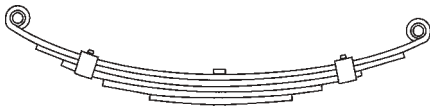

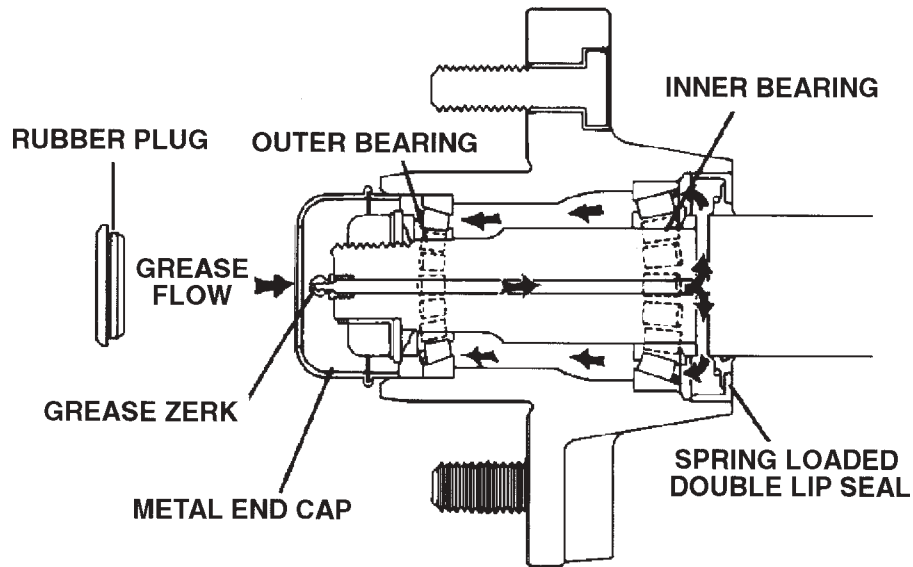

AIDS IN DETERMINING SPRING AXLE NEEDS

- 1) **GROSS VEHICLE WEIGHT (GVW):**
The weight of the empty trailer plus the weight of the intended cargo. This will help determine the number of axles needed.
- 2) **BRAKES:**
Brakes are required on most trailers. Brake all axles to conform to all applicable state and federal requirements.
- 3) **SPINDLES:**
 - A. Straight spindles. Often used when a standard or "higher" trailer bed height is needed.
 - B. 4" Drop spindles. Often used when the lowest trailer bed height is needed.
- 4) **AXLE LENGTH:**
Hub Face Measurement. The hub face measurement is from the base of the wheel stud to the base of the wheel stud on the opposite end of the axle. Used primarily on single wheel axles.
- 5) **SPRING CENTERS:**
The exact measurement is from the center line of the spring pads. Spring center measurement usually matches the frame width of the trailer less 2" to 2-1/2". Using shorter spring centers than catalog printed minimum spring centers may result in lower axle capacity.
- 6) **BOLT PATTERN:**
The bolt pattern can vary depending on the capacity of the axle. The bolt pattern also determines what type tire and wheel can be used.
- 7) **SPRINGS:**
 - A. Double eye springs 
 - B. Slipper springs 
- 8) **HANGER KITS:**
There are several hanger kits to choose from:
Single, tandem, and triple for double eye and slipper type springs.
Complete hanger kits consist of:
 - A. The equalizer hangers and spring hangers to attach to the frame.
 - B. Shackle straps (if double eye springs).
 - C. Equalizers for tandem or triple hanger kits.
 - D. All necessary bolts and nuts to attach the equalizers, springs and shackle straps to the hangers.



THE X-TRA LUBE AXLE

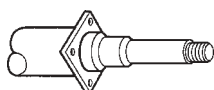
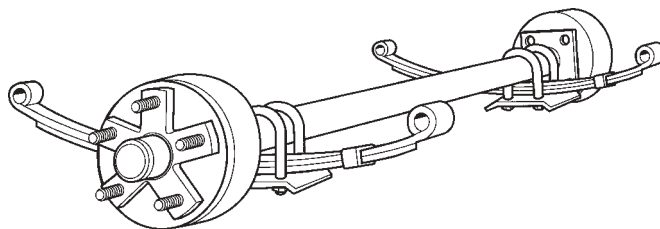


- Lubrication has never been so easy!
- The X-Tra Lube system allows a complete inner and outer bearing re-pack without hub disassembly. Simply remove the rubber plug, attach a grease gun to the zerk, and pump in the grease. The old grease is displaced by the new grease quickly and easily.
- Your axle is protected from water and corrosion.
- Install X-Tra Lube on your next trailer.

**WHEEL BEARING
GREASE
AND
GEAR OIL
AVAILABLE**

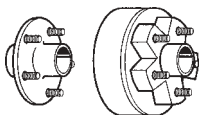
THE HENDERSON 2000 LB. AXLE

Available in single, tandem and triple straight axle assemblies with a wide variety of options to fit all your axle needs. Henderson axle assemblies include springs, U-bolts, U-bolt nuts and tie plates unless otherwise specified.



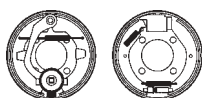
Spindles

The 2000 lb. 1-3/4" tube axle comes standard with the heavy duty 1-1/16" spindles. X-Tra Lube Type spindles also available.



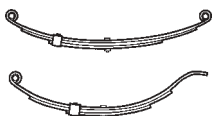
Hubs

Integral cast hubs are available in a 4 on 4" and 5 on 4.5" bolt circle configurations in both brake and non-brake applications. Replacement parts Section 3.



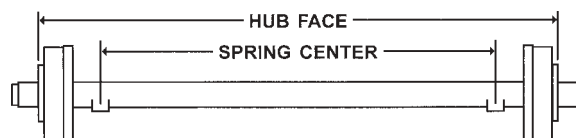
Brakes

Henderson Wheel offers a 7" x 1-1/4" electric or a 7" x 1-3/4" hydraulic brake. Replacement parts Section 3.



Springs

The Henderson 2000 lb. Axle is available with double eye and slipper-type springs. Suspension parts Section 2.



Axle Lengths

Straight Idler Axle	Hub Face	Spring Center		Straight Brake Axle	Hub Face	Spring Center
		Minimum	Maximum			
	58"	46"*	47"		58"	46"*
	60"	48"*	49"		60"	48"*
	72"	60"*	61"		72"	60"*
	88"	76"*	77"		88"	76"*

Special Length Axles Available at Additional Charge

Some tire and wheel combinations may create interference.

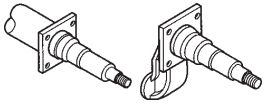
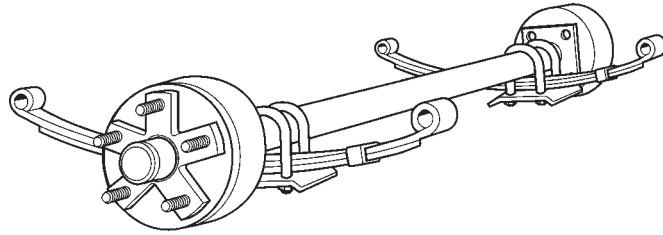
Capacity is equal to the lightest component of any axle package or kit.

* Using shorter spring center measurements will result in lower axle capacity.



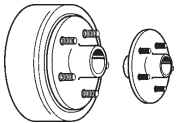
THE HENDERSON 3500 LB. AXLE

Available in single, tandem and triple axle assemblies with a wide variety of options to fit all your axle needs. Henderson axle assemblies include springs, U-bolts, U-bolt nuts and tie plates unless otherwise specified.



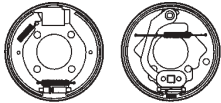
Spindles

The 3500 lb. 2-3/8" tube axle is available in both straight and 4" drop. X-Tra Lube spindles are also available. Heavy Duty 3" axle tube is also available.



Hubs

Integral cast hubs are available in a variety of bolt circle configurations in both brake and non-brake applications. Sizes available are: 5 on 4.5", 5 on 4.75", 5 on 5", 5 on 5.5" and 6 on 5.5". Hydraulic disc hub and rotor available in 5 on 4.5" bolt circle only. Replacement parts Section 3.



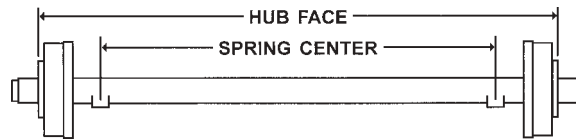
Brakes

Henderson Wheel offers a 10" x 2-1/4" electric drum, hydraulic brake drum and hydraulic disc brakes. Replacement parts Section 3.



Springs

The Henderson 3500 lb. Axle is available with 25-1/4" or 26" double eye springs. Slipper-type springs are also available. Suspension parts Section 2.



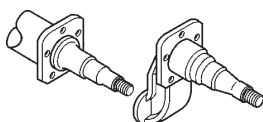
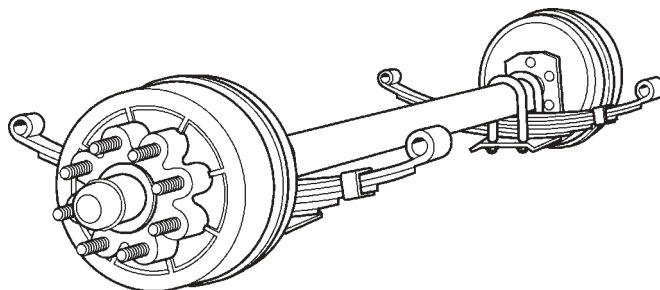
Axle Lengths

Straight Axle	Hub Face	Spring Center		Drop Axle	Hub Face	Spring Center	
		Minimum	Maximum			Minimum	Maximum
	60"	43"*	47.5"		60"	43"*	44.75"
	72"	55"*	59.5"		72"	53"*	56.75"
	74"	57"*	61.5"		74"	57"*	58.75"
	78"	61"*	65.5"		78"	61"*	62.75"
	80"	63"*	67.5"		80"	63"*	64.75"
	82"	65"*	69.5"		82"	65"*	66.75"
	84"	67"*	71.5"		84"	67"*	68.75"
	86"	69"*	73.5"		86"	69"*	70.75"
	88"	71"*	75.5"		88"	71"*	72.75"
	90"	73"*	77.5"		90"	73"*	74.75"
	92"	75"*	79.5"		92"	75"*	76.75"
	94"	77"*	81.5"		94"	77"*	78.75"

Capacity is equal to the lightest component of any axle package or kit.
* Using shorter spring center measurements will result in lower axle capacity.

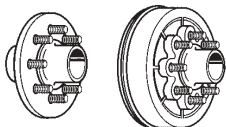
THE HENDERSON 6000 LB. AXLE

Available in single, tandem and triple axle assemblies with a wide variety of options to fit all your axle needs. Henderson axle assemblies include springs, U-bolts, U-bolt nuts and tie plates unless otherwise specified.



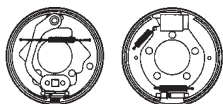
Spindles

The 6000 lb. 3" tube axle is available in both straight and 4" drop spindles. X-Tra Lube spindles are also available.



Hubs

Integral cast hubs are available in both brake and non-brake applications. Hubs are available in heavy duty 6 on 5.5" and 8 on 6.5" bolt circles. Replacement parts Section 3.



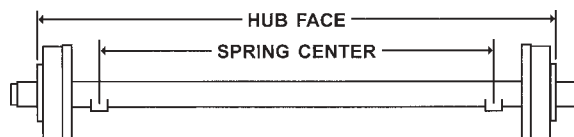
Brakes

Henderson Wheel offers a 12" x 2" electric or hydraulic brake. Hydraulic brakes are rated at 6000 lbs. Replacement parts Section 3.



Springs

The Henderson 6000 lb. Axle is available with 25-1/4" or 26" double eye springs. Heavy Duty Slipper-type springs are also available (for 16" and 16.5" tires, slipper springs are recommended for tandem and triple axle assemblies). Suspension parts Section 2.



Axle Lengths

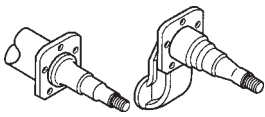
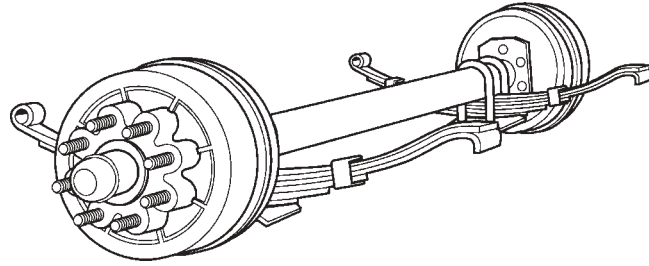
Straight Axle	Hub Face	Spring Center		Drop Axle	Hub Face	Spring Center	
		Minimum	Maximum			Minimum	Maximum
	74"	55.5"*	59"		76"	57.5"*	58"
	78"	59.5"*	63"		80"	61.5"*	62"
	80"	61.5"*	65"		86"	67.5"*	68"
	86"	67.5"*	71"		88"	69.5"*	70"
	88"	69.5"*	73"		90"	71.5"*	72"
	90"	71.5"*	75"		92"	73.5"*	74"
	92"	73.5"*	77"		94"	75.5"*	76"
	94"	75.5"*	79"				

Capacity is equal to the lightest component of any axle package or kit.
* Using shorter spring center measurements will result in lower axle capacity.



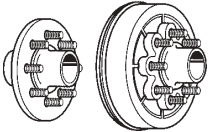
THE HENDERSON 7000 LB. AXLE

Available in single, tandem and triple assemblies with a wide variety of options to fit all your axle needs. This is a heavy duty axle made with 3" heavy wall tubing. Henderson axle assemblies include springs, U-bolts, U-bolt nuts and tie plates unless otherwise specified.



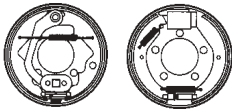
Spindles

The 7000 lb. 3" heavy wall tube axle is available in both straight and 4" drop spindles. X-Tra Lube spindles are also available.



Hubs

Integral cast hubs are available in both brake and non-brake applications. Hubs are available in heavy duty 8 on 6.5" bolt circle. Replacement parts Section 3.



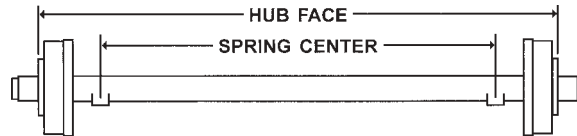
Brakes

Henderson Wheel offers a 12" x 2" electric or hydraulic brake. Hydraulic brakes are rated at 6000 lbs. Replacement parts Section 3.



Springs

The Henderson 7000 lb. Axle is available with 26" double eye springs or heavy duty slipper type springs. Suspension parts Section 2.



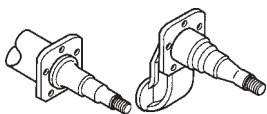
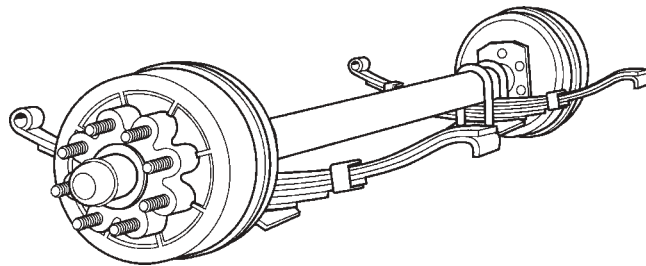
Axle Lengths

Straight Axle	Hub Face	Spring Center		Drop Axle	Hub Face	Spring Center	
		Minimum	Maximum			Minimum	Maximum
	80"	61.5"*	65"		86"	68"*	68.5"
	86"	67.5"*	71"		88"	70"*	69.5"
	88"	69.5"*	73"		90"	72"*	71.5"
	90"	71.5"*	75"		92"	74"*	74.5"
	92"	73.5"*	77"		94"	76"	76.5"
	94"	75.5"*	79"				

Capacity is equal to the lightest component of any axle package or kit.
* Using shorter spring center measurements will result in lower axle capacity.

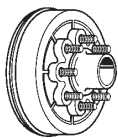
8000 LB. AXLE

Available in single, tandem and triple assemblies with a wide variety of options to fit all your axle needs. This is a heavy duty axle made with 3½ x .250 tube. This axle assembly includes springs, U-bolts, U-bolt nuts and tie plates unless otherwise specified.



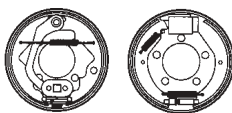
Spindles

Available in both straight and 4" drop.



Hubs

8 x 6.5" bolt circle with 4.75 hub pilot oil bath lubrication. Available with 9/16" or 5/8" wheel studs. Replacement parts Section 3.



Brakes

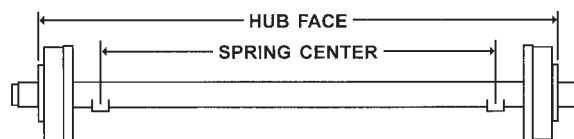
Available in self-adjusting electric or hydraulic. Replacement parts Section 3.



Springs

Heavy duty slipper springs. Suspension parts Section 2.

Part Number	Description
S808B12	Straight axle assembly with springs
D808B12	4" Drop axle assembly with springs



Axle Lengths

Overhang	Minimum	Maximum
Straight Axle	17"*	20"
Drop Axle	18"*	22"

Overhang = Hub Face Minus Spring Center

Special Length Axles Available at Additional Charge
Some tire and wheel combinations may create interference.

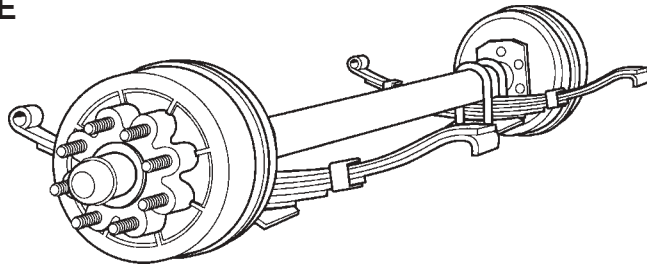
Capacity is equal to the lightest component of any axle package or kit.

* Using shorter spring center measurements will result in lower axle capacity.



9000 LB. & 10,000 LB. GENERAL DUTY AXLE

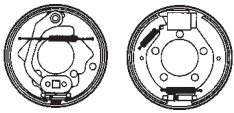
Available in single, tandem and triple assemblies with a wide variety of options to fit all your axle needs. This axle assembly includes springs, U-bolts, U-bolt nuts and tie plates unless otherwise specified.



Axle Beam
5" x .250 Tubing with #99 Spindles



Hub & Drum
Unicast Hub & Drum Assembly. 8 x 6.5" bolt circle with 4.88 hub pilot oil bath lubrication. Replacement parts Section 3.

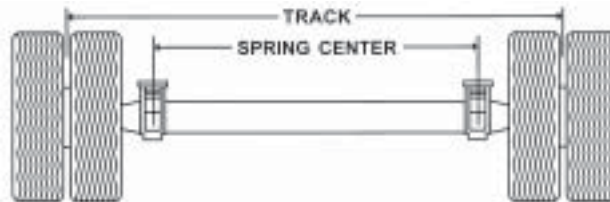


Brakes
Available in self-adjusting electric or hydraulic. Replacement parts Section 3.



Springs
Heavy duty slipper springs. Suspension parts Section 2.

Axle Part Number	Capacity	Springs
SA9KGD-ELEC	9000 lb.	4 leaf slipper springs - 2 ½" wide Rated @ 4500 lbs. each
SA10KGD-ELEC	10,000 lb.	5 leaf slipper springs - 2 ½" wide Rated @ 5000 lbs. each



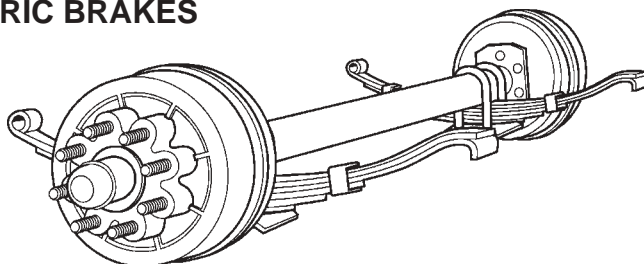
Axle Lengths

Track	Hub Face	Spring Center	Overall
71"	70 ½"	43" Bottom Mount	92 ¼"

Special Length Axles Available at Additional Charge
Some tire and wheel combinations may create interference.
Capacity is equal to the lightest component of any axle package or kit.
* Using shorter spring center measurements will result in lower axle capacity.

10,000 LB. HEAVY DUTY AXLE WITH ELECTRIC BRAKES

Available in single, tandem and triple assemblies with a wide variety of options to fit all your axle needs. This axle assembly includes springs, U-bolts, U-bolt nuts and tie plates unless otherwise specified.

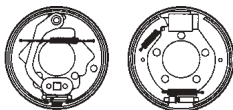


Axle Beam

5" x .250 Tubing with #120 Spindles

Hub & Drum

2-piece Hub & Drum Assembly. 8 x 6.5" bolt circle with 4.88 hub pilot oil bath lubrication. Replacement parts Section 3.



Brakes

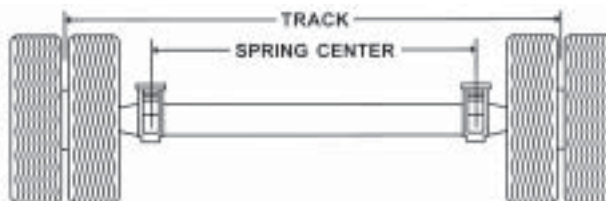
Various brake systems available (see below). Replacement parts Section 3.



Springs

5-Leaf Heavy Duty Slipper Springs - 2 1/2" wide, rated @ 5000 lbs. each. Suspension parts Section 2.

Axle Part Number	Hubs & Drums	Brakes
SA10KHD-ELEC	8 x 6.5" Bolt Circle 5/8" Studs Oil Bath	12-1/4" x 3-1/2" Electric
SA10KHD-DISC	8 x 6.5" Bolt Circle 5/8" Studs Rotor Oil Bath	Hydraulic Disc
SA10KHD-AIR	8 x 6.5" Bolt Circle 5/8" Studs Oil Bath	12-1/4" x 5" Type 20-24 Spring Air Brakes with Automatic Slack Adjusters
SA10KHD-AIR/ABS	8 x 6.5" Bolt Circle 5/8" Studs	12-1/4" x 5" Type 20-24 Spring Air Brakes with Automatic Slack Adjusters ABS Ready



Axle Lengths

Track	Hub Face	Spring Center	Overall
71"	70 1/2"	43" Bottom Mount	92 1/4"

Special Length Axles Available at Additional Charge

Some tire and wheel combinations may create interference.

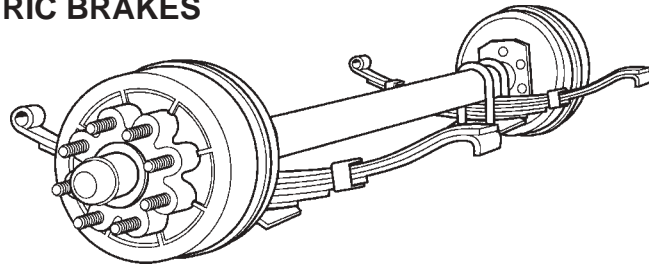
Capacity is equal to the lightest component of any axle package or kit.

* Using shorter spring center measurements will result in lower axle capacity.



12,000 LB. HEAVY DUTY AXLE WITH ELECTRIC BRAKES

Available in single, tandem and triple assemblies with a wide variety of options to fit all your axle needs. This axle assembly includes springs, U-bolts, U-bolt nuts and tie plates unless otherwise specified.

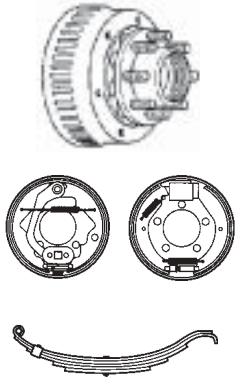


Axle Beam
5" x .250 Tubing with #120 Spindles

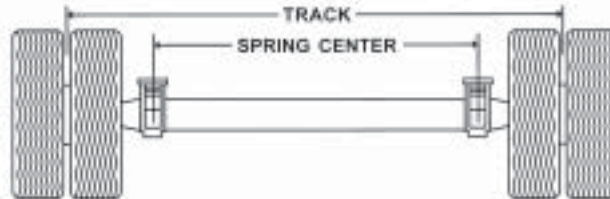
Hub & Drum
2-piece Hub & Drum Assembly. 8 x 6.5" bolt circle with 4.88 hub pilot oil bath lubrication. Replacement parts Section 3.

Brakes
Various brake systems available (see below). Replacement parts Section 3.

Springs
6-Leaf Heavy Duty Slipper Springs - 2 ½" wide, rated @ 6250 lbs. each. Suspension parts Section 2.



Axle Part Number	Hubs & Drums	Brakes
SA12KHD-ELEC	8 x 6.5" Bolt Circle 5/8" Studs Oil Bath	12-1/4" x 3-1/2" Electric
SA12KHD-DISC	8 x 6.5" Bolt Circle 5/8" Studs Rotor Oil Bath	Hydraulic Disc
SA12KHD-AIR	8 x 6.5" Bolt Circle 5/8" Studs Oil Bath	12-1/4" x 5" Type 20-24 Spring Air Brakes with Automatic Slack Adjusters
SA12KHD-AIR/ABS	8 x 6.5" Bolt Circle 5/8" Studs	12-1/4" x 5" Type 20-24 Spring Air Brakes with Automatic Slack Adjusters ABS Ready

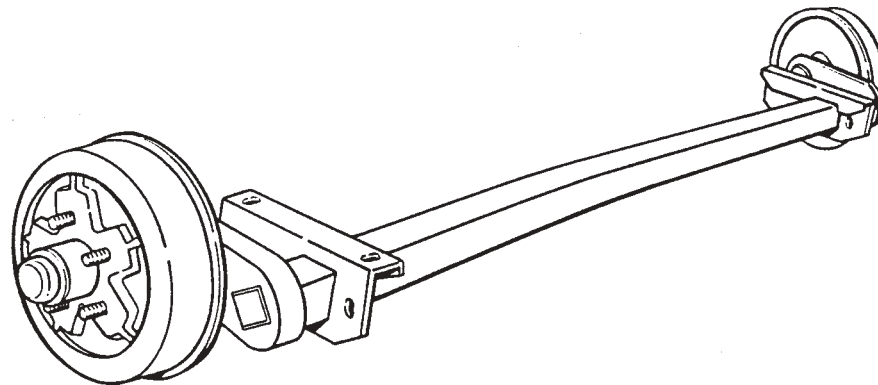


Axle Lengths

Track	Hub Face	Spring Center	Overall
71"	70 ½"	43" Bottom Mount	92 ¼"

Special Length Axles Available at Additional Charge
Some tire and wheel combinations may create interference.
Capacity is equal to the lightest component of any axle package or kit.
* Using shorter spring center measurements will result in lower axle capacity.

RUBBER TORSION AXLES



Independent Suspension

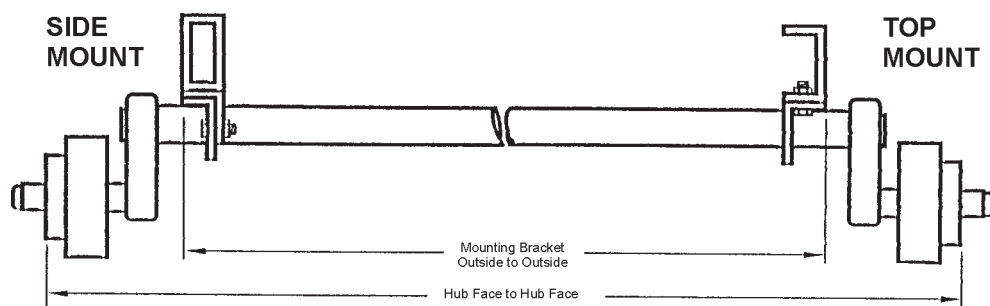
There is no transfer of road shock from one wheel to the other wheel because each wheel operates independently. This results in a easier and smoother ride.

Added Strength

The torsion axle mounts directly to the trailer frame. The axle beam itself becomes a load bearing frame cross member.

Capacity

Torsion axles can be manufactured to your specific load requirements. Available from 2000 to 10,000 lbs.



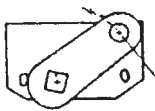


AIDS IN DETERMINING TORSION AXLE NEEDS

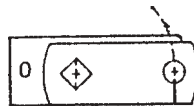
- 1) **GROSS VEHICLE WEIGHT (GVW):**
The weight of the empty trailer plus the weight of the intended cargo. This will help determine the capacity and number of axles needed.
- 2) **BRAKES:**
Brakes are required on most trailers. Brake all axles to conform to applicable state and federal requirements.
- 3) **AXLE LENGTH:**
Hub Face Measurement. The hub face measurement is from the base of the wheel stud to the base of the wheel stud on the opposite end of the axle. Used on primarily single wheel axles.
- 4) **MOUNTING BRACKETS:**
Mounting brackets are measured from the outside of one mounting bracket to the outside of the other mounting bracket on the same axle.

There are two types of mounting brackets used on torsion axles.
 - A. **Side Mount Brackets.** The side mount bracket is a separate bracket that welds to the trailer frame and the torsion axle bolts to the side mount bracket.

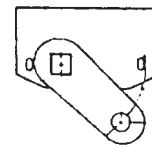
The side mount bracket is a separate item and is available at an additional cost.
 - B. **Top Mount Brackets.** The top mount bracket is the bracket welded to the torsion axle. This bolts or welds directly to the trailer frame.
- 5) **BOLT PATTERN.**
The pattern can vary depending on the capacity of the axle. The bolt pattern also determines what type of tire and wheel can be used.
- 6) **TRAILING ARM ANGLE:**
The trailing arm angle is the position of the spindle in relation to the trailer frame. Trailing arm angles are available in various degrees in the Up-Trailing, 0-Degree and Down-Trailing arm positions.



Up-Trailing



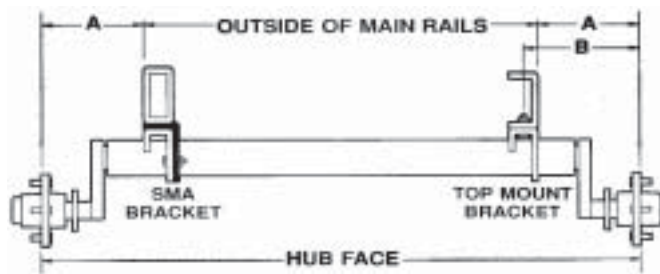
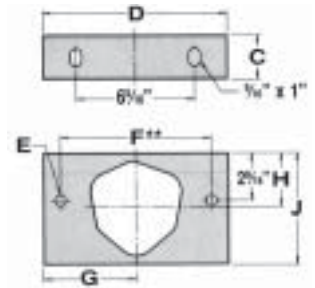
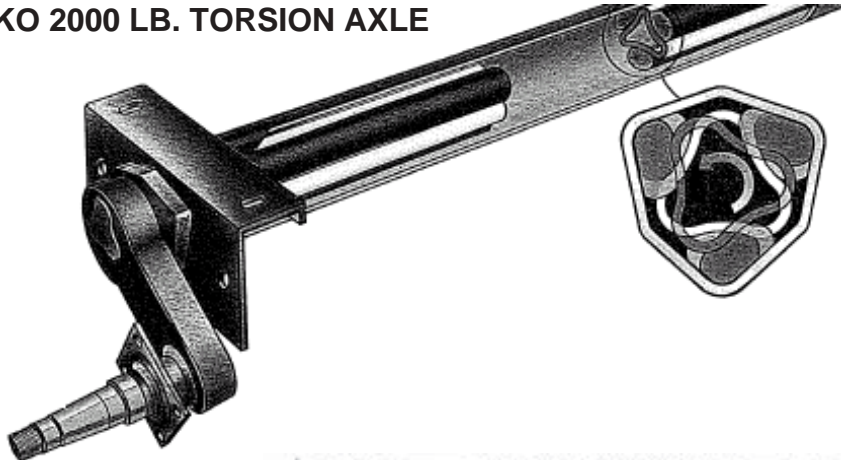
0-Degree



Down-Trailing

Please contact a Henderson Wheel Sales Representative for more information.

AL-KO 2000 LB. TORSION AXLE



PART #	*A		B		C	D	E	F	G	H	J
	MIN.	MAX.	MIN.	MAX.							
AL-22XL	6.0	10.0	7.0	11.0	2.0	7.9	.56	6.3	3.95	2.0	4.2

* Add 1" to min. for side mount brackets turned outward
 ** Add 1" to height for high mount mounting brackets

Total Swing Arm Travel



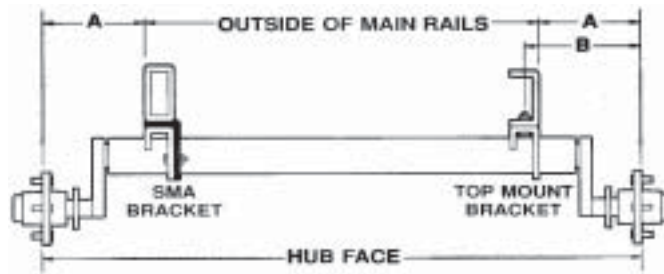
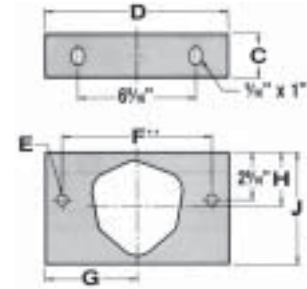
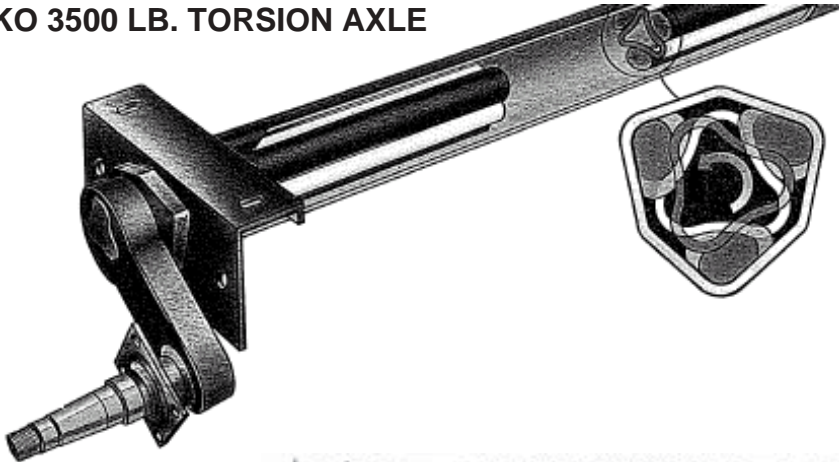
Standard Starting Angles



START ANGLE	A			B		
	UNLOADED	RATED LOAD	SHOCK LOAD	UNLOADED	RATED LOAD	SHOCK LOAD
+40	5.8	3.8	2.4	4.5	5.6	5.9
+20	4.5	2.0	0.5	5.3	5.9	5.6
+10	3.0	0.6	(1.0)	5.8	5.7	5.0
0	2.0	(0.4)	(1.8)	5.9	5.4	4.5
-10	1.0	(1.3)	(2.5)	5.8	4.9	4.1
-20	0.0	(2.2)	(3.4)	5.5	4.5	3.4



AL-KO 3500 LB. TORSION AXLE



PART #	*A		B		C	D	E	F	G	H	J
	MIN.	MAX.	MIN.	MAX.							
AL-35XL	6.0	10.0	7.2	11.2	2.4	7.9	.56	6.3	3.95	2.6	5.1

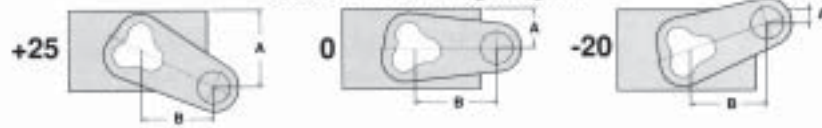
*Add 1" to min. for side mount brackets turned outward

**Add 1" to height for high mount mounting brackets

Total Swing Arm Travel

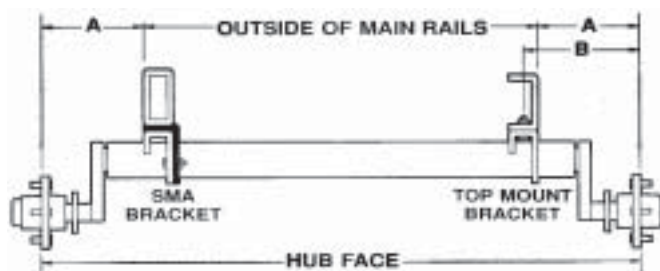
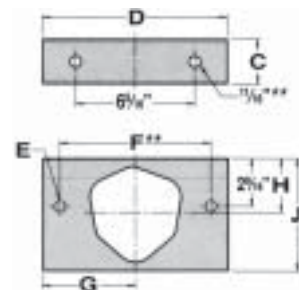
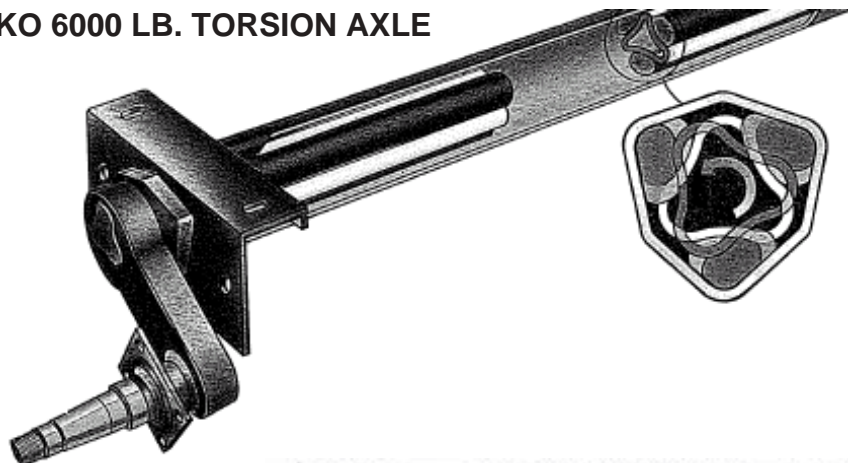


Standard Starting Angles



START ANGLE	A			B		
	UNLOADED	RATED LOAD	SHOCK LOAD	UNLOADED	RATED LOAD	SHOCK LOAD
+40	6.6	4.5	3.0	4.8	5.9	6.3
+20	5.3	2.6	0.9	5.7	6.3	5.9
+10	3.7	1.1	(0.6)	6.2	6.1	5.3
0	2.6	0.0	(1.5)	6.3	5.7	4.8
-10	1.5	(0.9)	(2.2)	6.2	5.3	4.4
-20	0.4	(1.9)	(3.2)	5.9	4.7	3.7

AL-KO 6000 LB. TORSION AXLE



PART #	*A		B		C	D	E	F	G	H	J
	MIN.	MAX.	MIN.	MAX.							
AL-60XL	7.0	11.0	8.2	12.2	2.4	9.8	.69	8.0	4.9	3.0	6.0

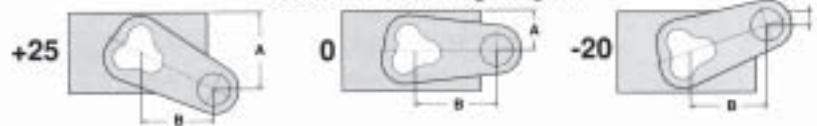
* Add 1" to min. for side mount brackets turned outward

** Add 1" to height for high mount mounting brackets

Total Swing Arm Travel



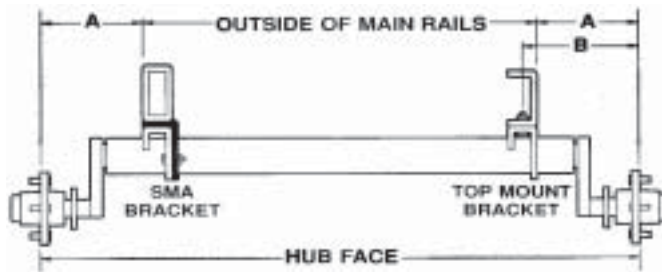
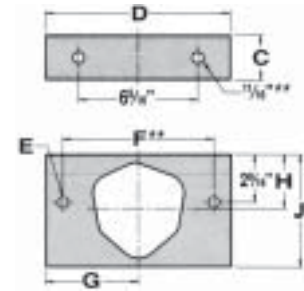
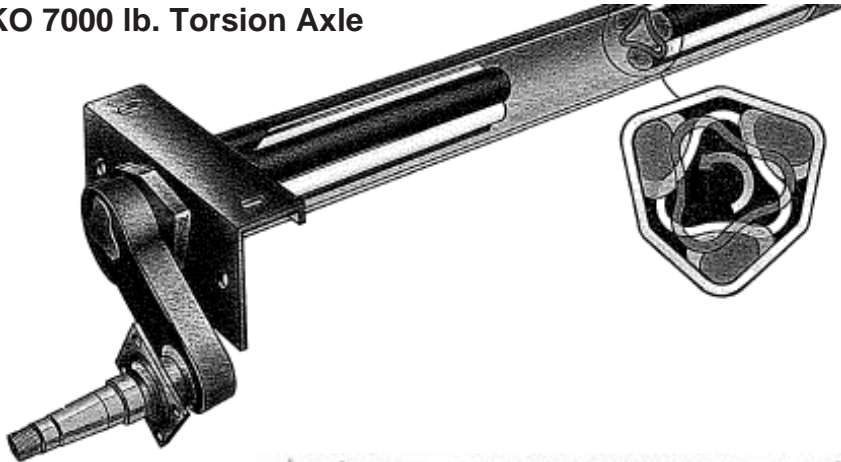
Standard Starting Angles



START ANGLE	A			B		
	UNLOADED	RATED LOAD	SHOCK LOAD	UNLOADED	RATED LOAD	SHOCK LOAD
+40	6.9	4.9	3.4	4.6	5.6	6.0
+20	5.0	2.7	0.8	5.6	6.0	5.5
+10	4.0	1.5	(0.1)	5.9	5.8	5.0
0	3.0	0.6	(0.9)	6.0	5.5	4.6
-10	2.0	(0.4)	(1.5)	5.9	5.0	4.2
-20	1.0	(1.1)	(2.4)	5.6	4.6	3.5



AL-KO 7000 lb. Torsion Axle



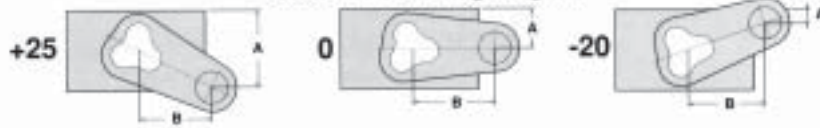
PART #	*A		B		C	D	E	F	G	H	J
	MIN.	MAX.	MIN.	MAX.							
AL-70XL	7.0	10.5	8.2	11.7	2.4	9.8	.69	8.0	4.9	3.0	6.0

*Add 1" to min. for side mount brackets turned outward
**Add 1" to height for high mount mounting brackets

Total Swing Arm Travel

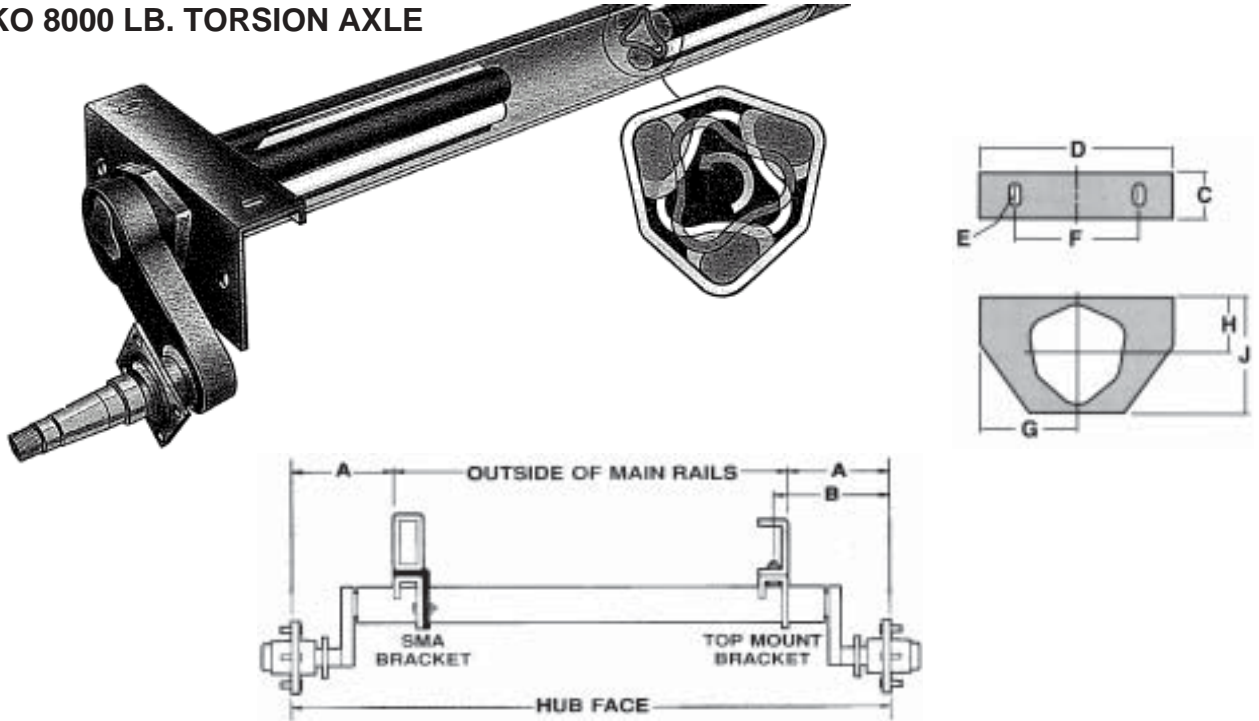


Standard Starting Angles



START ANGLE	A			B		
	UNLOADED	RATED LOAD	SHOCK LOAD	UNLOADED	RATED LOAD	SHOCK LOAD
+25	5.5	3.0	1.4	5.4	6.0	5.7
0	3.0	0.6	(0.9)	6.0	5.5	4.6
-20	1.0	(1.1)	(2.4)	5.6	4.6	3.5

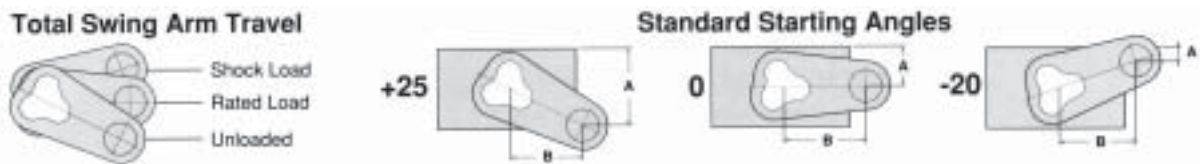
AL-KO 8000 LB. TORSION AXLE



PART #	*A		B		C	D	E	F	G	H	J
	MIN.	MAX.	MIN.	MAX.							
AL80B-8	7.5	10.5	8.8	11.8	2.6	13.0	.71	9.1	6.5	3.2	6.1

*Add 1" to min. for side mount brackets turned outward

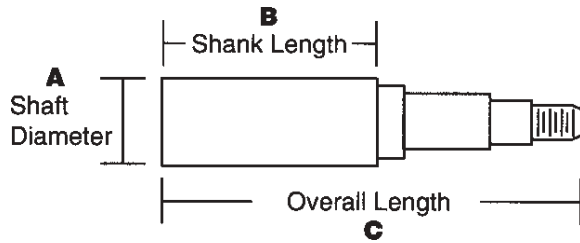
**Add 1" to height for high mount mounting brackets



START ANGLE	A			B		
	UNLOADED	RATED LOAD	SHOCK LOAD	UNLOADED	RATED LOAD	SHOCK LOAD
+25	5.7	3.2	1.6	5.4	6.0	5.7
0	3.2	0.8	(0.7)	6.0	5.5	4.6
-20	1.2	(0.9)	(2.2)	5.6	4.6	3.5



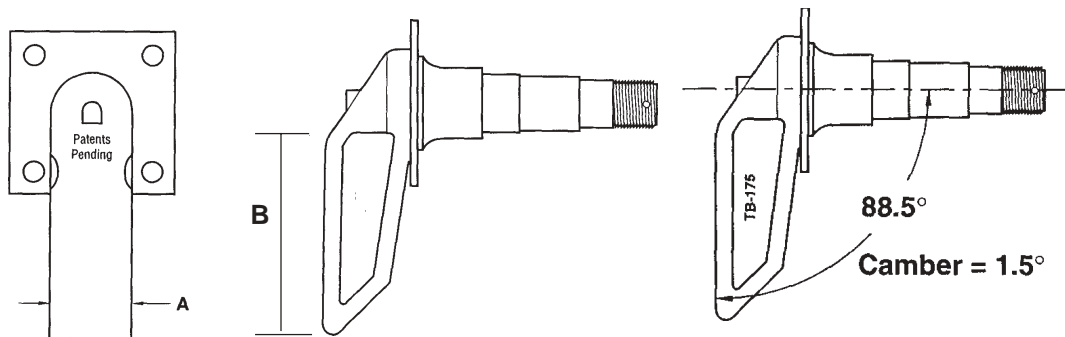
STUB SPINDLES



PART NO.	SERIES	CAPACITY EACH	A	B	C	NOTES
ROUND						
R104-BT	BT-8	1000	1.25"	3.625**	8.25**	-
R104-BT9XL	BT-9XL	1000	1.25"	3.625**	8.25**	X-Tra Lube
R304-84	84	1750	1.75"	3.75**	8.25**	-
R506-42	42	3000	2.25"	5.875**	11.00**	-
SQUARE						
SP204-BT9	BT-9	1000	1.50"	3.75**	8.25**	-
SP204-BT	BT-8	1000	1.50"	3.75**	8.25**	-
SP204-84	84	1750	1.50"	3.75**	8.25**	-
SP356-84	84	1750	1.75"	5.75**	11.00**	-
SP506-42	42	3000	2.00"	6.00**	11.00**	-

* Length is +/- 1/4".

DROP FORGED BOAT TRAILER SPINDLE



PART NUMBER	SERIES	CAPACITY EACH	A	B	NOTES
TB-175FXL	84XL	1750	2.03"	4.00"	X-Tra Lube Spindles