

**SERVICE MANUAL**  
**QUADTRAC TRACTOR**

9370  
9380  
9390

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8-83394

1. Trim along dashed line.
2. Slide into pocket on Binder Spine.

TYPE 1-4

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TYPE 1-4

# 9370, 9380, 9390 and Quadtrac Tractor Service Manual

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# LOCTITE PRODUCT CHART

Product	Color	Similar Products	Gap (In Inches)	Strength (Steel/Steel)	Working Temperature Range-Fahrenheit	Fixture/Full Cure (Steel/Steel) Time	Primer	Description
#3	Dark Brown					24 hr	N/A	Form a Gasket (works with oil, fuel or grease) Pliable
80	Yellow					Fast	N/A	Weatherstrip Adhesive
123	Clear					N/A	N/A	Parts Cleaner Fluid
220	Blue	290	0.003	57/143 in lbs	-65 to +250	6 min/24 hrs	747	Wicking Threadlocker
221	Purple	222	0.005	75/44 in lbs	-65 to +300	2 min/24 hrs	747	Low Strength Threadlocker
222	Purple		0.005	53/30 in lbs	-65 to +300	20 min/24 hrs	764	Low Strength Threadlocker (Small Screws)
225	Brown	222	0.010	45/25 in lbs	-65 to +300	7 min/24 hrs	747	Low Strength Threadlocker
242	Blue		0.005	80/50 in lbs	-65 to +300	10 min/24 hrs	764	Medium Strength Threadlocker
262	Red	271	0.005	160/190 in lbs	-65 to +300	5 min/24 hrs	747	High Strength Threadlocker
270	Green	271	0.007	160/320 in lbs	-65 to +300	3 min/24 hrs	747	High Strength Threadlocker
271	Red	262	0.007	160/320 in lbs	-65 to +300	10 min/24 hrs	764	High Strength Threadlocker
272	Red	620	0.007	180/220 in lbs	-65 to +450	30 min/24 hrs	764	High Temperature, High Strength
275	Green	277	0.010	210/300 in lbs	-65 to +300	3 min/24 hrs	747	High Strength Threadlocker
277	Red		0.010	225/300 in lbs	-65 to +300	60 min/24 hrs	764	High Strength Threadlocker
290	Green		0.003	85/350 in lbs	-65 to +300	6 min/24 hrs	764	Wicking Threadlocker
*404	Clear	495	0.006	3200 psi	-65 to +180	30 sec/24 hrs	NA	Instant Adhesive
*406	Clear		0.004	3200 psi	-65 to +180	15 sec/24 hrs	N/A	Surface Insensitive Adhesive
*409	Clear	454	0.008	2500 psi	-65 to +180	50 sec/24 hrs	N/A	Gel Instant Adhesive
*414	Clear		0.006	2500 psi	-65 to +180	30 sec/24 hr	N/A	Instant Adhesive
*415	Clear	454	0.010	2500 psi	-65 to +180	50 sec/24 hrs	N/A	Gap Filling Instant Adhesive (Metals)
*416	Clear	454	0.010	2500 psi	-65 to +180	50 sec/24 hrs	N/A	Gap Filling Instant Adhesive (Plastics)
*420	Clear		0.002	2500 psi	-65 to +180	15 sec/24 hrs	N/A	Wicking Instant Adhesive
*422	Clear	454	0.020	2800 psi	-65 to +180	60 sec/24 hrs	N/A	Gap Filling Instant Adhesive
*430	Clear		0.005	2500 psi	-65 to +180	20 sec/24 hrs	N/A	Metal Bonding Adhesive
*445	White/Black		0.250	2000 psi	-65 to +180	5 min/24 hrs	N/A	Fast Setting 2 Part Epoxy
*454	Clear		0.010	3200 psi	-65 to +180	15 sec/24 hrs	N/A	Surface Insensitive Gen Instant Adhesive
*495	Clear		0.004	2500 psi	-65 to +180	20 sec/24 hrs	N/A	General Purpose Instant Adhesive
*496	Clear		0.005	2500 psi	-65 to +180	20 sec/24 hrs	N/A	Metal Bonding Adhesive
504	Brt Orange	515	0.030	750 psi	-65 to +300	90 min/24 hrs	None	Rigid Gasket Eliminator
509	Light Blue		0.020	750 psi	-65 to +320	6 hr/72 hrs	764	Flange Sealant
510	Red		0.020	1000 psi	-65 to +400	30 min/24 hrs	764	High Temperature, Gasket Eliminator
515	Purple		0.010	750 psi	-65 to +300	1 hr/24 hrs	764	Gasket Eliminator 515

Rac 8-98902 \* Products 404-496 (except for #445) are all instant adhesives (super glues) they differ mostly in viscosity

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# LOCTITE PRODUCT CHART

Product	Color	Similar Products	Gap (In Inches)	Strength (Steel/Steel)	Working Temperature Range-Fahrenheit	Fixture/Full Cure (Steel/Steel) Time	Primer	Description
518	Red	515	0.030	500psi	-65 to +300	1 hr/24 hrs	764	Gasket Eliminator 518 for Aluminum
542	Brown	569	N/A	132/92 in lbs	-65 to +300	2 hr/24 hrs	747	Hydraulic Sealant
545	Purple		N/A	25/20 in lbs	-65 to +300	4 hr/24 hrs	747	Low Strength Pneumatic/Hydraulic Sealant
549	Orange	504	0.020	2500 psi	-65 to +300	2 hr/24 hrs	747	Instant Seal Plastic Gasket
554	Red	277	0.015	240/240 in lbs	-65 to +300	2 to 4 hrs/24 hrs	764	Refrigerant Sealant
567	White	592	N/A	500 psi	-65 to +400	4 hrs/24 hrs	764	Pipe Sealant for Stainless Steel
568	Orange	277	0.015	2500 psi	-65 to +300	12 hrs/24 hrs	764	Plastic Gasket
569	Brown	545	0.010	40/25 in lbs	-65 to +300	1 hr/24 hrs	764	Hydraulic Sealant
570	Brown	592	N/A	25/40 in lbs	-65 to +300	6 hrs/72 hrs	764	Steam Sealant
571	Brown	592	0.015	40/20 in lbs	-65 to +300	2 to 4 hrs/24 hrs	764	Pipe Sealant
572	White	578.575	N/A	80/27 in lbs	-65 to +300	24 hrs/72 hrs	None	Gasketing
592	White		0.020	500 psi	-65 to +400	4 hrs/72 hrs	736	Pipe Sealant with Teflon
593	Black		0.250	400 psi	-95 to +400	30 min/24 hrs	N/A	RTV Silicone
601	Green	609	0.005	3000 psi	-65 to +300	10 min/24 hrs	764	Current PIN #609
609	Green		0.005	3000 psi	-65 to +300	10 min/24 hrs	764	General Purpose Retaining Compound
620	Green	640	0.015	3000 psi	-65 to +450	30 min/24 hrs	747	High Temperature Retaining Compound
635	Green	680	0.010	4000 psi	-65 to +300	1 hr/24 hrs	747	High Strength Retaining Compound
638	Green	680	0.015	4100 psi	-65 to +300	10 min/24 hrs	747	High Strength Retaining Compound
640	Green	620	0.007	3000 psi	-65 to +400	1 hr/24 hrs	747	High Temperature Retaining Compound
660	Silver		0.020	3000 psi	-65 to +300	20 min/24 hrs	764	Quick Metal
675	Green	609	0.005	3000 psi	-65 to +300	20 min/24 hrs	747	General Purpose Retaining Compound
680	Green	635	0.015	4000 psi	-65 to +300	10 min/24 hrs	747	High Strength Retaining Compound
706	Clear	755	N/A	N/A	N/A	N/A	N/A	Cleaning Solvent
707	Amber		N/A	N/A	N/A	N/A	N/A	Activator for Structural Adhesives
736	Amber		N/A	N/A	N/A	N/A	N/A	Primer NF
738	Amber		N/A	N/A	N/A	N/A	N/A	Depend Activator
747	Yellow	N/A	N/A	N/A	N/A	N/A	N/A	Primer T
751	Clear		N/A	N/A	N/A	N/A	N/A	Activator for Structural Adhesives
755	Clear		N/A	N/A	N/A	N/A	N/A	Cleaning Solvent
764	Green		N/A	N/A	N/A	N/A	N/A	Primer N
767	Silver		N/A	N/A	-65 to +1600	N/A	N/A	Anti-Seize Lubricant

# Section 1003

1003

**GENERAL INFORMATION AND SPECIFICATIONS**

**For 9370 and 9380 Series Tractor**








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**NOTE:** Case Corporation reserves the right to make improvements in design or changes in specifications at any time without incurring any obligation to install them on units previously sold.

### SAE FASTENER TORQUE CHART

**NOTE:** Use these torques, unless special torques are specified. Values are for UNC and UNF thread fasteners, plated or unplated, as received from supplier. Fasteners can be dry or lubricated with normal engine oil. Values do not apply if graphite, moly-disulphide or other extreme pressure lubricant is used.

SAE Grade No.	2				5				8*			
Bolt head identification (See Note 1)					  				  			
Bolt Size	LB FT		Nm		LB FT		Nm		LB FT		Nm	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1/4	5	6	7	8	9	11	12	15	12	15	16	20
5/16	10	12	14	16	17	20.5	23	28	24	29	33	39
3/8	20	23	27	31	35	42	48	57	45	54	61	73
7/16	30	35	41	47	54	64	73	87	70	84	95	114
1/2	45	52	61	70	80	96	109	130	110	132	149	179
9/16	65	75	88	102	110	132	149	179	160	192	217	260
5/8	95	105	129	142	150	180	203	244	220	264	298	358
3/4	150	185	203	251	270	324	366	439	380	456	515	618
7/8	160	200	217	271	400	480	542	651	600	720	814	976
1	250	300	339	406	580	696	787	944	900	1080	1220	1464
1-1/8					800	880	1085	1193	1280	1440	1736	1953
1-1/4					1120	1240	1519	1681	1820	2000	2468	2712
1-3/8					1460	1680	1980	2278	2380	2720	3227	3688
1-1/2					1940	2200	2631	2983	3160	3560	4285	4827

**NOTE 1:** Bolt head identification marks as per grade. Manufacturing marks will vary. \*Thick nuts must be used with Grade 8 bolts

### STANDARD TORQUE DATA FOR HYDRAULIC TUBES AND FITTINGS

TUBE NUTS FOR 37° FLARED FITTINGS								O-RING BOSS PLUGS, ADJUSTABLE FITTING LOCK NUTS, SWIVEL JIC - 37° SEATS			
SIZE	TUBING O.D.		THREAD SIZE	LB FT		Nm		LB FT		Nm	
	Inches	mm		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
4	1/4	6.4	7/16-20	9	12	12	16	6	10	8	14
5	5/16	7.9	1/2-20	12	15	16	20	10	15	14	20
6	3/8	9.5	9/16-18	21	24	29	33	15	20	20	27
8	1/2	12.7	3/4-18	35	40	47	54	25	30	34	41
10	5/8	15.9	7/8-14	53	58	72	79	35	40	47	54
12	3/4	19.1	1-1/16-12	77	82	104	111	60	70	81	95
14	7/8	22.2	1-3/16-12	90	100	122	136	70	80	95	109
16	1	25.4	1-5/16-12	110	120	149	163	80	90	108	122
20	1-1/4	31.8	1-5/8-12	140	150	190	204	95	115	129	156
24	1-1/2	38.1	1-7/8-12	160	175	217	237	120	140	163	190
32	2	50.8	2-1/2-12	225	240	305	325	250	300	339	407

Above torque figures are recommended for plain, cadmium or zinc plated fittings, dry or wet installations and swivel nuts either swaged or brazed. These torques are not recommended for tubes 1/2 inch (12.7 mm) O.D. and larger with wall thickness of 0.035 inch (0.889 mm) or less. The torque is specified for 0.035 inch (0.889 mm) wall tubes on each application individually.



## STANDARD TORQUE DATA FOR HYDRAULIC TUBES AND FITTINGS

TUBE NUTS FOR 37° FLARED FITTINGS				O-RING BOSS PLUGS, ADJUSTABLE FITTING LOCK NUTS, SWIVEL JIC - 37° SEATS							
SIZE	TUBING O.D.		THREAD SIZE	TORQUE				TORQUE			
	Inches	mm		FOOT POUNDS		NEWTON METERS		FOOT POUNDS		NEWTON METERS	
				Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
4	1/4	6.4	7/16-20	9	12	12	16	6	10	8	14
5	5/16	7.9	1/2-20	12	15	16	20	10	15	14	20
6	3/8	9.5	9/16-18	21	24	29	33	15	20	20	27
8	1/2	12.7	3/4-18	35	40	47	54	25	30	34	41
10	5/8	15.9	7/8-14	53	58	72	79	35	40	47	54
12	3/4	19.1	1-1/16-12	77	82	104	111	60	70	81	95
14	7/8	22.2	1-3/16-12	90	100	122	136	70	80	95	109
16	1	25.4	1-5/16-12	110	120	149	163	80	90	108	122
20	1-1/4	31.8	1-5/8-12	140	150	190	204	95	115	129	156
24	1-1/2	38.1	1-7/8-12	160	175	217	237	120	140	163	190
32	2	50.8	2-1/2-12	225	240	305	325	250	300	339	407

Above torque figures are recommended for plain, cadmium or zinc plated fittings, dry or wet installations.

Swivel nuts either swaged or brazed.

These torques are not recommended for tubes 1/2 inch (12.7 mm) O.D. and larger with wall thickness of 0.035 inch (0.889 mm) or less. Torque is specified for 0.035 inch (0.889 mm) wall tubes on each application individually.





**POWER TAKEOFF (if Equipped)**

Type ..... Live Independant System Integral with Transmission  
 Clutch Type ..... Modulateable, Hydraulic  
 Control ..... Hand Lever Actuated  
 Rotation (from rear of tractor) ..... Clockwise  
 Shaft Size ..... 1.75 Inch Diameter, 20 Splines  
 Speed ..... 1000 RPM at 2100 Engine RPM

**HYDRAULIC SYSTEM**

Type ..... Closed Center, Load Sensing, Pressure Compensating  
 Steering ..... Full Priority System  
 Remote Valve ..... Closed Center, Stack Type with float position and flow control  
 Pump Capacity (2100 RPM)  
 Implement Pump - Powershift ..... 27 GPM (102.2 L/min)  
     SynchroShift ..... 30 GPM (113.6 L/min)  
 Steering Pump - PowerShift ..... 31 GPM (117.3 L/min)  
     SynchroShift ..... 34 GPM (128.7 L/min)  
 Maximum System Pressure ..... 2900 PSI (197 Bar)  
 Couplings ..... ISO Standard Lever Type

**HITCH SYSTEM (9370)**

Type Hitch ..... Three Point, Category IV-N  
 Hitch Coupler (Adjustable) ..... Category III or IVN  
 Hitch Control ..... Hand Lever Actuated, Electronic Control System  
 Hitch Valve ..... 3-Position, Lift, Hold and Lower  
 Type Draft Arms ..... Rigid, Swing Type with Manual Float Adjustment  
 Lift Capacity (OECD static) ..... 17 000 lb (7 711 Kg)  
     24 inch (610 mm) back

**DIESEL ENGINE****P.I.N. JEE0036000 AND BEFORE**

Engine Make ..... Cummins  
 Model ..... NTA-855-A  
 Type ..... In-Line Six Cylinder, Four Stroke Cycle  
 Displacement ..... 855 Cubic Inch (14.0 L)  
 Cylinder Sleeves ..... Removable, wet type  
 Bore ..... 5.5 inch (140 mm)  
 Stroke ..... 6.0 inch (152 mm)  
 Governed Speed (No Load) ..... 2275 to 2450 RPM  
 Rated Speed ..... 1700 to 2100 RPM  
 Idle Speed (approximate) ..... 825 to 900 RPM  
 Engine Operating Torque (at 2100 RPM)  
     9370 ..... 900 lb ft (1220 Nm)  
     9380 ..... 1000 lb ft (1356 Nm)  
 Engine Peak Torque (at 1400 RPM)  
     9370 ..... 1215 lb ft (1649 Nm)  
     9380 ..... 1330 lb ft (1803 Nm)  
 Torque Rise  
     9370 ..... 35%  
     9380 ..... 33%  
 Compression Ratio  
     9370 ..... 14.0:1  
     9380 ..... 15.0:1  
 Firing Order ..... 1-5-3-6-2-4

Oil Pressure (warm at 1300 RPM) .....	35 to 40 PSI (240 to 310 kPa)
Air Induction System .....	Dry Type, 2-Stage Aspirator
Fuel Injection Pump .....	Cummins
Fuel Injectors .....	Cummins Top Stop
Thermostat.....	180°F to 202°F (82°C to 94°C)
Radiator Cap.....	7 PSI (62 kPa)

### P.I.N. JEE0036001 AND AFTER

Engine Make .....	Cummins
Model.....	N-14
Type.....	In-Line Six Cylinder, Four Stroke Cycle
Displacement .....	855 Cubic Inch (14.0 L)
Cylinder Sleeves .....	Removable, wet type
Bore .....	5.5 inch (140 mm)
Stroke .....	6.0 inch (152 mm)
Governed Speed (No Load).....	2275 to 2450 RPM
Rated Speed.....	1700 to 2100 RPM
Idle Speed (approximate) .....	825 to 900 RPM
Engine Operating Torque (at 2100 RPM)	
9370.....	900 lb ft (1220 Nm)
9380.....	1000 lb ft (12356 Nm)
Engine Peak Torque (at 1400 RPM)	
9370.....	1215 lb ft (1649 Nm)
9380.....	1330 lb ft (1803 Nm)
Torque Rise	
9370.....	35%
9380.....	33%
Compression Ratio	
9370.....	18.5:1
9380.....	16.5:1
Firing Order.....	1-5-3-6-2-4
Oil Pressure (warm at 1300 RPM) .....	35 to 40 PSI (240 to 310 kPa)
Air Induction System .....	Dry Type, 2-Stage Aspirator
Fuel Injection Pump .....	Cummins
Fuel Injectors .....	Cummins Top Stop
Thermostat.....	180°F to 202°F (82°C to 94°C)
Radiator Cap.....	7 PSI (62 kPa)

## TRACTOR WEIGHTS

### Approximate Shipping Weights

9370 with 20.8 R42 Dual Tires, Three Point Hitch and PTO.....	29 035 lb (13 153 Kg)
9380 with 710/70 R38 Dual Tires (No options).....	31 947 lb (14 472 Kg)

**NOTE:** *Estimated shipping weights are less fuel, operator, quick coupler or other optional equipment.*

### Maximum Tractor Operating Weight

9370 .....	40 000 lb (18 144 Kg)
9380 .....	44 000 lb (19 958 Kg)

**NOTE:** *Includes operator, tractor, tractor equipment and ballast with a 60% front and 40% rear static weight distribution.*

# TRAVEL SPEEDS

## MPH/KPH at Rated Engine Speed

The following travel speeds are approximate at rated engine speed. No allowance is made for wheel slip.

### 12 Speed Power Shift

Gear	MPH	KPH
1	2.0	3.3
2	2.5	3.9
3	3.0	4.9
4	3.7	5.9
5	4.4	7.1
6	5.5	8.8
7	6.5	10.5
8	7.8	12.5
9	9.6	15.4
10	11.7	18.9
11	14.1	22.7
12	17.3	27.9
R1	2.7	4.3
R2	4.8	7.8
R3	8.5	13.7

### 12 Speed Synchro Shift

Gear	Range	MPH	KPH
1	A	2.3	3.7
	B	3.9	6.3
	C	6.1	9.8
	D	9.6	15.4
2	A	3.1	5.0
	B	5.2	8.4
	C	8.2	13.2
	D	12.9	20.8
3	A	4.3	6.9
	B	7.1	11.4
	C	11.3	18.2
	D	17.7	28.48
R	A	3.4	5.5
	B	5.7	9.2
	C	9.0	14.5

## 24 Speed Synchro Shift

MPH		G E A R	R A N G E
LO	HI		
2.3	2.5	1	A
3.1	3.3	2	A
3.8	4.1	1	B
4.2	4.6	3	A
5.2	5.6	2	B
6.1	6.5	1	C
7.1	7.6	3	B
8.2	8.8	2	C
9.5	10.3	1	D
11.2	12.1	3	C
12.9	13.9	2	D
17.7	19.0	3	D
3.3	3.5	R	A
5.5	5.9	R	B
8.7	9.3	R	C

Speeds shown on the charts represent the following tire sizes at rated RPM: 18.4 x 38 R1, 23.1 x 34 R1, 24.5 x 32 R1, 24.5 x 32 LS2, 20.8 x 38 R1 and 30.5L x 32 R1.

To determine speed for other tire sizes use the following chart multipliers:

Average Static Loaded R.R.	Tire Size	Factor
30.7	20.8 x 34 R1	0.96
33.5	20.8 x 38 R2	1.05
33.7	18.4 x 42 R1	1.05
34.6	20.8 x 42 R1	1.09
33.0	30.5L x 32 R2	1.03
32.5	30.5L x 32 LS2	1.02

### Example of Use:

If ground speed was 14.1 MPH (22.6 KPH) and tractor was equipped with 20.8 x 34 R1 tires,

Then: MPH/KPH = (Ground Speed) x (Factor)  
 MPH = 14.1 x 0.96 = 13.5 MPH  
 KPH = 22.6 x 0.96 = 21.7 KPH

### MPH/KPH at Other Engine Speeds

To determine travel speed for other than rated engine speed, use the following formula:

$$\text{MPH/KPH} = \frac{(\text{Ground Speed}) \times \text{Engine RPM}}{\text{Rated RPM}}$$

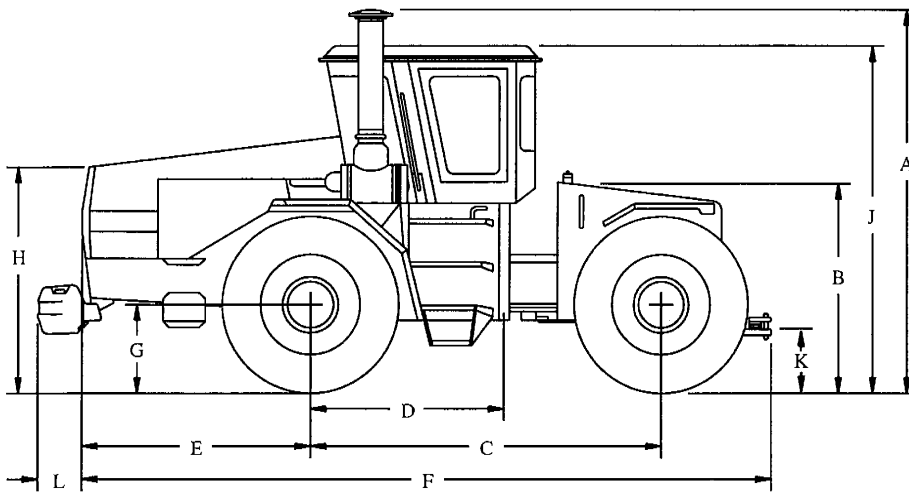
### Example:

If chart speed was 14.1 MPH (22.6 KPH) and tractor has engine with rated speed of 2100 RPM and MPH/KPH wanted at 1800 RPM,

$$\text{Then: MPH} = \frac{14.1 \times 1800}{2100} = 12.0 \text{ MPH}$$

$$\text{KPH} = \frac{22.6 \times 1800}{2100} = 19.4 \text{ KPH}$$

### APPROXIMATE OVERALL MEASUREMENTS



95F54

Tire and Wheel Equipment for Data Shown Below	
Tire Size 20.8 x 42R1	
A. 154.6 inch (3 927 mm)	G. 34.0 inch (864 mm)
B. 88.5 inch (2 248 mm)	H. 94.5 inch (2 400 mm)
C. 144.0 inch (3 658 mm)	J. 144.0 inch (3 660 mm)
D. 71 inch (1 816 mm)	K. 21.0 inch (533 mm)
E. 90.6 inch (2 301 mm)	L. 15.0 inch (384 mm)
F. 282.9 inch (7 186 mm)	

### General Dimensions:

- Wheel Base: 144.0 inch (3 658 mm)
- Overall Height 20.8 x 42 Tires: 154.6 inch (3 927 mm)
- Length: 282.9 inch (7 186 mm) Overall Length
- Width: 96 inch (2 438 mm) Outside of Fenders
- Turning Radius: 17 ft (5.2 m) Drawbar Centerline to Center of Circle  
20 ft (6.1 m) to Center of Outside Single Tire
- Frame Articulation: 42 Degrees Left/Right
- Frame Oscillation: 14 Degrees (28 Degrees Total)
- Drawbar Height: 21.0 inch (495.0 mm) top of Main Drawbar to Ground

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