.3 in)	838 mm (33 in)	448 kPa (65 psi)	310 kPa (45 psi)	2,542 kg (5,604 lb)	35 kg (77 lb)	21 mm (26/32 in)
238-7740	177 mm (7 in)	381 mm (15 in)	6	139 mm (5.5 in)	203 mm (8 in)	759 mm (29.9 in)	413 kPa (60 psi)	–	15 kg (34 lb)	15 kg (34 lb)	14 mm (18/32 in)
Backhoe Loaders											
357-1994	317 mm (12.5 in)	457 mm (18 in)	10	228 mm (9 in)	304 mm (12 in)	985 mm (38.8 in)	317 kPa (46 psi)	275 kPa (40 psi)	38 kg (85 lb)	38 kg (85 lb)	25 mm (1 in)
357-1995	467 mm (18 in)	660 mm (26 in)	12	406 mm (16 in)	477 mm (18.8 in)	1,417 mm (55.8 in)	220 kPs (32 psi)	193 kPa (28 psi)	98 kg (217 lb)	98 kg (217 lb)	28 mm (34/32 in)
357-1996	429 mm (16.9 in)	711 mm (28 in)	12	381 mm (15 in)	442 mm (17.4 in)	1,386 mm (54.6 in)	262 kPa (33 psi)	227 kPa (33 psi)	85 kg (187 lb)	85 kg (187 lb)	27 mm (35/32 in)
Telehandlers											
208-8512	394 mm (15.5 in)	635 mm (25 in)	–	304 mm (12 in)	425 mm (16.7 in)	1,316 mm (51.8 in)	399 kPa (58 psi)	372 kPa (54 psi)	88 kg (195 lb)	88 kg (195 lb)	28 mm (34/32 in)
281-6590	330 mm (13 in)	609 mm (24 in)	12	203 mm (8 in)	360 mm (14.2 in)	1,392 mm (54.8 in)	448 kPa (58 psi)	339 kPa (58 psi)	2,721 kg (6,000 lb)	73 kg (161 lb)	23 mm (29/32 in)
281-6591	355 mm (14 in)	609 mm (24 in)	12	254 mm (10 in)	390 mm (15.4 in)	1,392 mm (54.8 in)	427 kPa (65 psi)	372 kPa (54 psi)	3,084 kg (6,800 lb)	92 kg (203 lb)	25 mm (1 in)



## XD Tires



The XD design is tough through and through. From the deep tread and ultra heavy side walls to the extra large rim guard, the XD equips your skid steer to maneuver effectively in the most extreme applications. In fact, the features that make the XD so tough also make it 26 percent heavier. Concrete and demolition, quarries, and asphalt recycling jobs are just some of the rigorous environments where the XD is the clear choice.

### Advantages

- 14 ply rating enhances tear and puncture resistance
- 40 percent deeper tread depth than Premium Conventional model ensures long tire life on rough terrain
- Less void between the tread lugs reduces wear by spreading it across a larger surface area
- Superior carcass strength allows the tire to bear up to 1,300 lbs more than competitive models

### Applications: Highly Recommended

- Asphalt
- Bricks
- Sand Stone
- Rock & Shale
- Quarries
- Rocky Soil

### Applications Recommended

- Concrete
- Scrap Yard
- Gravel
- Dry Soil
- Wet Soil

Part Number	Tire Width	Wheel Diameter	Ply Rating	Inflated Dimension			Load Specifications @ 5 mph			Tire Weight	Tire Depth
				Rim Width	Section Width	Outside Diameter	Maximum Inflation	Suggested Inflation	Maximum Load		
222-3962	254 mm (10 in)	419 mm (16.5 in)	10	209 mm (8.25 in)	264 mm (10.4 in)	777 mm (30.6 in)	517 kPa (75 psi)	275 kPa (40 psi)	1,968 kg (4,340 lb)	37 kg (81 lb)	35 mm (44/32 in)
222-3963	305 mm (12 in)	419 mm (16.5 in)	14	247 mm (9.74 in)	312 mm (12.3 in)	830 mm (32.7 in)	621 kPa (90 psi)	345 kPa (50 psi)	2,540 kg (5,600 lb)	48 kb (105 lb)	35 m (44/32 in)

# General Tire Information

## Premium Conventional Flotation Tires



For work in soft terrain, such as at a nursery, in sand, or some landscape sites, use Cat® Premium Conventional Flotation tires. A new industry trend, the flotation design can replace the use of tracks in some applications. Cat Premium Conventional Flotation tires are constructed with the same rugged durability as Cat Premium Conventional tires, but are engineered specifically to create less ground pressure.

The flotation tire design incorporates the traditional lug pattern with a wider footprint to provide a lower ground pressure.

Tire assembly diameter is either 31 or 33 inches, depending on the machine model. The wheel bolt holes are an eight hole pattern on an eight inch bolt circle. This wheel design has an offset of 1.75 inches.

The flotation tires are designed to stay within the larger bucket widths of the Cat® machines (66 inch bucket use for 216, 226, 28, 232, and 242 Models or 72 inch bucket use for 236, 246, 248, 252, 262, 268, and 272 Models). The 33-inch flotation tire is also compatible with the 904.

The Cat flotation tire is made like the premium conventional tire, except the tire width is 15.5 inches instead of 10 or 12 inches.

### Advantages

- Self-cleaning, open tread design for reduced maintenance time
- Extra large, tapered lugs for traction in slippery conditions and maximum wear life
- Dual side wall construction for puncture and tear protection
- An advanced blend of natural and synthetic rubber and a reinforced bead area for maximum wear life
- Heavy rim guard reduces potential for damage to tie bead and wheel flange
- Wider footprint for better load distribution
- Stable ride in soft terrain without sinking
- Heavier, 12-ply rating for greater load carrying capacity

### Applications: Highly Recommended

- Wet Soil
- Sandy Soil
- Mud

### Applications: Recommended

- Rocky Soil
- Dry Soil
- Snow

Part Number	Tire Width	Wheel Diameter	Ply Rating	Inflated Dimensions			Load Specifications @ 5 mph			Tire Weight	Tread Depth
				Rim Width	Section Width	Outside Diameter	Maximum Inflation	Suggested Inflation	Maximum load		
199-5436	393 mm (15.5 in)	419 mm (16.5 in)	8	304 mm (12 in)	381 mm (15 in)	787 mm (31 in)	241 kPa (35 psi)	206 kPa (30 psi)	2,032 kg (4,480 lb)	28kg (62 lb)	19 mm (24/32 in)
199-5440	393 mm (15.5 in)	419 mm (16.5 in)	12	304 mm (12 in)	381 mm (15 in)	838 mm (33 in)	379 kPa (55 psi)	310 kPa (45 psi)	2,294 kg (6,490 lb)	38 kg (85lb)	21 mm (26/32 in)

## Heavy Duty Quick Change Rims (QCR) System for Cat® 793F Mining Trucks



The QCR System is designed to improve mine site productivity, minimize downtime associated with tire servicing and to improve safety for tire service personnel when changing tires on large mining trucks. Compared to the standard fitment five-piece rims currently offered, the QCR System provides an increased crack test interval, longer rim life, improved safety and fewer rim based remove/install procedures during tire changes.

Rim Part Number	Rim Diameter	Rim Width	Truck Position	Compatible Tire Size	Rim Weight	Qty. per Truck
309-4619	1,448 mm (57 in)	800 mm (32 in)	Front and Rear Inner	40,00R57, 46/90R57, and 50/80R57	2000 kg	4
309-4614	1,448 mm (57 in)	800 mm (32 in)	Rear Outer	40,00R57, 46/90R57, and 50/80R57	2198 kg	2

### QCR System

Caterpillar offers the QCR System fitted to all six-wheel positions and it is available as an attachment option for the 793F Standard or XLWS Wheel Arrangements.

#### Function:

Traditionally, the only way to change a tire on position four or five tire was to remove the entire rim and tire assembly on positions three and six. This process is time-consuming, and downtime results in loss of production. To overcome this loss, the Outside Vertical Mount (OVM) was created. The OVM rim has a smaller base diameter than the rims found on positions one, two, four and five, while still accommodating the same size tire. This allows the inner and outer tires to be removed and replaced without the need for any rim base removal, thus improving safety and productivity.

Both the OVM and SVM (Six Piece Vertical Mount) consist of the rim base, two-bead seat bands, two-side flanges and a lock ring. The back section of the rim base has been modified to include an integrated lock ring and O-ring groove to accommodate the addition of a second bead seat band which allows a tire to be removed without the need for a hydraulic bead breaker tool to separate the inner tire bead from the rim base.

#### Advantages:

- Reduced tire maintenance costs
- Reduced down time - Machine downtime is reduced by greater than 50 percent on tire change-out times using the QCR System, when compared to the standard five-piece rim
- Reduced manual handling and fatigue on tire maintenance personnel - Improved Safety.
- Machines can have the rear tire (both inner and outer positions) vertically mounted in the same manner as the front tires without the need to return to the service bay to have wheel nuts retightened
- The inside tire can be removed over the outside rim, eliminating the need to remove the outside rim
- Quicker tire change process will encourage more frequent and effective tire rotations and inspections resulting in improved tire life
- Reduced potential damage to wheel retaining bolts, studs and hubs - minimize stud and wheel station damage due to improperly tightened wheel nuts
- Minimal level of rim base inventory is required

# General Tire Information

- Reduced damage and wear to expensive tooling and tire handling equipment
- The need for tire service personnel to use impact guns is dramatically reduced, thus improving ergonomics of the tire change process

## Applications:

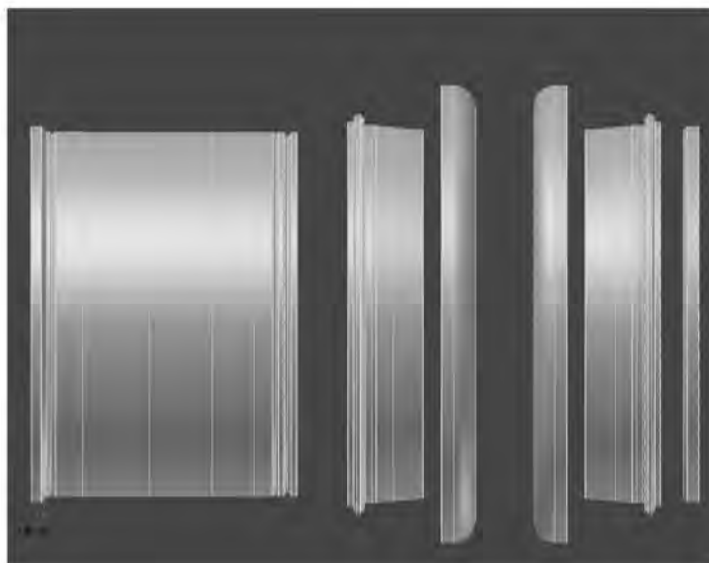
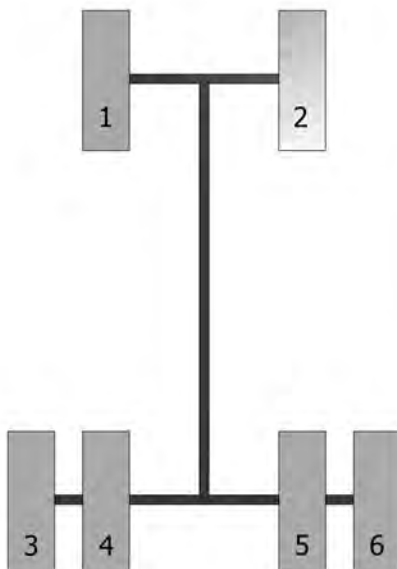
- Large Mining Trucks (793)

## Modifications:

A number of modifications are required on the Cat 793F machine. These modifications are all completed at the factory when truck ordering takes place. These modifications are:

- Low profile rear brake cooling lines
- Rear mud scraper
- Mega Bore inflation line routing
- Potential reduction in payload to offset the increase in empty machine weight

Six piece design of a OCR (see illustration)	
SVM rims fitted to positions:	1, 2, 3 and 5
OVM rims fitted to positions:	3 and 6



## Shipping Weights

### Flexport™

Assembly Wheel Diameter	Rubber Thickness	Section Width	Part	Weight
787 mm (31 in)	152 mm (6 in)	254 mm (10 in)	Assembly	104 kg (230 lb)
838 mm (33 in)	152 mm (6 in)	279 mm (11 in)	Assembly	125 kb (276 lb)
1499 mm (59 in)	229 mm (9 in)	521 mm (20.5 in)	Assembly	815 kg (1796 lb)
1575 mm (62 in)	229 mm (9 in)	597 mm (23.5 in)	Assembly	982 kg (2164 kg)

### Flexport™ Smooth Tread

Assembly Wheel Diameter	Rubber Thickness	Section Width	Part	Weight
31	152 mm (6 in)	254 mm (10 in)	Assembly	102 kg (225 lb)
33	152 mm (6 in)	280 mm (11 in)	Assembly	153.6 kg (339 lb)

### Premium Conventional

Tire Width	Wheel Diameter	Part	Weight
254 mm (10 in)	419 mm (16.5 in)	Tire	23 kg (52.5 lb)
		Wheel	17 kg (36.9 lb)
		Assembly	42 kg (92.8 lb)
304 mm (12 in)	419 mm (16.5 in)	Tire	35 kg (77 lb)
		Wheel	17 kg (37.5 lb)
		Assembly	42 kg (92.8 lb)

### XD

Tire Width	Wheel Diameter	Part	Weight
254 mm (10 in)	419 mm (16.5 in)	Tire	37 kg (81 lb)
		Wheel	17 kg (36.9 lb)
		Assembly	53 kg (117.9 lb)
304 mm (12 in)	419 mm (16.5 in)	Tire	48 kg (105 lb)

# General Tire Information

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## Premium Conventional Flotation

Assembly Wheel Diameter	Tire Width	Wheel Diameter	Part	Weight
787 mm (31 in)	394 mm (15.5 in)	419 mm (16.5 in)	Tire	36 kg (80.2 lb)
			Wheel	22 kg (48.1 lb)
			Assembly	58 kg (128.3 lb)
838 mm (33 in)	394 mm (15.5 in)	419 mm (16.5 in)	Tire	45 kg (99.1 lb)
			Wheel	22 kg (48.1 lb)
			Assembly	67 kg (147.2 lb)

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# Skid Steer Loaders

216, 226

216, 226 (60 inch Bucket)

								Mount			
Part Number	Tire Assembly Diameter	Section Width	Wheel Diameter	Ply Rating	Description	Side	Rim Width	Number of Bolt Holes	Bolt Circles	Pilot Hole	Offset
XD											
142-7485	—	254 mm (10 in)	419 mm (16.5 in)	—	Wheel	—	210 mm (8.2 in)	8	203 mm (8 in)	152 mm (6 in)	6 mm (0.25 in)
222-3962	777 mm (30.6 in)	254 mm (10 in)	419 mm (10 in)	10	Tire	—	—	—	—	—	—
Flexport Construction											
329-6989	787 mm (31 in)	254 mm (10 in)	—	—	Tire/Wheel Assembly	—	241 mm (9.5 in)	8	203 mm (8 in)	152 mm (6 in)	44. mm (1.75 in)
329-6990	787 mm (31 in)	254 mm (10 in)	—	—	Tire/Wheel Assembly	—	241 mm (9.5 in)	8	203 mm (8 in)	152 mm (6 in)	44. mm (1.75 in)
Flexport Smooth											
345-7585	787 mm (31 in)	254 mm (10 in)		—	Tire/Wheel Assembly	—	241 mm (9.5 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
Premium Conventional											
142-7485	—	254 mm (10 in)	419 mm (16.5 in)	—	Wheel	—	210 mm (8.2 in)	8	203 mm (8 in)	152 mm (6 in)	6 mm (0.25 in)
185-8678	—	254 mm 910 in)	419 mm (16.5 in)	8	Tire/Wheel Assembly	Left	210 mm (8.2 in)	8	203 mm (8 in)	152 mm (6 in)	6 mm (0.25 in)
185-8679	—	254 mm (10 in)	419 mm (16.5 in)	8	Tire/Wheel Assembly	Right	210 mm (8.2 in)	8	203 mm (8 in)	152 mm (6 in)	6 mm (0.25 in)
185-9932	785 mm (30.9 in)	254 mm (10 in)	419 mm (16.5 in)	8	Tire	—	—	—	—	—	—

216, 226 (66 inch Bucket)

Part Number	Tire Assembly Diameter	Section Width	Wheel Diameter	Ply Rating	Description	Side	Rim Width	Mount			Offset
								Number of Bolt Holes	Bolt Circle	Pilot Hole	
142-8490	—	—	419 mm (16.5 in)	—	Wheel	—	210 mm (8.2 in)	8	203 mm (8 in)	152 mm (6 in)	82 mm (3.25 in)
222-3962	777 mm (30.6 in)	254 mm (10 in)	419 mm (16.5 in)	10	Tire	—	—	—	—	—	—
Flexport Construction											
329-6989	787 mm (31 in)	254 mm (10 in)	—	—	Tire/Wheel Assembly	—	241 mm (9.5 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
329-6990	787 mm (31 in)	254 mm (10 in)	—	—	Tire/Wheel Assembly	—	241 mm (9.5 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
Flexport Smooth											
345-7585	787 mm (31 in)	254 mm (10 in)	—	—	Tire/Wheel Assembly	—	241 mm (9.5 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
Premium Conventional											
142-7490	—	—	419 mm (16.5 in)	—	Wheel	—	210 mm (8.2 in)	8	203 mm (8 in)	152 mm (6 in)	82 mm (3.25 in)



## 216, 226 (cont'd.)

Part Number	Tire Assembly Diameter	Section Width	Wheel Diameter	Ply Rating	Description	Side	Rim Width	Mount			Offset
								Number of Bolt Holes	Bolt Circle	Pilot Hole	
185-9926	—	254 mm (10 in)	419 mm (16.5 in)	8	Tire/Wheel Assembly	Left	—	8	203 mm (8 in)	152 mm (6 in)	82 mm (3.25 in)
185-9927	—	254 mm (10 in)	419 mm (16.5 in)	8	Tire/Wheel Assembly	Right	—	8	203 mm (8 in)	152 mm (6 in)	82 mm (3.25 in)
185-9932	785 mm (30.9 in)	254 mm (10 in)	419 mm (16.5 in)	8	Tire	—	—	—	—	—	—
Premium Conventional Flotation											
178-2270	—	—	419 mm (16.5 in)	—	Wheel	—	305 mm (12 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
199-5434	787 mm (31 in)	394 mm (15 in)	419 mm (16.5 in)	8	Tire/Wheel Assembly	Left	—	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
199-5435	787 mm (31 in)	394 mm (15 in)	419 mm (16.5 in)	8	Tire/Wheel Assembly	Right	—	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 mm)
199-5436	787 mm (31 in)	393 mm (15 in)	419 mm (16.5 in)	8	Tire	—	—	—	—	—	—

## 228, 232

### 228, 232 (60 inch Bucket)

							Mount			
Part Number	Tire Assembly Diameter	Section Width	Wheel Diameter	Description	Side	Rim Width	Number of Bolt Holes	Bolt Circle	Pilot Hole	Offset
XD										
142-7485	—	254 mm (10 in)	419 mm (16.5 in)	Wheel	—	210 mm (8.2 in)	8	203 mm (8 in)	152 mm (6 in)	6 mm (0.25 in)
222-3962	777 mm (31 in)	254 mm (10 in)	419 mm (16.5 in)	Tire	—	—	—	—	—	—
Flexport Smooth										
345-7585	787 mm (31 in)	254 mm (10 in)		Tire/Wheel Assembly	—	241 mm (9.5 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
Flexport Construction										
329-6989	787 mm (31 in)	254 mm (10 in)	—	Tire/Wheel Assembly	—	241 mm (9.5 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
329-6990	787 mm (31 in)	254 mm (10 in)	—	Tire/Wheel Assembly	—	241 mm (9.5 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
Premium Conventional										
142-7485	—	254 mm (10 in)	419 mm (16.5 in)	Wheel	—	210 mm (8.2 in)	8	203 mm ( 8 in)	152 mm (6 in)	6 mm (0.25 in)

# Skid Steer Loaders

## 228, 232 (cont'd.)

Part Number	Tire Assembly Diameter	Section Width	Wheel Diameter	Description	Side	Rim Width	Mount			Offset
							Number of Bolt Holes	Bolt Circle	Pilot Hole	
185-8678	—	254 mm (10 in)	419 mm (16.5 in)	Tire/Wheel Assembly	Left	210 mm (8.2 in)	8	203 mm (8 in)	152 mm (6 in)	6 mm (0.25 in)
185-8679	—	254 mm (10 in)	419 mm (16.5 in)	Tire/Wheel Assembly	Right	210 mm (8.2 in)	8	203 mm (8 in)	152 mm (6 in)	6 mm (0.25 in)
185-9932	785 mm (31 in)	254 mm (10 in)	419 mm (16.5 in)	Tire	—	—	—	—	—	—

## 228, 232 (66 inch Bucket)

							Mount			
Part Number	Tire Assembly Diameter	Section Width	Wheel Diameter	Description	Side	Rim Width	Number of Bolt Holes	Bolt Circle	Pilot Hole	Offset
XD										
142-7490	—	—	419 mm (16.5 in)	Wheel	—	210 mm (8.2 in)	8	203 mm (8 in)	152 mm (6 in)	82 mm (3.25 in)
222-3962	777 mm (30.6 in)	254 mm (10 in)	419 mm (16.5 in)	Tire	—	—	—	—	—	—
Flexport Smooth										
345-7585	787 mm (31 in)	254 mm (10 in)		Tire/Wheel Assembly	—	241 mm (9.5 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
Flexport Construction										
329-6989	787 mm (31 in)	254 mm (10 in)	—	Tire/ Wheel Assembly	—	241 mm (9.5 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
329-6990	787 mm (31 in)	254 mm (10 in)	—	Tire/Wheel Assembly	—	241 mm (9.5 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
Premium Convectional										
142-7490	—	—	419 mm (16.5 in)	Wheel	—	210 mm (8.2 in)	8	203 mm (8 in)	152 mm (6 in)	82 mm (3.25 in)
185-9926	—	254 mm (10 in)	419 mm (16.5 in)	Tire/Wheel Assembly	Left	—	8	203 mm (8 in)	152 mm (6 in)	82 mm (3.25 in)
185-9927	—	254 mm (10 in)	419 mm (16.5 in)	Tire/Wheel Assembly	Right	—	8	203 mm (8 in)	152 mm (6 in)	82 mm (3.25 in)
185-9932	785 mm (30.9 in)	254 mm (10 in)	419 mm (16.5 in)	Tire	—	—	—	—	—	—
Premium Conventional Flotation										
178-2270	—	—	419 mm (16.5 in)	Wheel	—	305 mm (12 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
199-5434	787 mm (31 in)	394 mm (15.5 in)	419 mm (16.5 in)	Tire/Wheel Assembly	Left	—	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)

## 228, 232 (cont'd.)

Part Number	Tire Assembly Diameter	Section Width	Wheel Diameter	Description	Side	Rim Width	Mount			Offset
							Number of Bolt Holes	Bolt Circle	Pilot Hole	
199-5435	787 mm (31 in)	394 mm (15.5 in)	419 mm (16.5 in)	Tire/ Wheel Assembly	Right	—	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
199-5436	787 mm (31 in)	393mm (15.5 in)	419 mm (16.5 in)	Tire	—	—	—	—	—	—

## 236 , 242

### 236 (66 inch Bucket), 242 (60 inch Bucket)

									Mount		
Part Number	Tire Assembly Diameter	Section Width	Wheel Diameter	Ply Rating	Description	Side	Rim Width	Number of Bolt Holes	Bolt Circle	Pilot Hole	Offset
XD											
142-8759	—	—	419 mm (16.5 in)	—	Wheel	—	247 mm (9.7 in)	8	203 mm (8 in)	152 mm (6 in)	10 mm (0.39 in)
222-3963	—	305 mm (12 in)	419 mm (16.5 in)	14	Tire	—	—	—	—	—	—
Flexport Smooth											
329-6785	831 mm (33 in)	278 mm (11 in)	—	—	Tire/ Wheel Assembly	—	267 mm (10.5 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
Flexport Construction											
329-6783	831 mm (33 in)	278 mm (11 in)	—	—	Tire/Wheel Assembly	—	267 mm (10.5 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
329-6784	831 mm (33 in)	278 mm (11 in)	—	—	Tire/Wheel Assembly	—	267 mm (10.5 in)	8	203 mm (8 in)	152 mm ( 6 in)	44 mm (1.75 in)
Flexport OTR											
324-3427	831 mm (33 in)	278 mm (11 in)	—	—	Tire/Wheel Assembly	—	267 mm (10.5 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
Premium Conventional											
142-8759	—	—	419 mm (16.5 in)	—	Wheel	—	247 mm (9.7 in)	8	203 mm (8 in)	152 mm (6 in)	10 mm (0.39 in)
185-9928	—	305 mm (12 in)	419 mm (16.5)	10	Tire/Wheel Assembly	Left	247 mm (9.7 in)	8	203 mm (8 in)	152 mm (6 in)	10 mm (0.39 in)
185-9929	—	305 mm (12 in)	419 mm (16.5 in)	10	Tire/Wheel Assembly	Right	247 mm (9.7 in)	8	203 mm (8 in)	152 mm (6 in)	10 mm (0.39 in)
185-9933	838 mm (33 in)	305 mm (12 in)	419 mm (16.5 in)	10	Tire	—	—	—	—	—	—

# Skid Steer Loaders

## 236 , 242 (cont'd.)

### 236 (72 inch Bucket), 242 (66 inch Bucket)

									Mount		
Part Number	Tire Assenbly	Section Width	Wheel Diameter	Ply rating	Description	Side	Rim Width	Number of Bolt Holes	Bolt Circle	Pilot Hole	Offset
XD											
142-8731	—	—	419 mm (16.5 in)	—	Wheel	—	247 mm (9.7 in)	8	203 mm (8 in)	152 mm (6 in)	86 mm (3.39 in)
222-3963	—	—	419 mm (16.5 in)	14	Tire	—	—	—	—	—	—
Flexport Smooth											
329-6785	831 mm (33 in)	278 mm (11 in)	—	—	Tire/Wheel Assembly	—	267 mm (10.5 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
Flexport Construction											
329-6783	831 mm (33 in)	278 mm (11 in)	—	—	Tire/Wheel Assembly	—	267 mm (10.5 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
329-6784	831 mm (33 in)	278 mm (11 in)	—	—	Tire/ Wheel Assembly	—	267 mm (10.5 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
Flexport OTR											
324-3427	831 mm (33 in)	278 mm (11 in)	—	—	Tire/Wheel Assembly	—	267 mm (10.5 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
Premium Conventional											
142-8731	—	—	419 mm (16.5)	—	Wheel	—	247 mm (9.7 in)	8	203 mm (8 in)	152 mm (6 in)	86 mm (3.39 in)
185-9931	—	305 mm (12 in)	419 mm (16.5 in)	10	Tire/Wheel Assembly	Right	247 mm (9.7 in)	8	203 mm (8 in)	152 mm (6 in)	86 mm (3.39 in)
185-9930	—	305 mm (12 in)	419 mm (16.5 in)	10	Tire/Wheel Assembly	Left	247 mm (9.7 in)	8	203 mm (8 in)	152 mm (6 in)	86 mm (3.39 in)
185-9933	838 mm (33 in)	305 mm (12 in)	419 (16.5 in)	10	Tire	—	—	—	—	—	—
Premium Conventional Flotation											
178-2270	—	—	419 mm (16.5 in)	—	Wheel	—	305 mm (12 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
199-5438	838 mm (33 in)	394 mm (15 in)	419 mm (16.5 in)	12	Tire/Wheel Assembly	Left	305 mm (12 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
199-5440	838 mm (33 in)	393 mm (15 in)	419 mm (16.5 in)	12	Tire	—	—	—	—	—	—

## 246, 248, 252, 262, 272

### 246, 248, 252, 262, 272 (66 inch Bucket)

								Mount			
Part Number	Tire Assembly Diameter	Section Width	Wheel Diameter	Ply Rating	Description	Side	Rim Width	Number of Bolt Holes	Bolt Circle	Pilot Hole	Offset
XD											
142-8759	—	—	419 mm (16.5 in)	—	Wheel	—	247 mm (9.7 in)	8	203 mm ( 8 in)	152 mm (6 in)	86 mm (3.39 in)
222-3963	—	304 mm (12 in)	419 mm (16.5 in)	14	Tire	—	—	—	—	—	—
Flexport Smooth											
329-6785	831 mm (33 in)	278 mm (11 in)	—	—	Tire/Wheel Assembly	—	267 mm (10.5 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
Flexport Construction											
329-6783	831 mm (33 in)	278 mm ( 11 in)	—	—	Tire/Wheel Assembly	—	267 mm (10.5 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
329-6784	831 mm (33 in)	278 mm (11 in)	—	—	Tire/Wheel Assembly	—	267 mm (10.5 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
Flexport OTR											
324-3427	831 mm (33 in)	278 mm (11 in)	—	—	Tire/Wheel Assembly	—	267 mm (10.5 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
Premium Conventional											
142-8759	—	—	419 mm (16.5 in)	—	Wheel	—	247 mm (9.7 in)	8	203 mm (8 in)	152 mm (6 in)	10 mm (0.39 in)
185-9928	—	305 mm (12 in)	419 mm (16.5 in)	10	Tire/Wheel Assembly	Left	247 mm (9.7 in)	8	203 mm (8 in)	152 mm (6 in)	10 mm (0.39 in)
185-9929	—	305 mm (12 in)	419 mm (16.5 in)	10	Tire/Wheel Assembly	Right	247 mm (9.7 in)	8	203 mm (8 in)	152 mm (6 in)	10 mm (0.39 in)
185-9933	838 mm (33 in)	305 mm (12 in)	419 mm (16.5 in)	10	Tire	—	—	—	—	—	—

### 246, 248, 252, 262, 268, 272 (72 inch Bucket)

								Mount			
Part Number	Tire Assembly Diameter	Section Width	Wheel Diameter	Ply Rating	Description	Side	Rim Width	Number of Bolt Holes	Bolt Circle	Pilot Hole	Offset
XD											
142-8731	—	—	419 mm (16.5 in)	—	Wheel	—	247 mm (9.7 in)	8	203 mm (8 in)	152 mm (6 in)	86 mm (3.39 in)
222-3963	—	305 mm (12 in)	419 mm (16.5 in)	14	Tire	—	—	—	—	—	—
Flexport Smooth											
329-6785	831 mm (33 in)	278 mm (10.9 in)	—	—	Tire/Wheel Assembly	—	267 mm (10.5 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
Flexport Construction											
329-6783	831 mm (33 in)	278 mm (10.9 in)	—	—	Tire/Wheel Assembly	—	267 mm (10.5 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)

# Skid Steer Loaders

246, 248, 252, 262, 272 (cont'd.)

Part Number	Tire Assembly Diameter	Section Width	Wheel Diameter	Ply Rating	Description	Side	Rim Width	Mount			Offset
								Number of Bolt Holes	Bolt Circle	Pilot Hole	
329-6784	831 mm (33 in)	278 mm (10.9 in)	—	—	Tire/Wheel Assembly	—	267 mm (10.5 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
Premium Conventional											
142-8731	—	—	419 mm (16.5 in)	—	Wheel	—	247 mm (9.7 in)	8	203 mm (8 in)	152 mm (6 in)	86 mm (3.39 in)
185-9930	—	305 mm (12 in)	419 mm (16.5 in)	10	Tire/Wheel Assembly	Left	247 mm (9.7 in)	8	203 mm (8 in)	152 mm (6 in)	86 mm (3.39 in)
185-9931	—	305 mm (12 in)	419 mm (16.5 in)	10	Tire/Wheel Assembly	Right	247 mm (9.7 in)	8	203 mm (8 in)	152 mm (6 in)	86 mm (3.39 in)
185-9933	838 mm (33 in)	305 mm (12 in)	419 mm (16.5 in)	10	Tire	—	—	—	—	—	—
Premium Conventional Flotation											
178-2270	—	—	419 mm (16.5 in)	—	Wheel	—	305 mm (12 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
199-5438	838 mm (33 in)	394 mm (15.5 in)	419 mm (16.5 in)	12	Tire/Wheel Assembly	Left	305 mm (12 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
199-5439	838 mm (33 in)	394 mm (15.5 in)	419 mm (16.5 in)	12	Tire/Wheel Assembly	Right	305 mm (12 in)	8	203 mm (8 in)	152 mm (6 in)	44 mm (1.75 in)
199-5440	838 mm (33 in)	394 mm (15.5 in)	419 mm (16.5 in)	12	Tire	—	—	—	—	—	—

## Backhoe Loader

Part Number	Tire Width	Wheel Diameter	Ply Rating	Description
Premium Conventional				
357-1994	317 mm (12 in)	457 mm (18 in)	10	Tire
357-1995	467 mm (18 in)	660 mm (26 in)	12	Tire
357-1996	429 mm (17 in)	711 mm (28 in)	12	Tire

# Telehandler

## Telehandler

### TH62

Part Number	Tire Width	Wheel Diameter	Ply Rating	Description
Premium Conventional				
281-6590	330 mm (13 in)	609 mm (24 in)	12	Tire

### TH63, TH82

Part Number	Tire Width	Wheel Diameter	Ply rating	Description
Premium Conventional				
281-6590	330 mm (13 in)	609 mm (24 in)	12	Tire



## Compact Wheel Loader

Machine Size	Machine Application <sup>(9)</sup>	Tire Assembly PIN	Tire Diameter	Tread Depth to the Top of the Wear Bar	Section Width	Adapter Disc	Assembly Hardware (Bolt, Washer, Nut)	Assembly Hardware Quantity (Bolt, Washer, Nut)
Compact Wheel Loader	904B	329-7296	831	56	279	NA	NA	NA
Compact Wheel Loader	904B	329-7297	831	56	279	NA	NA	NA
Compact Wheel Loader	904B	329-7298	830	56	282	NA	NA	NA
Compact Wheel Loader	904H	329-6091	831	56	279	NA	NA	NA
Compact Wheel Loader	904H	329-6092	831	56	279	NA	NA	NA
Compact Wheel Loader	904H	327-8482	831	56	278	NA	NA	NA
Compact Wheel Loader	906H, 907H, 906H2, 907H2	315-8629	961	63	337	NA	NA	NA
Compact Wheel Loader	906H, 907H, 906H2, 907H2	315-7844	961	63	337	NA	NA	NA
Compact Wheel Loader	906H, 907H, 906H2, 907H2	315-7843	961	63	338	NA	NA	NA
Compact Wheel Loader	908H	316-0014	1006	66	358	NA	NA	NA
Compact Wheel Loader	908H	316-0012	1006	66	358	NA	NA	NA
Compact Wheel Loader	908H	316-0016	1007	76	344	NA	NA	NA
Compact Wheel Loader	914G	353-7103	1342	135	422	NA	NA	NA

## Small Wheel Loader

Machine Size	Machine Application <sup>(9)</sup>	Tire Assembly PIN	Tire Diameter	Tread Depth to the Top of the Wear Bar	Section Width	Adapter Disc	Assembly Hardware (Bolt, Washer, Nut)	Assembly Hardware Quantity (Bolt, Washer, Nut)
Small Wheel Loader	IT18F, 928F, IT28F, 928G, IT28G, 924F, IT24F, 924GZ, 924G, 928GZ, IT28G, 924G, 928H, 924H, 930G, 924HZ, 924H, 928GZ, 930H, 924K, 930K	329-7949	1475	139	547	336-8289	8T-5878, 8T-1482, 8T-4001	20, 40, 20
Small Wheel Loader	IT18F, 928F, IT28F, 928G, IT28G, 924F, IT24F, 924GZ, 924G, 928GZ, IT28G, 924G, 928H, 924H, 930G, 924HZ, 924H, 928GZ, 930H, 924K, 930K	324-3430	1475	139	537	336-8289	8T-5878, 8T-1482, 8T-4001	20, 40, 20

<sup>9</sup> Machine applications are based on common bolt pattern and pilot dimensions between machine models. The machine must be weighed to verify ROPS compliance before installing Flexport tires.

# Wheel Loader

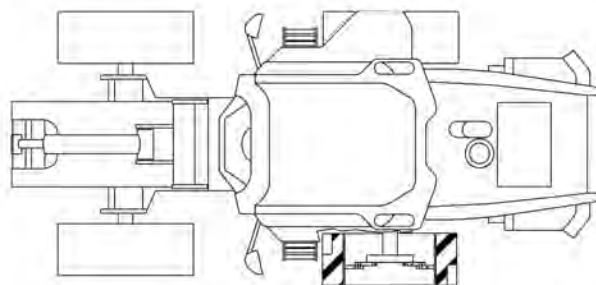
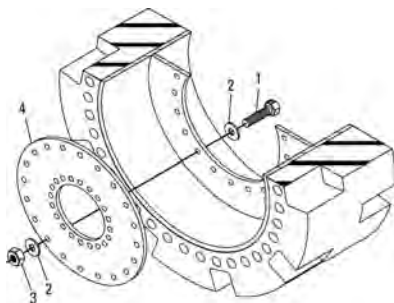
## Small Wheel Loader (cont'd.)

Machine Size	Machine Application <sup>(10)</sup>	Tire Assembly PIN	Tire Diameter	Tread Depth to the Top of the Wear Bar	Section Width	Adapter Disc	Assembly Hardware (Bolt, Washer, Nut)	Assembly Hardware Quantity (Bolt, Washer, Nut)
Small Wheel Loader	IT18F, 928F, IT28F, 928G, IT28G, 924F, IT24F, 924GZ, 924G, 928GZ, IT28G, 924G, 928H, 924H, 930G, 924HZ, 924H, 928GZ, 930H, 924K, 930K	324-3436	1520	161	543	336-8289	8T-5878, 8T-1482, 8T-4001	20, 40, 20
Small Wheel Loader	IT18F, 928F, IT28F, 928G, IT28G, 924F, IT24F, 924GZ, 924G, 928GZ, IT28G, 924G, 928H, 924H, 930G, 924HZ, 924H, 928GZ, 930H, 924K, 930K	324-3437	1519	161	541	336-8289	8T-5878, 8T-1482, 8T-4001	20, 40, 20
Small Wheel Loader	938K	324-3436	1520	161	543	369-4675	8T-5878, 8T-1482, 8T-4001	20, 40, 20
Small Wheel Loader	938K	324-3437	1519	161	541	369-4675	8T-5878, 8T-1482, 8T-4001	20, 40, 20

## Medium Wheel Loader

### Medium Wheel Loader

Refer to illustration below	
Item	Description
1	Bolt
2	Washer
3	Hex Nut
4	Mounting Disc



<sup>10</sup> Machine applications are based on common bolt pattern and pilot dimensions between machine models. The machine must be weighed to verify ROPS compliance before installing Flexport tires.

## Medium Wheel Loader (cont'd.)

Machine Size	Machine Application <sup>(10)</sup>	Tire Assembly PIN	Tire Diameter	Tread Depth to the Top of the Wear Bar	Section Width	Adapter Disc	Assembly Hardware (Bolt, Washer, Nut)	Assembly Hardware Quantity (Bolt, Washer, Nut)
Medium Wheel Loader	950G, 950H, 962G, 962G, 962H, IT62G, 950K, 962K	332-5712	1632	201	653	364-1289	7X-2577, 267-3507, 268-8262	20, 40, 20
Medium Wheel Loader	950G, 950H, 962G, 962G, 962H, IT62G, 950K, 962K	324-3431	1629	202	645	364-1289	7X-2577, 267-3507, 268-8263	20, 40, 20
Medium Wheel Loader	966, 814F, 966G II, 966H, 972G, 972G II, 972H, 966K, 972K	316-0529	1778	224	710	364-1290	7X-2577, 267-3507, 268-8264	20, 40, 20
Medium Wheel Loader	966, 814F, 966G II, 966H, 972G, 972G II, 972H, 966K, 972K	322-9596	1757	223	728	364-1290	7X-2577, 267-3507, 268-8265	20, 40, 20
Medium Wheel Loader	824G, 824G II, 824H, 825G, 834G, 834H, 980G, 980GII, 980H, 980H II, 980K	324-3432	1889	243	800	NA	NA	Na
Medium Wheel Loader	824G, 824G II, 824H, 825G, 834G, 834H, 980G, 980GII, 980H, 980H II, 980K	324-3433	1889	243	800	NA	NA	NA

<sup>10</sup> Machine applications are based on common bolt pattern and pilot dimensions between machine models. The machine must be weighed to verify ROPS compliance before installing Flexport tires.



Competitive Skid Steer Loader .....36

# Competitive Skid Steer Loader

## CASE

For tire specifications, please see the “General Tire Information” section at the beginning of the guide.

	Model															
Part Number	40XT	60XT	70XT	75XT	85XT	90XT	95XT	570LXT	410-420	430-465	1835C	1838	1840	1845	1845B	1845C
Flexport Construction																
329-6783		X	X	X	X	X	X	X		X					X	X
329-6784		X	X	X	X	X	X	X		X					X	X
329-6989	X								X					X	X	X
329-6990	X								X					X	X	X
Premium Conventional																
185-9932									X		X	X	X			
185-9933										X				X	X	X
214-2514											X	X	X			
214-2519														X	X	

## GEHL

For tire specifications, please see the “General Tire Information” section at the beginning of the guide.

	Model																
Part Number	4240E	4515	4610	4615	4625	4635	4635XIT	4835	5240E	5625	5635	5640E	6620	6625	6635	6640E, 7810E	V270
Flexport Construction																	
329-6783								X			X	X	X	X	X		X
329-6784								X			X	X	X	X	X		X
329-6986	X						X		X	X							
329-6990	X						X		X	X							
Premium Conventional																	
185-9932		X	X	X	X	X		X		X	X				X		
185-9933																	
214-2533						X		X									
214-2534						X					X						
214-2535								X		X	X				X		
242-0620															X	X	
XD																	
214-2533						X		X									
214-2534						X					X						
214-2535								X		X	X				X		
222-3962		X	X	X	X	X		X		X	X				X		

# Competitive Skid Steer Loader

	Model																
Part Number	4240E	4515	4610	4615	4625	4635	4635XIT	4835	5240E	5625	5635	5640E	6620	6625	6635	6640E, 7810E	V270
Low Side Wall																	
185-9934		X	X	X	X												
214-2523		X	X	X	X												

## JCB

For tire specifications, please see the “General Tire Information” section at the beginning of the guide.

	Model
Part Number	190
Flexport Construction	
329-6989	X
329-6990	X

## JOHN DEERE

For tire specifications, please see the “General Tire Information” section at the beginning of the guide.

	Model														
Part Number	240	250	260	270	310SE	313	315, 317	320, 325	328, 332	675	4475	5575	6675	7775	8875
Flexport Construction															
329-6783		X	X		X			X							X
329-6784		X	X		X			X							X
329-6989	X					X	X						X	X	
329-6990	X					X	X						X	X	
Premium Conventional															
185-9932	X					X	X			X	X	X	X	X	
185-9933		X	X					X							X
214-2514										X	X	X			
214-2515													X	X	
214-2517															X
214-2530	X														
242-0620			X	X					X						
XD															
214-2514										X	X	X			
214-2515													X	X	
214-2530	X														

# Competitive Skid Steer Loader

	Model														
Part Number	240	250	260	270	310SE	313	315, 317	320, 325	328, 332	675	4475	5575	6675	7775	8875
222-3962	X									X	X	X	X	X	
222-3963		X	X												
Premium Conventional Flotation															
199-5440		X	X												X

## MELROE BOBCAT

For tire specifications, please see the “General Tire Information” section at the beginning of the guide.

	Model									
Part Number	S130-S205	S220-S630	S330	742	743	751	753	753L	763	773
Flexport Construction										
329-6783		X								
329-6784		X								
329-6989	X			X	X	X	X	X	X	X
329-6990	X			X	X	X	X	X	X	X
Premium Conventional										
185-9932	X			X	X		X	X	X	X
185-9933		X								
214-2515				X	X		X	X	X	X
242-0620			X							
XD										
214-2515				X	X		X	X	X	X
222-3962				X	X		X	X	X	X

## MELROE BOBCAT (Continued)

For tire specifications, please see the “General Tire Information” section at the beginning of the guide.

	Model								
Part Number	843	853	853G	863	863G	873	883	7753	8853
Flexport Construction									
329-6783	X	X	X	X	X	X	X		
329-6784	X	X	X	X	X	X	X		
329-6989								X	X
329-6990								X	X
Premium Conventional									



# Competitive Skid Steer Loader

185-9932								X	
185-9933	X	X	X	X		X			X
214-2515								X	
214-2518	X	X	X	X		X			X
<b>XD</b>									
214-2515								X	
214-2518	X	X	X	X		X			X
222-3962								X	
222-3963	X	X	X	X		X			X
<b>Premium Conventional Flotation</b>									
199-5440	X	X	X	X		X			X

## MUSTANG

For tire specifications, please see the “General Tire Information” section at the beginning of the guide.

	<b>Model</b>										
<b>Part Number</b>	<b>920</b>	<b>930A</b>	<b>940</b>	<b>960</b>	<b>2042</b>	<b>2044</b>	<b>2050</b>	<b>2054</b>	<b>2060</b>	<b>2070</b>	<b>2074</b>
<b>Flexport Construction</b>											
329-6783				X					X	X	X
329-6784				X					X	X	X
329-6989					X	X	X	X			
329-6990					X	X	X	X			
<b>Premium Conventional</b>											
185-9932	X	X	X								
185-9933				X					X		
214-2514	X	X	X								
214-2519				X							
214-2535									X		
<b>XD</b>											
214-2514	X	X	X								
214-2519				X							
214-2535									X		
222-3962	X	X	X								
222-3963				X					X		

# Competitive Skid Steer Loader

## NEW HOLLAND

For tire specifications, please see the “General Tire Information” section at the beginning of the guide.

	Model														
Part Number	L-465	L-553	L-555	L-565	L-585	L-781	L-783	L-785	L-865	L-885	L-985	LS-140	LS-150	LS-160	LS-170
Flexport Construction															
329-6783								X	X						
329-6784								X	X						
329-6989					X									X	X
329-6990					X									X	X
Premium Conventional															
185-9932	X	X	X	X	X							X	X	X	X
185-9933						X	X	X	X	X	X				
214-2514	X	X	X									X	X		
214-2515				X	X									X	X
214-2517						X	X	X	X	X	X				
242-0620											X				
XD															
214-2514	X	X	X									X	X		
214-2515				X	X									X	X
214-2517						X	X	X	X	X	X				
222-3962	X	X	X	X	X							X	X	X	X
222-3963						X	X	X	X	X	X				
Premium Conventional Flotation															
199-5440						X	X	X	X						

## NEW HOLLAND (Continued)

For tire specifications, please see the “General Tire Information” section at the beginning of the guide.

	Model										
Part Number	LS-180	LS-190	LX-465	LX-485	LX-565	LX-585	LX-665	LX-695	LX-865	LX-885	LX-985
329-6783	X	X							X	X	X
329-6784	X	X							X	X	X
329-6989			X		X		X				
329-6990			X		X		X				
Premium Conventional											
185-9932			X	X	X	X	X	X			
185-9933	X	X							X		
214-2514			X	X							

# Competitive Skid Steer Loader

	Model										
Part Number	LS-180	LS-190	LX-465	LX-485	LX-565	LX-585	LX-665	LX-695	LX-865	LX-885	LX-985
214-2515					X	X	X	X			
214-2517	X	X							X		
242-0620		X									
XD											
214-2514			X	X							
214-2515					X	X	X	X			
214-2517	X	X							X		
222-3962			X	X	X	X	X	X			
222-3963	X	X							X		
Premium Conventional Flotation											
199-5440	X	X							X	X	

## RAM ROD

For tire specifications, please see the “General Tire Information” section at the beginning of the guide.

	Model		
Part Number	561	584	784
Premium Conventional			
185-9932	X	X	
185-9933			X
214-2515	X	X	
214-2517			X
XD			
214-2515	X	X	
214-2517			X
222-3962	X	X	
222-3963			X
Premium Conventional Flotation			
199-5440			X

## SCAT TRAK

For tire specifications, please see the “General Tire Information” section at the beginning of the guide.

	Model				
Part Number	1300C	1500C	1500D	1700CX	2300
Flexport Construction					
329-6783				X	X

# Competitive Skid Steer Loader

	Model				
Part Number	1300C	1500C	1500D	1700CX	2300
329-6784				X	X
329-6989	X	X	X		
329-6990	X	X	X		

## THOMAS

For tire specifications, please see the “General Tire Information” section at the beginning of the guide.

	Model					
Part Number	T-103	T-133	T-173	T-203	T-233	T-243
Flexport Construction						
185-9932	X	X				
185-9933			X	X	X	X
214-2514	X	X				
214-2520			X	X	X	X
XD						
214-2514	X	X				
214-2520			X	X	X	X
222-3962	X	X				
222-3963			X	X	X	X

## TOYOTA

For tire specifications, please see the “General Tire Information” section at the beginning of the guide.

	Model							
Part Number	T-173	T-173HL	T-173HLS	T-175	T-233HD	T-245	2SDK7	2SDK8
Flexport								
226-3734	X	X	X	X	X	X		
226-3735	X	X	X	X	X	X		
226-3736							X	
226-3737							X	
Premium Conventional								
185-9932								X
214-2515								X
XD								
214-2515								X
222-3962								X

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# Safety Recommendations

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## Safety Instructions

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### Safety Instructions

Any tire, no matter how well constructed, may fail as a result of punctures, impact damage, improper inflation, or other conditions resulting from use or misuse. Tire failure may create a risk of property damage, personal injury, or death. To reduce the risk of tire failure, read and follow all safety information contained in this manual and in industry publications.

The safety related information provided in this manual is designed to assist supervisory and service technicians in servicing rim wheel assemblies. Responsibility for implementing these safety guidelines rests with supervisors and service technicians doing the actual service work. Read and fully understand all procedures before attempting to service a rim wheel assembly.

These instructions are not designed to apply to any specific tire, rim, or rim wheel assembly. Therefore, contact the tire, rim, or rim wheel assembly manufacturer for correct servicing procedures. Always follow instructions from the manufacturers of the tires, rim, and vehicle for deflating, demounting, and inflating. Always follow applicable industry guidelines when servicing rim wheel assemblies. Also, follow all State and Federal health and safety laws and/or local regulations.

Never perform inspection, service, or inflation operations while in the rim wheel assembly trajectory path.

Misapplication, improper inflation, overloading, and exceeding maximum speed may cause tire failure, possibly resulting in injury or death. Proper care is your responsibility. If you have any doubt about the correct, safe method of performing any step in the demounting, mounting, adding or removing fill, or inflating process – STOP! Seek out expert assistance from a qualified person.

### Inspection Checklist

Many tire failures are preceded by vibration, bumps, bulges, or irregular wear. Have vehicle operators report any unusual vibrations and perform regularly scheduled inspections on all tires.

- Inspect tires for excessive wear, damage, or imperfections that may affect the wear life and capacity of tires. Replace any tires that appear to show signs of excessive wear, are damaged, or defective in any way
- Inspect tires for cuts, cracks, splits, or bruises in the tread and sidewall area. Bumps or bulges may indicate tire separation within the tire body.
- Inspect tires for a safe tread depth. Any tire worn to the built-in wear indicators (where available) or less tread groove depth or with a tire cord or fabric exposed must be replaced immediately.
- Inspect tires for uneven wear. Wear on one side of the tread or flat spots in the tread may indicate a problem with the tire or the vehicle.
- Remove water and foreign material from the tire. Tires and tubes with excessive or uneven wear, cracks, tears, punctures, blisters and /or other damage may explode during inflation of service. If potential failure of a tire or tube is suspected, destroy the tire or tube and replace it with a serviceable tire or tube of the correct size, type, and manufacture for the assembly, machine, and application.
- When conducting routine tire inspections, also make a visual inspection of tire and rim parts. Always replace any parts found to have damage or non-conformities. Parts that are cracked, worn, pitted with corrosion, or damaged must be destroyed and replaced with serviceable parts.

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## Safety Instructions (cont'd.)

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- Always inspect both sides of the tire to assure a proper bead seat. When conducting routine tire inspections also make a visual inspection of wheel and rim components. Always correct any damage found.

---

## Safety Checklist

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### Rims

- Always use approved tire and rim combinations for sizes and contours.
- Always verify that part numbers and size designations of rims match machine specs.
- DO NOT use a steel hammer on any part of the rim, because this can damage the rim. If you must reposition tire or rim parts, use a rubber, plastic, or brass-faced hammer.
- Never try to repair a rim assembly
- Rims that are cracked, worn, pitted with corrosion, or otherwise damaged must be destroyed and replaced with serviceable parts.
- Destroy old rims. Using damaged rims can result in serious injury or death.

### Tires

- Always replace damaged or badly worn tires. When replacing tires, always use the recommended replacement.
- Destroy old tires. Using badly worn or damaged tires can result in serious injury or death.
- Never put flammable substances in a rim wheel assembly, such as starting fluid, ether, gasoline, or any other flammable material to lubricate, seal, or seal the bead of tire. Never attempt to seal tire beads by igniting flammable substances on the rim wheel assembly. These actions can cause an explosion resulting in serious injury or death.

### Inflation

- Never reinflate a tire that has lost air pressure without determining and correcting the problem.
- Always exhaust all air from the tire prior to demounting
- Always use restraining devices (safety cages) when inflating tires. Not using a restraining device or safety cage can result in serious injury or death.
- Always use a clip-on air chuck and a hose that is long enough to allow you to stand outside the tire trajectory. The air line must be equipped with an in-line valve with a pressure gauge or a regulator that can be preset.
- Never inflate a tire beyond 2.41 bar (35 psi) to seat a tire bead. Always inspect both sides of the tire to assure a proper bead seat. If the tire bead is not fully seated at 2.41 bar (35 psi): STOP! Deflate the tire and correct the problem.
- Never exceed manufacturer's recommended tire inflation pressure. Misapplication, improper inflation, and overloading a vehicle may cause tire failure resulting in serious injury or death.

### Wheel Assembly

- Servicing tires and rims can be extremely dangerous and should be performed by trained personnel only, using the correct tools, and following the procedures presented in this manual, in OEM manufacturers' manuals, or in other industry and government instructions.

# Safety Recommendations

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## Safety Checklist (cont'd.)

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- Never leave a rim wheel assembly unsecured in a vertical position.
- Always be careful when moving tires and rims to prevent endangering bystanders.
- Always use proper lifting techniques or mechanized lifting aids to move heavy objects, assemblies, components, and parts. DO NOT attempt to lift objects that are too heavy.
- Failure to chock the tires and crib the vehicle can result in serious injury or death. DO NOT work under an unblocked load.
- Several types of tire changing equipment are available. Installers should be fully trained in correct operating procedures and safety instructions for the specific equipment being used. Always read and understand any manufacturer's warning contained in the product literature or attached to the equipment.
- Never hammer, strike, or pry an inflated or partly inflated rim wheel assembly. If any rim part does not seat correctly, deflate the tire and inspect the rim wheel assembly. If any rim part does not seat correctly, deflate the tire and inspect for warped or incorrectly seated parts, such as lock rings.
- If the rim wheel assembly does not slide on the vehicle: DO NOT force the rim wheel assembly by hammering it. Deflate the tire and inspect the rim wheel assembly.
- NEVER weld on an inflated or partially inflated rim wheel assembly, because it may cause an explosion, resulting in serious injury or death.



## General Technician Warnings

### Training



Servicing tires and rims should only be performed by trained personnel using proper tools and following specific procedures. Servicing tires and rims can be extremely dangerous and failure to follow these warnings could lead to serious injury or death.

Any person assigned to service rim wheel assemblies must be able to demonstrate and maintain the ability to service rim wheel assemblies safely, including (but not limited to):

- handling rim wheel assemblies,
- demounting tires (including deflation),
- installing and removing rim wheel assemblies,
- inspecting and identifying rim parts,
- mounting tires (including tire inflation with the required safeguards),
- inflating a tire on a rim assembly while it is mounted on the vehicle,
- using a restraining device or barrier,
- standing outside the trajectory path during inflation of the tire, and
- inspecting the rim wheel assembly following inflation of the tire.

Several types of tire changing equipment are available. Installers should be fully trained in the correct operating procedures and safety instructions for the specific machine being used. Always read and understand any manufacturer's warning contained in the product literature or attached to the equipment.

### Slips or Falls



Personal injury can result from slips or falls. **DO NOT** leave tools or parts laying around the work area and clean up all spilled fluids immediately

### Pinch Points

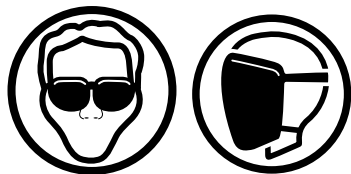


Keep loose clothing and fingers away from pinch areas to prevent pinching and crushing.

# General Technician Warnings

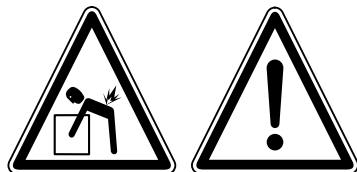
## General Technician Warnings (cont'd.)

### Eye Protection



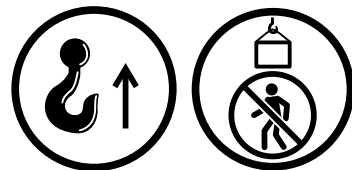
To avoid eye injury, always wear protective glasses or face shield when using any equipment, a hammer, or similar tool. Chips and debris can fly off objects when struck. Make sure no one can be injured by flying debris before striking any object.

### Proper Techniques



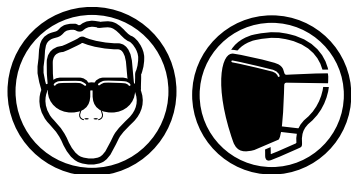
To prevent personal injury, always use proper lifting techniques or mechanized lifting aids to move heavy objects, assemblies, and parts. DO NOT attempt to lift objects that are too heavy.

### Hoist Awareness



When a hoist is used to lift any part or assembly, stand clear of the area under the part being raised. Make sure the lifting cables and other lifting devices are strong enough to support the part.

### Eye Protection



To avoid eye injury, always wear protective glasses or face shield. Make sure no one can be injured by flying objects or debris when using tools or working on the equipment or the vehicle.

### Air Protection



Personal injuries can occur as a result of using pressurized air. Maximum air pressure at the nozzle must be below 205 kPa (30 psi) for cleaning purposes. Wear protective clothing, protective glasses, and a protective face shield when using pressure air or when releasing pressure air from a tire.

### Protective Gear



To avoid serious personal injury, always wear proper protective gear, such as hard hats, safety glasses, gloves, steel toe shoes, and hearing protection when servicing tires and rims.

### Matching Tires, Rims, and Rim Parts

Always use approved tire and rim combinations, sizes, contours, and tapers. Most tires will fit on more than one rim width. Always use the correct tire for the rim.

There is a danger of serious injury or death if a tire of one bead diameter is installed on a rim with a different diameter. Always replace a tire with another tire of exactly the same bead diameter designation and suffix letters.

## General Technician Warnings (cont'd.)

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### Example

- Mount a 16 inch tire on a 16 inch rim.
- Never mount a 16 inch tire on a 16.1 inch or 16.5 inch rim.
- Mount a 16.5 inch tire on a 16.5 inch rim.
- Never mount a 16.5 inch tire on a 16 inch or 16.1 inch rim.

### Repairing Tires and Rims

DO NOT make any repairs to a tire unless the repairs are authorized and recommended by the tire industry and/or tire manufacturer.

Never drive on an improperly repaired tire, which may cause further damage and eventual tire failure resulting in personal injury or death.

Never repair a tire without removing the tire from the rim assembly and never use a tube as a substitute for a tire repair or replacement. Always use an inside patch and a plug to repair a tire unless the hole is too small to insert a plug. DO NOT use a plug without an inside patch to repair a tire.

Never repair a tire with less tread than the tread wear indicators (where available), with a puncture larger than 6.4 mm (.25 in) diameter, and/or damage outside the tread or sidewall area. These tires must be replaced because they cannot be safely repaired.

DO NOT attempt to repair a tire using an aerosol fixer to inflate and seal the tire. An aerosol fixer may contain highly volatile gas that can be ignited by an excessive heat source, flame, or sparks. Any tire with an aerosol fixer must be removed from all heat sources and be completely deflated before removing the tire from the rim.

### Tire Changing Equipment / Tools

Several types of tire changing equipment are available and service technicians must be fully trained in the correct safety procedures and instructions for any specific tire changing machine. Always read and understand any warnings contained in the manufacturer's manuals or attached to the equipment.

If used, keep a firm grip on tire irons. They may spring back, resulting in personal injury.

When using a bead breaker, always stand to one side of the rim to maintain control of the bead breaker and DO NOT hold the bead breaker when breaking the tire bead. If the bead breaker is not seated properly and flies off the rim, it could cause serious injury or death.

# Flexport Mounting Instructions

## Flexport Mounting Instructions

**Small Wheel Loaders**  
**Model: 924K, 930K, 938K**

### Assembly Instructions

Adapter disc must be mounted on the deep side of the rim to maintain proper offset.

The final assembly must be mounted as shown in the diagram below.

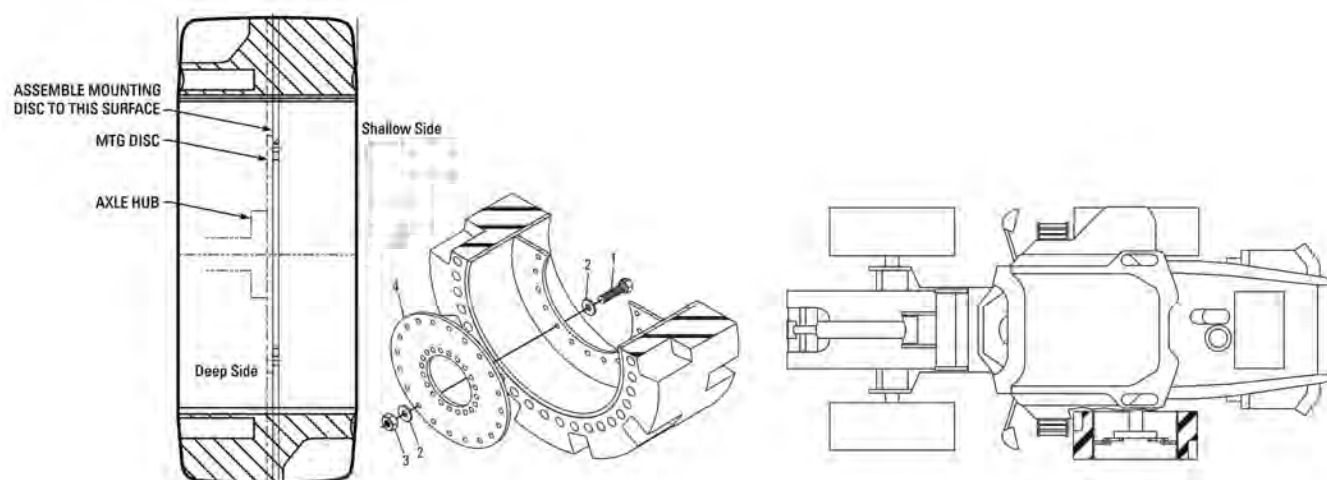
Paint, rust, grease must be removed from the adapter disc / rim mounting surfaces prior to assembly.

Paint, rust, grease must be removed from areas under washers prior to assembly.

After assembly, tire, rim and hardware should be painted to prevent corrosion.

Paint should meet Caterpillar 1E1952A specifications for high performance yellow topcoat.

Refer to illustration below	
Item	Description
1	Bolt
2	Washer
3	Hex Nut
4	Mounting Disc



Tire/Rim	Adapter Disc	Bolt		Washer		Nut			
Part Number	Part Number	Part Number	Qty	Part Number	Qty	Part Number	Qty	Adapter Fastener Torque (Nm)	Conventional Size
329-7949 324-3430 324-3436 324-3437	336-8289 (924K, 930K) 369-4675 (938K)	8T-5878	20	8T-1482	40	8T-4001	20	900.00 (938K)	20.5 x 25

## Flexport Mounting Instructions (cont'd.)

### Medium Wheel Loaders and Integrated Toolcarrier Models: 950K, 962K, 966K, 972K

#### Assembly Instructions

Adapter disc must be mounted on the deep side of the rim to maintain proper offset.

The final assembly must be mounted as shown in the diagram below.

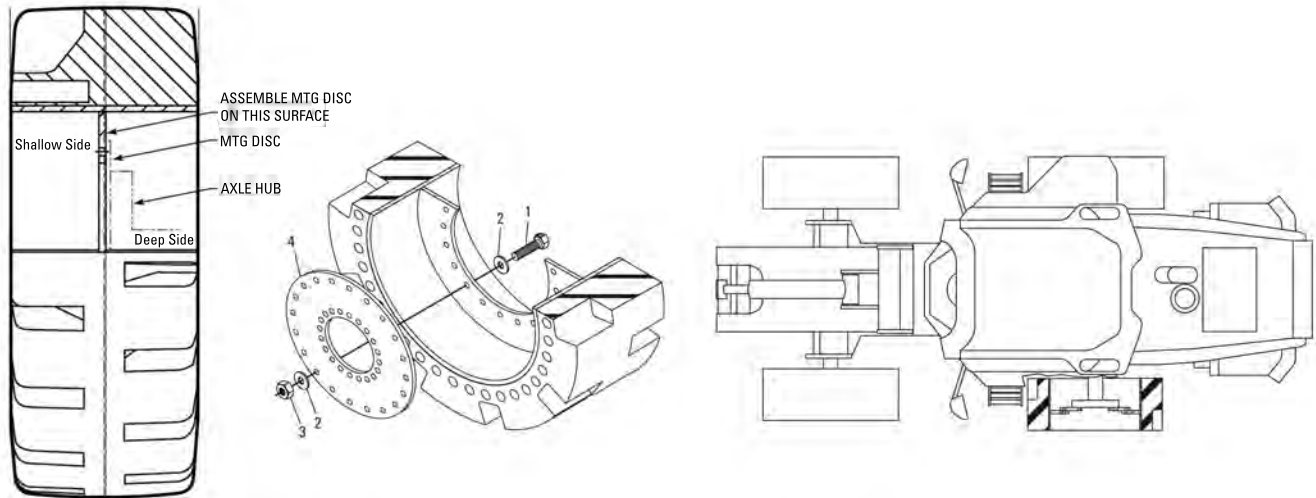
Paint, rust, grease must be removed from the adapter disc / rim mounting surfaces prior to assembly.

Paint, rust, grease must be removed from areas under washers prior to assembly.

After assembly, tire, rim and hardware should be painted to prevent corrosion.

Paint should meet Caterpillar 1E1952A specifications for high performance yellow topcoat.

Refer to illustration below	
Item	Description
1	Bolt
2	Washer
3	Hex Nut
4	Mounting Disc



Tire/Rim	Adapter Disc	Bolt		Washer		Nut			
Part Number	Part Number	Part Number	Qty	Part Number	Qty	Part Number	Qty	Adapter Fastener Torque (Nm)	Conventional Size
332-5712 324-3431	364-1289	7X-2577	20	267-3507	40	268-8262	20	800.00	23.5 X 25
322-9596 324-3432	364-1290	7X-2577	20	267-3507	40	268-8262	20	1000.00	26.5 X 25

# Pressure

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## Pressure

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### Warning



Personal injury can result from pressurized air. When releasing pressure air from the tire, wear a protective face shield or protective glasses.

### Pressure



Always purge all air from the tire prior to demounting. Never reinflate a tire that has lost air pressure without determining and correcting the problem. Never exceed 241 kPa (35 psi) or the maximum tire inflation pressure when seating beads. Never exceed the manufacturer's recommended tire inflation pressure. Always use restraining devices (safety cages) when inflating tires.

Misapplication, improper inflation, overloading the vehicle, or exceeding maximum speed may cause tire failure resulting in injury or death.

Never inflate a tire unless it is secured to the vehicle or enclosed in a restraining device. Never reinflate a tire that has lost air pressure or operate a vehicle with a tire that has been reinflated without determining and correcting the problem.

Driving on damaged or underinflated tires is dangerous. Underinflated tires may:

- reduce the wear life of the tire,
- adversely affect vehicle handling,
- increase fuel consumption,
- become overheated, and damage the tire resulting in tire failure.

Check air pressure at least once a week and make sure the air pressure gauge is accurate. If tires lose more than 14 kPa (2 psi) per month, the tire, the valve, or rim assembly may become damaged, creating a dangerous situation, and possibly resulting in serious injury or death.

Check the air pressure when tires are "cold". Tires are "cold" when the vehicle has been driven less than a mile at moderate speed or after being stopped for three or more hours.

Never exceed a manufacturer's recommended tire inflation pressure. If air pressure must be added when a tire is hot, add 28 kPa (4 psi) above the recommended "cold" air pressure and recheck the inflation pressure when the tire is "cold".

Driving on tires with too much air pressure can be dangerous. Tires with too much air pressure are more likely to be cut, punctured, or broken by sudden impact.

Never release air from a "hot" tire to reach the recommended "cold" tire air pressure. Normal driving causes tires to run hotter and air pressure to increase. If air is released from a "hot" tire it may cause the tire to be dangerously underinflated.

## Deflating Tires

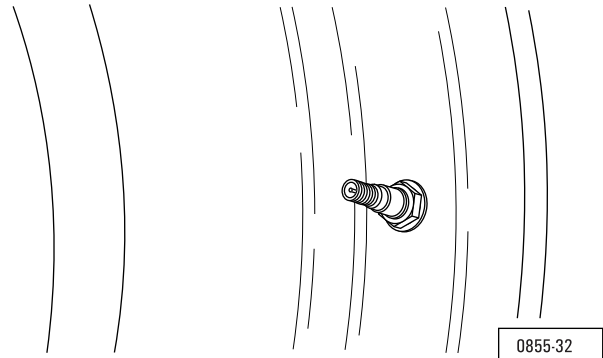
### Warning

#### Deflating Tires

To prevent personal injury or death, **DO NOT** attempt to repair a rim wheel assembly until you are certain the tire has been deflated appropriately. Always remove the valve core and exhaust all possible air from the tire prior to demounting. Always deflate tires before removing the rim or a rim part, such as a rim clamp or nut.

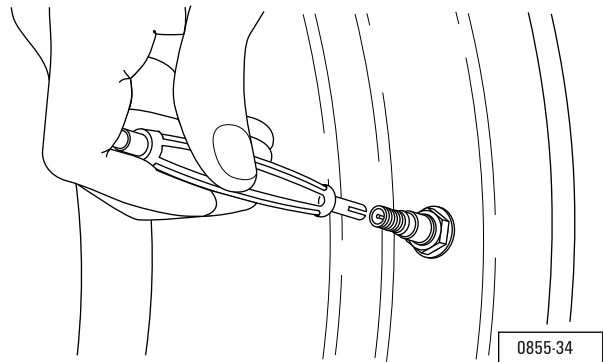
### NOTE:

The configuration of the valve stem will not be the same for every tire.



### Step 1

Use a valve core removal tool to remove the valve core.



#### WARNING

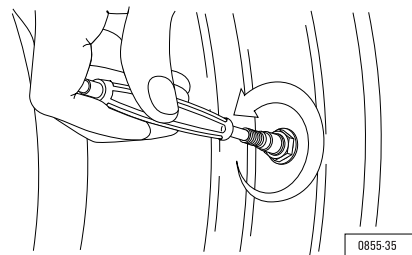
Use extreme caution when removing the valve core from a tire with liquid filler. Pressure on the valve core could cause the valve core to be violently propelled, resulting in severe injury. Avoid standing in the trajectory path of the valve stem when removing the valve core.

# Tire Maintenance

## Deflating Tires (cont'd.)

### Step 2

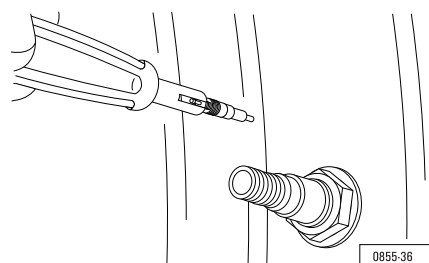
Turn the valve core counterclockwise for removal and clockwise for installation.



### Step 3

With the valve core removed, run a wire inside the valve stem to make sure the valve stem is not plugged and all possible air is released. If the tire is part of a dual tire assembly, make sure the air is removed from both tires.

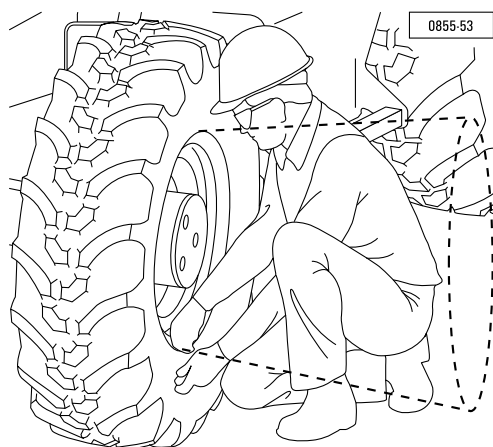
**NOTICE:** DO NOT puncture, rupture, bend, or twist the valve stem while releasing air from the tire.



## Trajectory Path

### ⚠ WARNING

### Basic Inspection and Service Principles

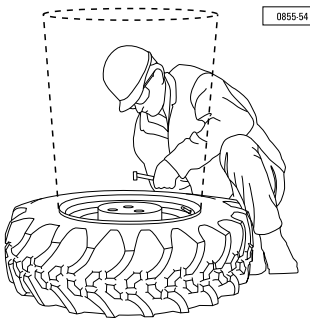
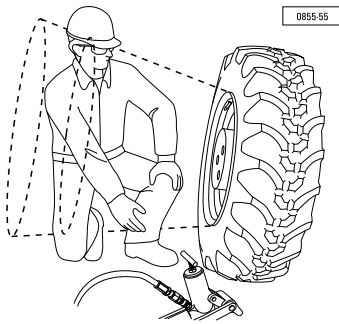


Stay completely out of the trajectory path indicated by the marked areas in the following illustrations. **NEVER** stand, lean, or reach across the rim wheel assembly trajectory path during inspection, service, or inflation operations.



## Trajectory Path (cont'd.)

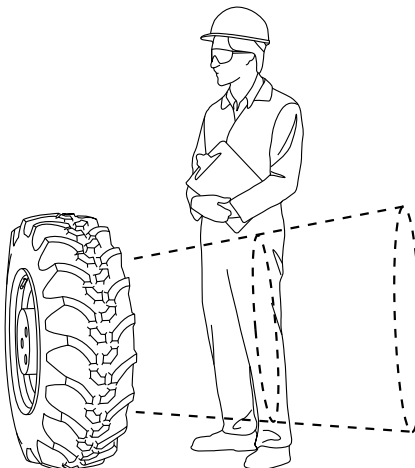
### Trajectory Path



The trajectory path may be the gravest area of danger if a tire bead ruptures and/or a tire violently explodes due to misapplication, improper inflation, overloading, or for any other possible reason.

The trajectory path is any potential path or route that pieces of the rim wheel assembly may travel due to an explosive separation or sudden release of pressurized air, or an area at which an air blast from a single-piece rim wheel may be released. Be aware that under some circumstances, the trajectory path may deviate from the expected trajectory paths, which are perpendicular to the assembled position of the rim wheel at the time of separation or explosion

### Bystander Awareness



**NEVER** allow a bystander to stand, lean, or reach across the rim wheel assembly trajectory path while inspecting, servicing, or inflating a tire.

# Tire Maintenance

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## Restraining Devices

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The task of servicing tires and rims can be extremely dangerous and should be performed by trained personnel only, using the correct tools, and following the procedures presented in this manual, OEM manufacturers' instruction manuals, or other industry and government instructions.

Always use restraining devices (safety cages) when inflating tires removed from a vehicle. Not using a restraining device can result in serious injury or death.

Restraining devices are safety cages that are manufactured in a variety of styles and shapes. Restraining devices are designed to reduce the possibility of injury or death from explosive projection from rim wheel assemblies, but should never be relied upon for total protection. Allow as much distance as possible and remain out of the trajectory path while servicing or inflating tires. Not using a restraining device can result in serious injury or death.

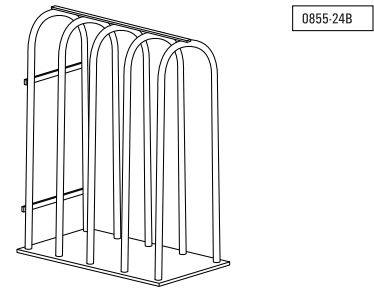
Each restraining device or barrier must:

- have the capacity to withstand the maximum force that would be transferred to it during a rim wheel separation occurring at 150 percent of the maximum tire specification pressure for the type of tire being serviced.
- be capable of preventing rim wheel parts from being thrown outside or beyond the restraining device or barrier from any rim wheel within or behind the restraining device.
- be visually inspected prior to each day's use, after any separation of rim wheel parts, or the sudden release of contained air.

Any restraining device or barrier must be removed from service if there is any sign of damage caused by mishandling, abuse, tire explosion, rim wheel separation, or corrosion, such as:

- cracks at welds
- cracked or broken framing
- bent or sprung framing
- corroded framing or parts,
- or any other structural damage which would decrease the effectiveness of the restraining device.

Restraining devices or barriers removed from service must not be returned to service until they are repaired and reinspected. Devices requiring structural repair, such as framing replacement or rewelding, must not be returned to service until they are certified by either the manufacturer or a Registered Professional Engineer as meeting the original strength requirements.

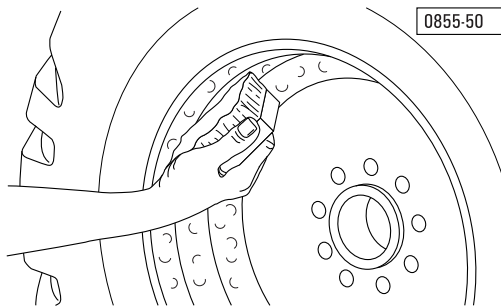


## Inspection

### Step 1

Inspect the rim for damage or irregular wear.

### Step 2



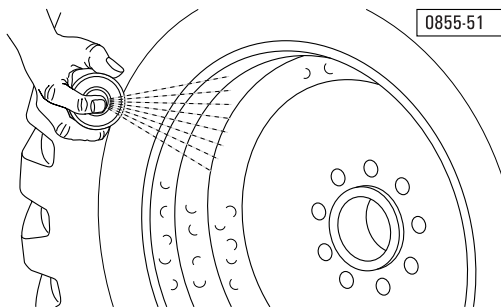
Clean the rim by removing all rust, dirt, and foreign material.

### Warning



To prevent personal injury or death, always follow all of the procedures and safety precautions prescribed by the paint manufacturer. Paint may contain products of combustion which are harmful to your health. Only use paint in a well-ventilated area or if in an enclosed area, vent the paint fumes to the outside.

### Step 3



Paint bare metal areas on rim parts.

### Step 4

Visually inspect the tire and rim to make sure they are seated properly.

# Tire Maintenance

## Inflating the Tire

### Warnings

A service technician should NEVER inflate a tire while remaining in or with bystanders in the rim wheel assembly trajectory path.

To prevent personal injury or death, NEVER inflate a tire beyond 241 kPa (35 psi) or the maximum tire inflation pressure to seat a tire bead. If the tire bead is not fully seated at 241 kPa (35 psi): STOP! Deflate the tire and correct the problem.

To prevent personal injury or death, only inflate and load tires to the manufacturer's specifications. DO NOT over-inflate or overload a tire, which can cause the tire to explode.

Never inflate a tire unless it is secured to the vehicle or enclosed in a restraining device (safety cage).

Never exceed 241 kPa (35 psi) or the maximum tire inflation pressure when seating beads.

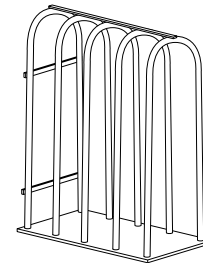
Always inspect both sides of the tire to assure a proper bead seat.

In addition to having the tire in a restraining device, the service technician must use an air line assembly for inflating tires. It should have:

- a clip-on chuck and
- an in-line valve with a pressure gauge or a presettable regulator.
- A sufficient length of air line should be used to allow the service technician to stand outside the trajectory path.

### Step 1

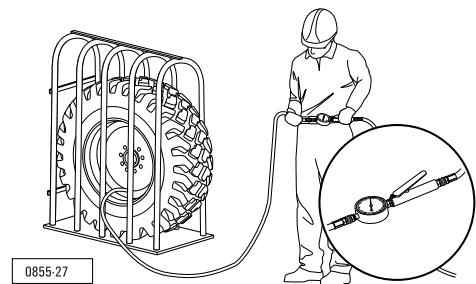
Place the tire in a safety cage or other restraining device before inflating the tire, in compliance with OSHA Regulation 29CFR 1910.177.



0855-24B

### Note

Use a clip-on air chuck, an in-line valve with pressure gauge or regulator that can be preset, and hose that is long enough to allow you to stand outside the rim wheel trajectory.



0855-27

## Inflating the Tire (cont'd.)

### Step 2

Inflate the tire to 0.345 bar (5 psi)

- Check all tire and rim parts again for proper positioning.
- If tire/rim parts are not seated properly, deflate the tire and correct the problem before proceeding.
- If tire and rim parts are seated properly, continue to inflate the tire.

### Step 3

Inflate the tire to 1.38 bar (20 psi)

- Check the tire bead for proper seating.
- If tire and rim parts are not seated properly, deflate the tire and correct the problem before proceeding.
- If tire and rim parts are seated properly, continue to inflate the tire.

### WARNING

To prevent personal injury or death, NEVER inflate a tire beyond 241 kPa (35 psi) or the maximum tire inflation pressure to seat a tire bead. If the tire bead is not fully seated at 241 kPa (35 psi): STOP! Deflate the tire and correct the problem.

### Step 4

Inflate the tire to 241 kPa (35 psi) or the maximum tire inflation pressure.

- Check the tire bead for proper seating.
- If tire/rim parts are not seated properly, deflate the tire and correct the problem before proceeding.
- Once the tire bead is fully seated at 241 kPa (35 psi) or the maximum tire inflation pressure, deflate the tire completely.

### WARNING

To prevent personal injury or death, only inflate and load tires to the manufacturer's specifications. DO NOT overinflate or overload a tire, which can cause the tire to explode.

### Step 5

Reinflate the tire slowly to a pressure within the manufacturer's specifications.

## Inflation Pressure

### Conventional

Tire Width	Wheel Diameter	Max Inflation	Suggested Inflation
178 mm (7 in)	381 mm (15 in)	414 kPa (60 psi)	310 kPa (45psi)

### Premium Conventional

Tire Width	Wheel Diameter	Max Inflation	Suggested Inflation
254 mm (10 in)	419 mm (16.5 in)	413 kPa (60 psi)	310 kPa (45 psi)
305 mm (12 in)	419 mm (16.5 in)	448 kPa (65 psi)	310 kPa (45 psi)
330 mm (13 in)	610 mm (24 in)	448 kPa (65 psi)	400 kPa (58 psi)
356 mm (14 in)	610 mm (24 in)	427 kPa (62 psi)	372 kPa (54 psi)
356 mm (14 in)	610 mm (24 in)	551 kPa (80 psi)	503 kPa (73 psi)
381 mm (15 in)	632 mm (25 in)	400 kPa (58 psi)	372 kPa (54 psi)

# Tire Maintenance

## Inflation Pressure (cont'd.)

318 mm (12/5 in)	457 mm (18 in)	320 kPa (46 psi)	276 kPa (40 psi)
429 mm (16.9 in)	711 mm (28 in)	262 kPa (38 psi)	227 kPa (33 psi)
467 mm (18.4 in)	660 mm (26 in)	220 kPa (32 psi)	193 kPa (28 psi)

### Premium Conventional Flotation

Tire Width	Wheel Diameter	Max Inflation	Suggested Inflation
394 mm (15.5 in)	419 mm (16.5 in)	241 kPa (35 psi)	207 kPa (30 psi)
394 mm (15.5 in)	419 mm (16.5 in)	379 kPa (55 psi)	310 kPa (45 psi)

### Low Side Wall

Tire Width	Wheel Diameter	Max Inflation	Suggested Inflation
265 mm (10.5 in)	521 mm (20.5 in)	413 kPa (60 psi)	310 kPa (45 psi)
305 mm (12 in)	546 mm (22 in)	448 kPa (65 psi)	310 kPa (45 psi)
330 mm (13 in)	851 mm (33.5 in)	448 kPa (65 psi)	310 kPa (45 psi)

### XD

Tire Width	Wheel Diameter	Max Inflation	Suggested Inflation
254 mm (10 in)	419 mm (16.5 in)	517 kPa (75 psi)	276 kPa (40 psi)
305 mm (12 in)	419 mm (16.5 in)	620 kPa (90 psi)	345 kPa (50 psi)

## Rotational Direction



Cat® pneumatic skid steer tires are directional tires. The lug or "tread" pattern is designed to enhance traction. By specifying the rotational direction of a tire, cross ribs and grooves are laid out so that traction improves in slippery applications. When ordering a tire and wheel assembly, it is critical to know on which side the tire will be mounted. If an incorrect tire is specified, it will need to be remounted in the correct direction of rotation.

# Determining Inset / Outset

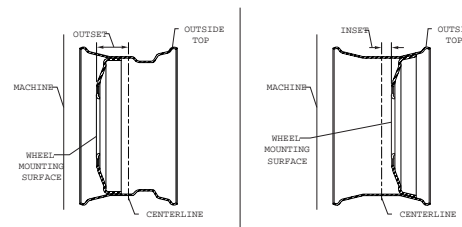
## Skid Steer Loaders

### Standard Wheel — Definitions

The terms inset and outset are used to describe how much a wheel mounting surface differs from the centerline of the wheel.

When the wheel mounting surface is positioned off of the centerline and toward the machine (pictured), the wheel is outset. This causes the tire to move away from (out from) the side of the machine.

When the wheel mounting surface is positioned off of the centerline and away from the machine, the wheel is inset. This causes the tire to move toward (in toward) the side of the machine.



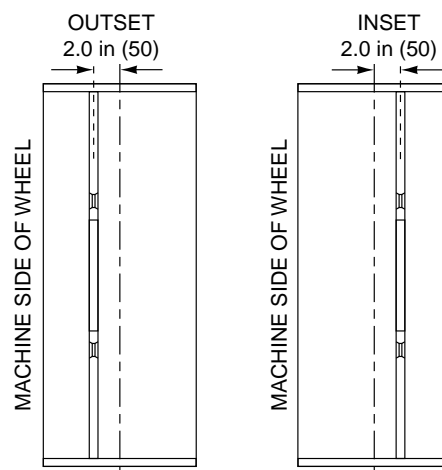
### Standard Wheel — Steps to Determine Inset or Outset

1. Determine the centerline of the wheel. Measure the width of the wheel and divide it by two.
2. Measure the distance from the outside, top (stem side) of the wheel to the face of the wheel mounting surface. Place a flat bar across the wheel and drop the ruler down into the wheel until it hits the face near the bolt holes.
3. Subtract the centerline measurement in Step 1 from the measured distance in Step 2. A positive value is an outset. A negative value is an inset.

### Solid Wheels

The Cat® extreme duty solid tire and wheel assembly has an offset of two inches. The position in which the wheel assembly is installed on a machine depends on the machine's make and model.

The same solid wheel assembly is used with all makes and models that have identical bolt hole patterns and pilot holes. Machines with a pneumatic wheel "inset" will turn the solid wheel assembly position so that the two inch offset is an "inset". Machines with a pneumatic wheel "outset" will turn the solid wheel so that the two inch offset is an "outset".





## Skid Steer Loaders (cont'd.)

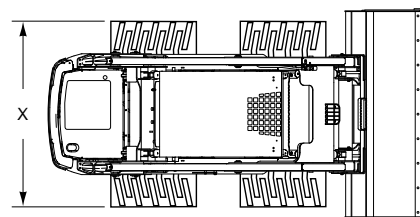
### Width Over Tire

Cat skid steer loaders can be ordered with varying "widths-over-tire." The width-over-tire measurement "X" can be changed by ordering a different wheel offset.

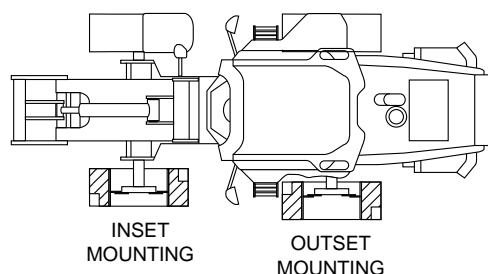
Various wheel offsets are available for Cat and competitive skid steer models.

Various wheel offset options are available in order to better accommodate varying bucket widths. A skid steer with a larger bucket on the front can perform better with the wider width-over-tire option. Tire clearance, when utilizing the wider width-over-tire option, may be a problem if the outside edge of the tires extend beyond the width of a smaller bucket.

For Cat skid steers it is important to not only know the model, but the width-over-tire dimension "X" when ordering replacement wheel assemblies.



## Wheel Loaders and Integrated Toolcarriers



Flexport Tires are available for small wheel loaders (924, 928, 936, and 938) and integrated toolcarriers (IT24, IT28, and IT38). A mounting disc which attaches to the wheel is required. The tire/wheel assembly is then attached to the machine using Cat mounting hardware and can be mounted as either inset or outset.

All mounting discs attach to the tire with  $800 \pm 100$  N·m ( $590 \pm 74$  ft. lbs.) of torque. The tire/wheel assembly then attaches to the machine using the specified bolt torque for that particular machine.

The deep side of the tire should face the machine with the mounting disc on the outboard side of the tire for "inset" mounting. This provides the narrowest distance between the outside of the tires.

"Outset" mounting faces the shallow side of the tire toward the machine with the mounting disc on the inboard side of the tire. This provides the widest distance between the outside of the tires.

# Warranty Information

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## Data Codes

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### How to Find and Read Date Codes

When checking for the date code on pneumatic tires, one side of the tire will have a date code that starts with the letters CF, followed by four numbers. The first two numbers are the week of the year, and the last two numbers are the year of manufacture. These date codes are used in case of a warranty situation.



### How to Find and Read Serial Numbers on Cat® Flexport™ Tires

The serial number on a Cat Flexport Tire will be found underneath the Cat part number, just below the elliptical ports. Serial numbers are used in case of warranty situations.



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## Evaluating Conditions of Caterpillar Tires for Warranty Replacement

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### Skid Steer Loaders

Reference: Warranty Statement, SELF5330, "Caterpillar Tire Warranty"

Reference: Warranty Bulletin, SELD0869, "Caterpillar Tire Warranty"

This section addresses the conditions of Caterpillar tires as the conditions relate to warranty replacement. Under the subjects of the warranty, tire failures are attributed to one of the following causes:

- Defects in material or in workmanship
- Application

Tire failures that are attributed to defects in material or in workmanship are covered by the warranty. Tire failures that are related to the application are not covered by the warranty. See "Warranty Replacement Guidelines" in the Warranty Bulletin for additional information on the causes of failures.

This section is provided as a tool for evaluating tire failures and for determining whether a tire should be replaced under the terms of the warranty.

### Conditions That Are Covered by the Warranty

Tire failures that are caused by defects in material or in workmanship are covered by the warranty. These conditions are listed in Table 1.

NOTE: The photographs provide examples of the conditions that are covered by the warranty.

## Evaluating Conditions of Caterpillar Tires for Warranty Replacement (cont'd.)

Table 1		
Item	Condition	Illustration No.
1	Separation of the bead	Illustration 1
2	Separation of the tread from the carcass or separation of the sidewall from the carcass.	Illustration 1
3	Cracking of the rubber in the tread or cracking of the rubber in the sidewall	Illustration 2
4	Thrown segments	Illustration 2
5	Splice opening in the tread or splice opening in the sidewall	Illustration 3
6	Splice opening in the inner liner	Illustration 3
7	Foreign material that is cured in the tire	Illustration 4

### Conditions That Are Not Covered by the Warranty

Tire failures that are related to application are not covered by warranty. The conditions that are not covered by warranty are listed in Table 2. NOTE: The photographs provide examples of the conditions that are not covered by the warranty.

Table 2		
Item	Condition	Illustration No.
1	Cuts and Tears	Illustration 5
2	Separation in a repair	Illustration 5
3	Broken bead or damaged bead due to improper mounting or due to improper dismounting.	Illustration 6
4	Bruise or break from impact	Illustration 7
5	Worn Out	Illustration 7
6	Punctures	Illustration 8

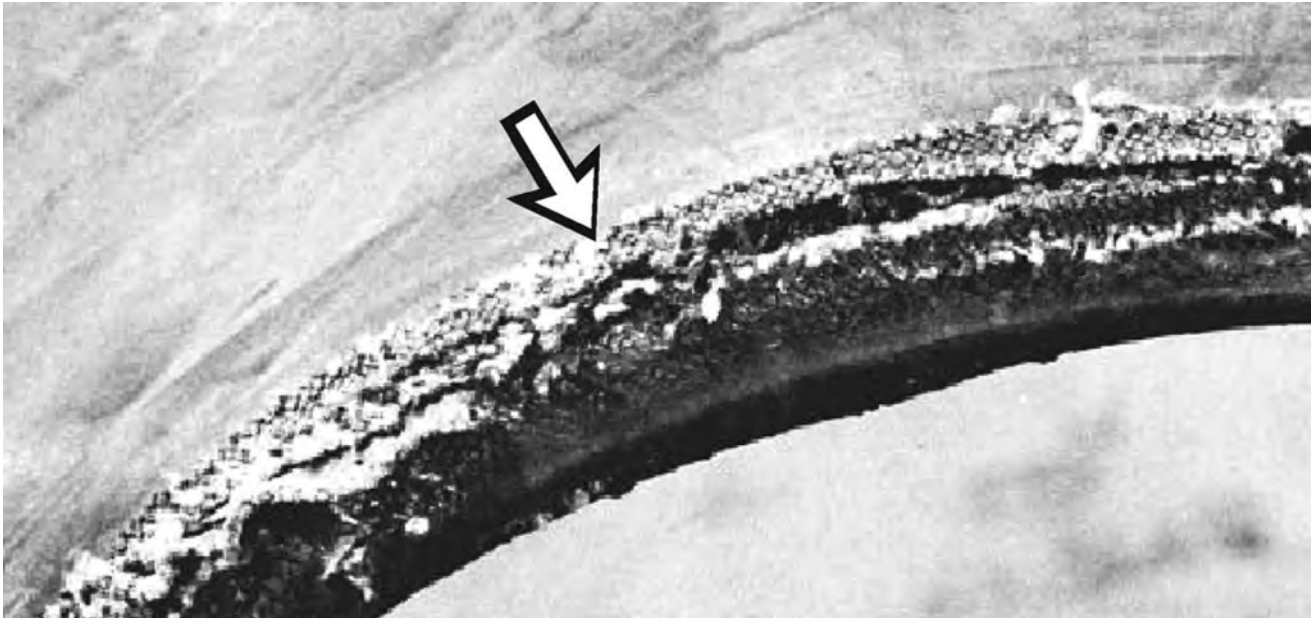
# Warranty Information

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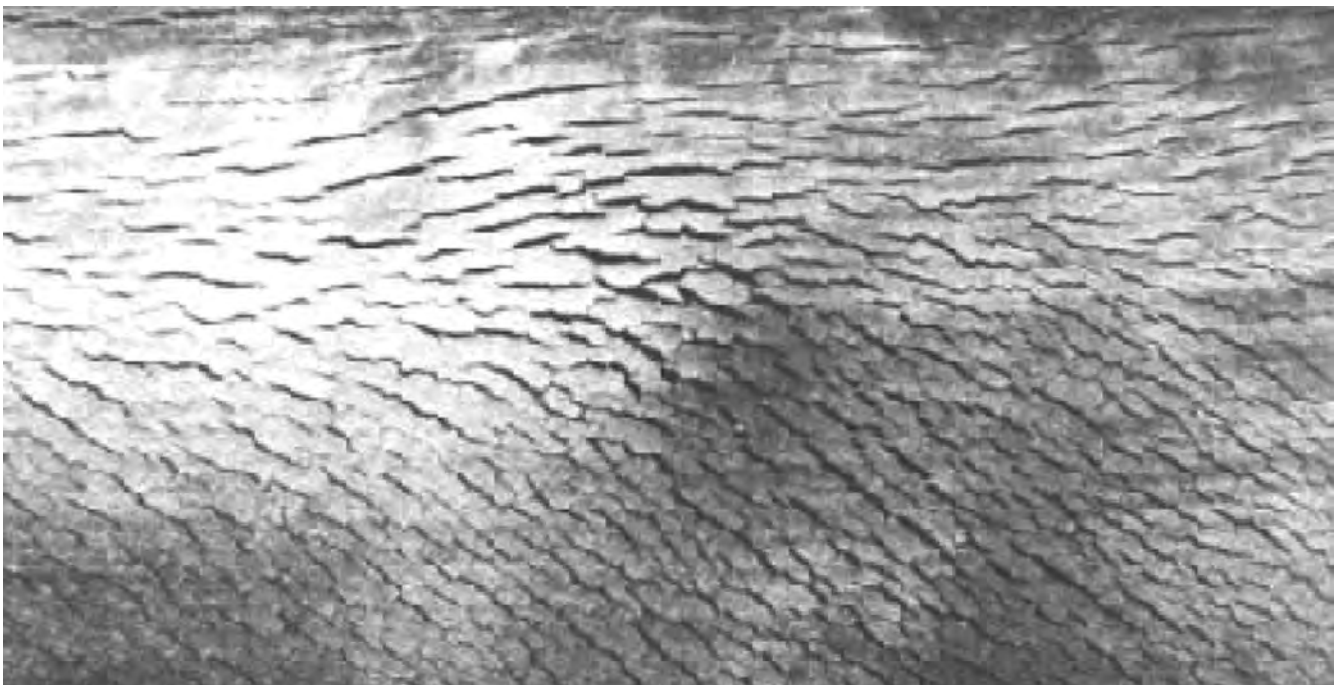
## Photographs of Conditions That are Covered by Warranty

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**Illustration 1**  
**Separation of bead**

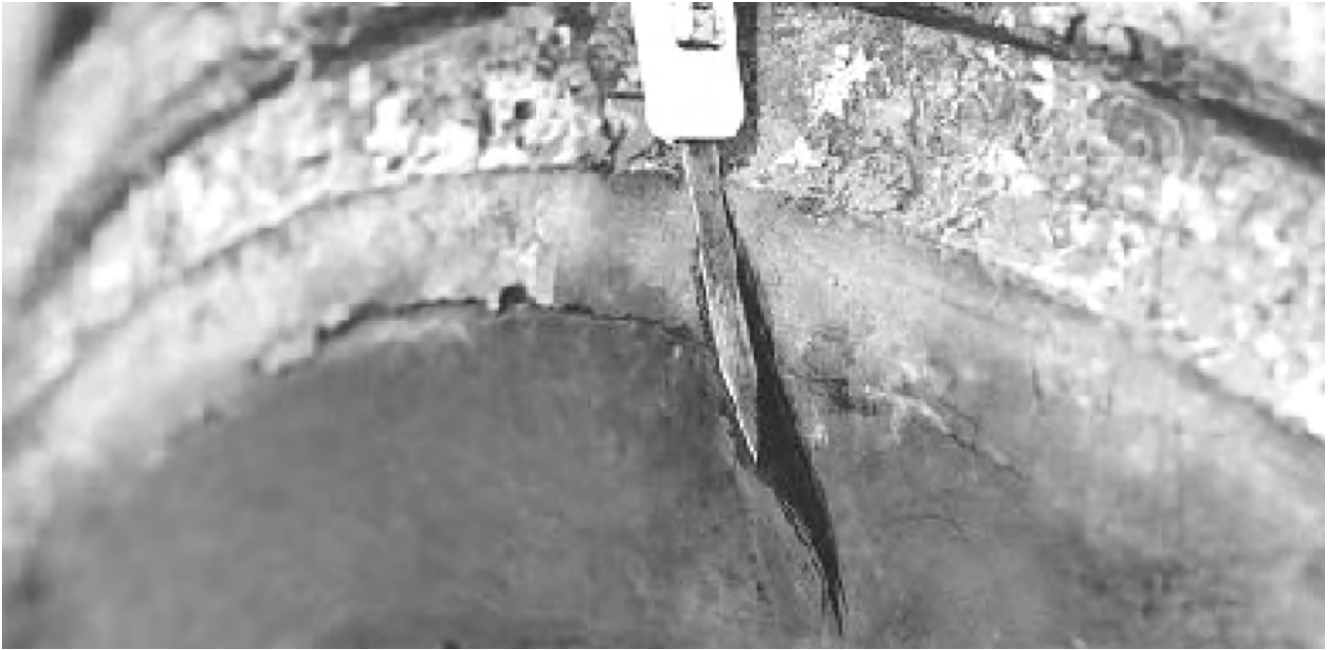


**Illustration 2**  
**Cracking of rubber in the sidewall**

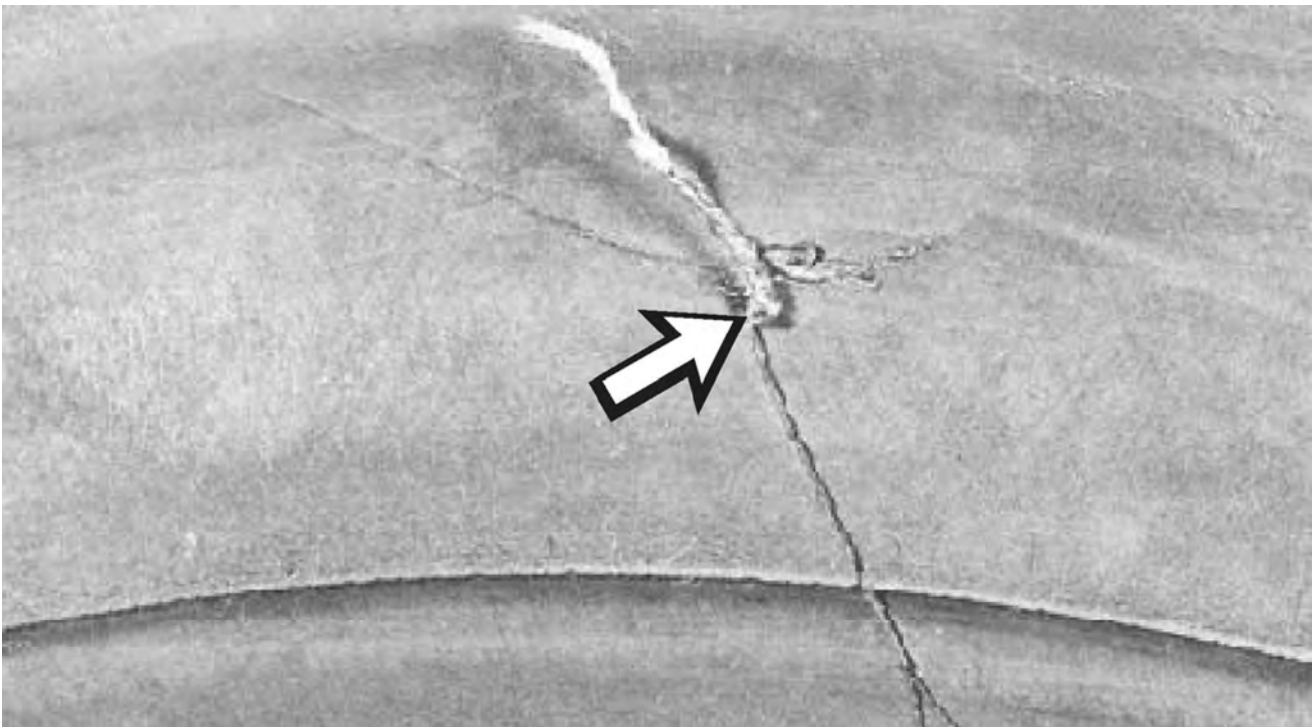


## Photographs of Conditions That are Covered by Warranty (cont'd.)

**Illustration 3**  
Splice opening in the sidewall



**Illustration 4**  
Foreign material cured in the tire



# Warranty Information

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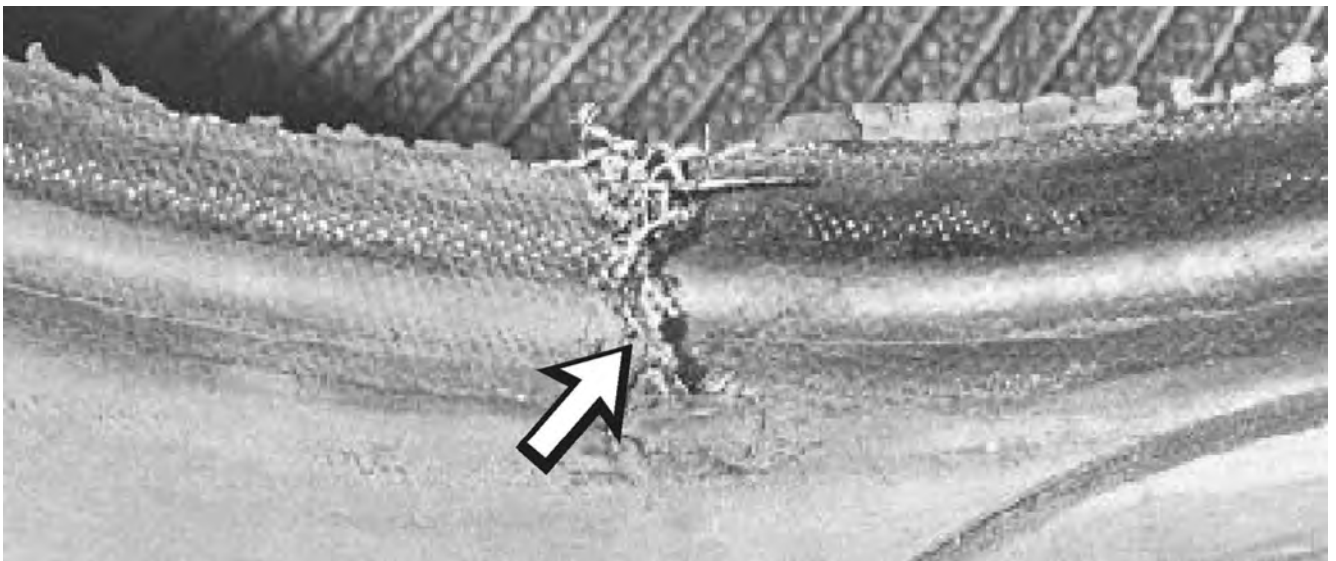
## Photographs of Conditions That are Not Covered by Warranty

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**Illustration 5**  
**Cut in the sidewall**



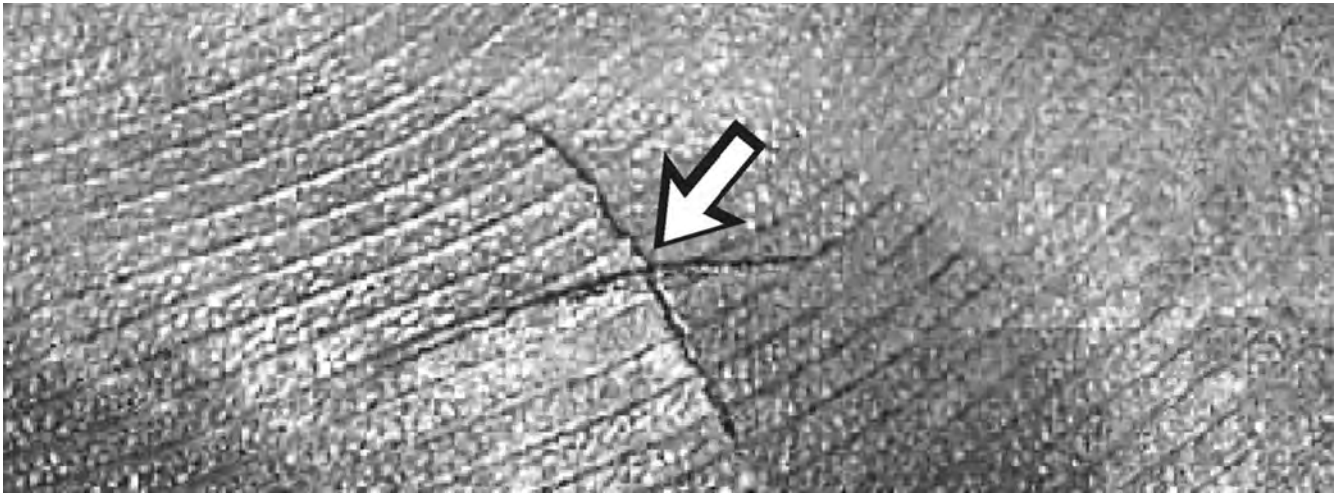
**Illustration 6**  
**Broken bead or damaged bead due to improper mounting**



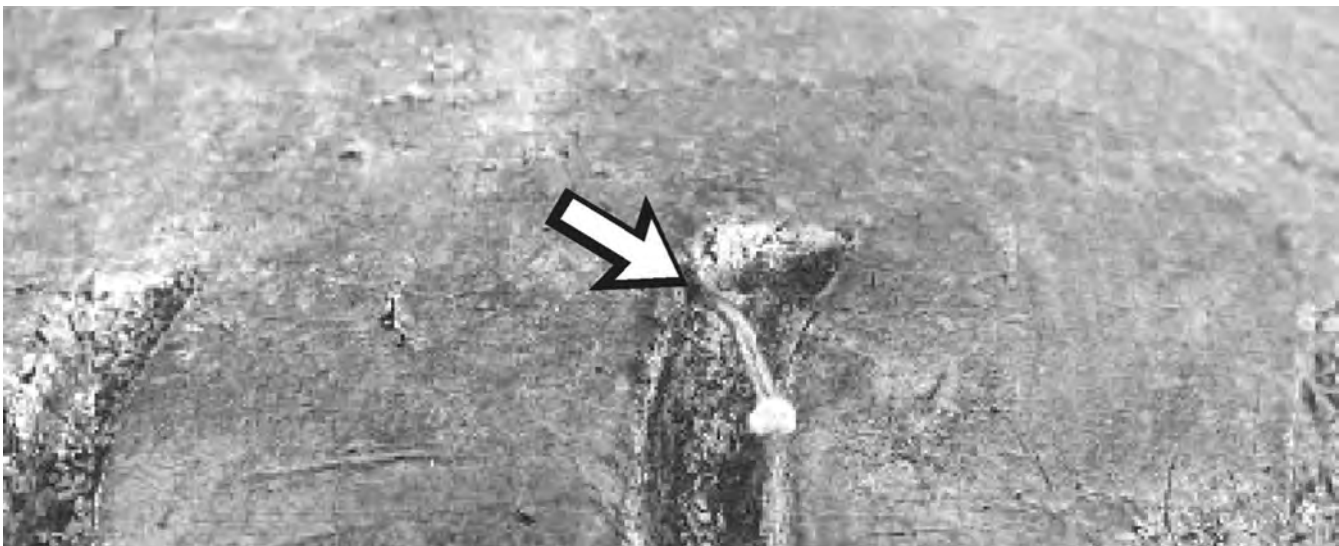
### Photographs of Conditions That are Not Covered by Warranty (cont'd.)

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**Illustration 7**  
**Break from impact**



**Illustration 8**  
**Punctures**



# Reference Literature

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## Safety Publications Safety Publications

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### Safety Publications

Always follow applicable industry guidelines when servicing tires and rims. Mandatory reading for tire and rim service technicians must include the publications listed below

Contact the United States Department of Labor and Occupation Safety and Health Administration (OSHA), Washington, DC, 20210, their website ([www.osha.org](http://www.osha.org)), or by phone at (202) 219-6091 to obtain copies of:

- 29 CFR, Part 1910.177, "Servicing of Single-Piece and Multi-Piece Rim Wheels"
- "Demounting and Mounting Procedures for Truck/Bus Tires" Chart
- "Multi-Piece Rim Matching Chart"

Contact the Rubber Manufacturers Association (Washington, D.C.), website ([www.rma.org](http://www.rma.org)), for references on safety procedures included in these publications:

- "Care and Service of Farm Tires"
- "Care and Service of Off-the-Highway Tires"
- "Care and Service of Industrial Tires"
- "Care and Service of Highway Truck Tires"

Contact the Rubber Manufacturers Association (Washington, D.C.) for wall charts on demounting and mounting procedures, contained in these publications:

- "Automobile and Light Truck Tires on Single-Piece Rims"
- "Truck Tires (Radial and Bias ply)"
- "Truck/Bus Tires"
- "Agricultural Tires"

Additional references explaining safety procedures can be found in literature published by the National Tire Dealers and Re-treaders Association (Washington, D.C.), the National Wheel and Rim Association (Jacksonville, FL), and OSHA (Washington, D.C.).

NOTE: If you are outside the U.S., contact your local government officials.



## Glossary of Terms

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### **Aspect Ratio**

Used to describe the ratio tire "section height" to "section width." A tire with an aspect ratio of 78 would have a tire height equal to 78% of the tire's greatest width. This terminology is rarely used for off the road (OTR) tires.

### **Barrier**

A fence, wall, or other structure or object placed between the service technician and the rim wheel assembly.

### **Bead or Tire Bead**

The part of the tire that is constructed to securely hold the tire to the wheel rim. It is made of high tensile steel wires wrapped in a woven fabric and secured within the ply ends.

### **Bead Breaker**

A tool that is specially designed to separate the tire bead from the rim.

### **Bias Ply Tire**

A tire with two or more plies whose cords form a hatch or "criss-cross" pattern. The cords of each ply extend from a point on one bead, traverse across the tire at a specified angle, and attach to the bead on the other side at approximately 120 degrees further distance around the circumference of the tire.

### **Breaker**

A special cushion made of cord fabric between the tread and carcass plies. The breaker helps reduce the effect of road shocks on the carcass.

### **Carcass**

The main body of a bias tire, not including the tread, breaker, and bead.

### **Demounting a Tire**

The disassembling or separating of the rim parts and tires from a rim wheel assembly.

### **Directional Tread**

A tread pattern designed to enhance traction. By specifying the rotational direction of a tire, cross ribs and grooves are laid out so that traction improves in slippery applications. When specifying wheel assemblies, it is critical to know on which side of the machine the tire will be mounted.

### **Flexport**

A Cat solid tire with molded holes used to absorb shock.

### **Flotation**

The ability of a tire not to sink into soft, muddy terrain. Large, low-pressure tires typically have good flotation. A flotation tire has a wider footprint than a conventional tire. The width of the wheel for the Caterpillar flotation tire is larger than the width of the conventional wheel.

### **Footprint**

The area of a tire's tread in contact with the ground. Also may be referred to as the tire tread.

### **Installing a Rim Wheel Assembly**

Attaching and securing a rim wheel assembly to the vehicle axle hub.

### **Lug**

Wide bars (lugs) running across the tread of a tire to strengthen its traction power. Used mainly in off the road (OTR) applications.

### **Mounting a Tire**

The assembling or putting together all of the rim parts and the tire, as required to form a rim wheel assembly.

### **NHS**

Not for highway service.

### **Out-of-Round**

A condition where the tire is not round because of an uneven distribution of rubber, improper molding, or unusual tread wear patterns.

### **Ply Rating**

The load capacity of a tire is indicated by the ply rating. The higher the ply rating, the greater the load capacity.

### **Removing a Rim Wheel Assembly**

Unsecuring and unattaching a rim wheel assembly from the vehicle axle hub.

## Glossary of Terms (cont'd.)

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### **Restraining Device**

An apparatus such as a cage, rack, or assemblage of bars and other parts that will contain all the rim wheel parts during an explosive separation of a multi-piece rim wheel assembly, or during the sudden release of the constrained air from a single-piece rim wheel assembly.

### **Rim**

The outer surface of the wheel to which the tire beads are firmly mounted.

### **Rim Assembly or Wheel**

The portion of the rim wheel assembly which attaches to the axle of the vehicle and provides the means to contain the inflated portion of the rim wheel assembly, such as the tire and/or tube.

### **Rim Wheel Assembly**

The complete assembly of a rim, tire, tube and liner (where appropriate), and any rim parts.

### **Section Width**

The width of a new tire, including 24-hour inflation growth and including normal sidewalls, but not including protective side ribs, bars, or decorations.

### **Service or Servicing**

A rim wheel assembly means mounting and demounting rim wheels, including additional related activities such as inflating, deflating, installing, removing, and handling of rim wheel assemblies and/or any rim wheel parts.

### **Service Technician**

The person assigned to service rim wheel assemblies. Any person assigned to service rim wheel assemblies must be able to demonstrate and maintain the ability to service rim wheel assemblies safely, including (but not limited to):

- handling rim wheel assemblies,
- demounting tires (including deflation),
- installing and removing rim wheel assemblies,
- inspecting and identifying rim parts,
- mounting tires (including tire inflation with the required safeguards),
- inflating a tire on a rim assembly while it is mounted on the vehicle,
- using a restraining device or barrier,
- standing outside the trajectory path during inflation of the tire, and
- inspecting the rim wheel assembly following inflation of the tire.

### **Side Wall**

The portion of the tire between the tread and the bead.

### **Single-Piece Rim**

A rim made out of a single piece of material which is designed to hold the tire on the rim when the tire is inflated.

### **Single-Piece Rim Wheel Assembly**

The complete assembly of a single-piece rim, tire, tube and liner (where appropriate), and any other parts.

### **TG NHS**

Tractor-Grader tires - Not for highway service.

### **Tire**

The exterior component of the inflatable portion of the rim wheel assembly. A tire may be either a tubeless or tube-type tire. Tire and Rim Association Classification (TRA) Off the road (OTR) tires are classified by TRA as earthmover, loader/dozer, grader, log skidder, or compactor service.

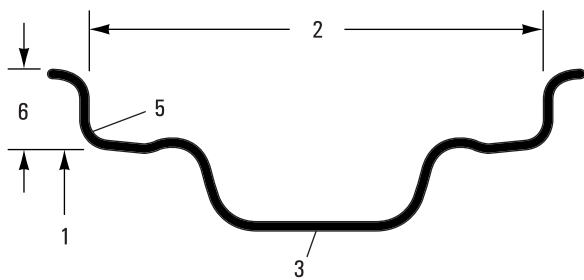
### **Trajectory Path**

Any potential path or route a rim wheel part may travel from an explosive separation or sudden release of pressurized air. It is also the area where an air blast may be released from a single-piece rim wheel assembly. The trajectory path might deviate from the paths perpendicular to the assembled position of the rim wheel assembly at the time of separation or explosion.

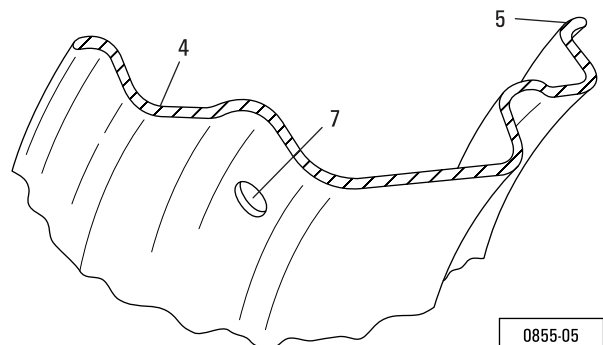
## Identification / Terminology

### Illustration Single-Piece Rim

Chart A	
Identification/ Terminology for Single-Piece Rims	
Item	Description
1	Rim size (nominal bead seat diameter)
2	Rim width
3	Rim inside diameter
4	Bead seat area
5	Flange
6	Flange Height
7	Valve hole (Size and location can vary)



0855-13



0855-05



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