



**Model 8**  
**Power Wheel<sup>®</sup>**  
**Planetary Gear Drive**



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# AuburnGear® Power Wheel® Final Drives

## INTRODUCTION

Auburn Gear is your reliable source for a variety of power transfer products. This catalog features the Model 8 family of **Power Wheel®** Planetary Gear Drives. Other models of **Power Wheels** are also available; for a complete offering, contact Auburn Gear.

We also offer planetary gear kits, conventional and spin resistant differentials and ring and pinion sets. We offer you services for design, engineering, prototype support and full testing and production capabilities. Product applications include access, agricultural, automotive, construction, forestry, industrial and marine. Auburn Gear offers you quality and reliability backed by more than 50 years of experience.

### Greater Design Flexibility

Power Wheel® planetary drives allow greater flexibility than conventional power train systems and often eliminate the need for components such as drive shafts, axles and chain drives. The many models and styles offered meet a wide range of mobile and industrial application requirements. Single, double and triple reduction ratios can be furnished. In addition, they can be supplied with a variety of motor mounts and inputs which allow them to be used with most makes of hydraulic motors.

### High Efficiency and Compact Design

Providing 94 to 98% power transfer efficiency, Power Wheel® planetary drives are significantly more efficient than many other types of drives, including differential design planetaries. The rugged, compact design of these drives saves space and provides for long service life.

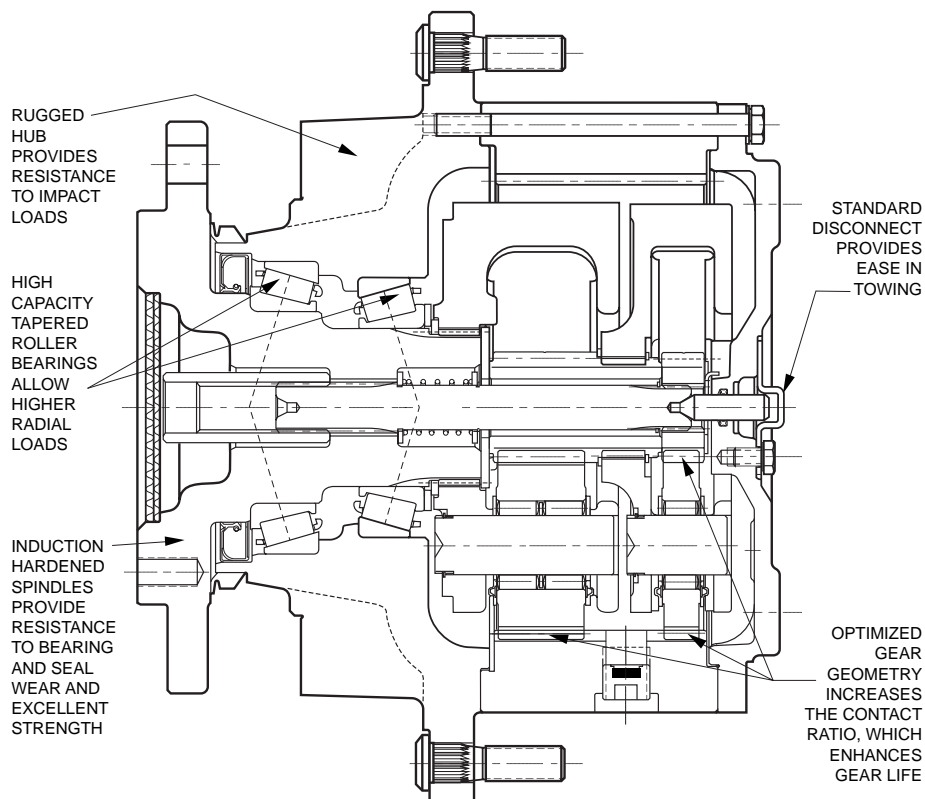
All models can be furnished with parking brakes. Auburn Gear has designed integral parking brakes in Models 5, 6, 6B, 7, 8, 8B and 9. These units provide a very compact planetary drive/parking brake package which is particularly useful in applications where space is limited.

### Responsive Performance

Power Wheel® drives deliver the power you require for smooth operation and precise control. These units are also fully reversible. Reverse power is easily obtained by reversing rotation of the input. For vehicle applications, the positive traction provided by individually powered wheels results in superior maneuverability and improved ground clearance than conventional drive systems.

Auburn Gear Power Wheel drives can be an efficient solution for any application where you need to increase torque or reduce speed to achieve usable power. Let Power Wheel® planetary drives help you put power in its place.

## MODEL 8 FEATURES



# Model 8 Wheel Drives Double Reduction

## GENERAL SPECIFICATIONS

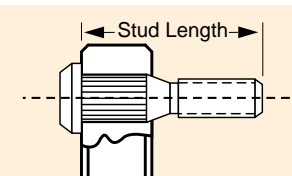
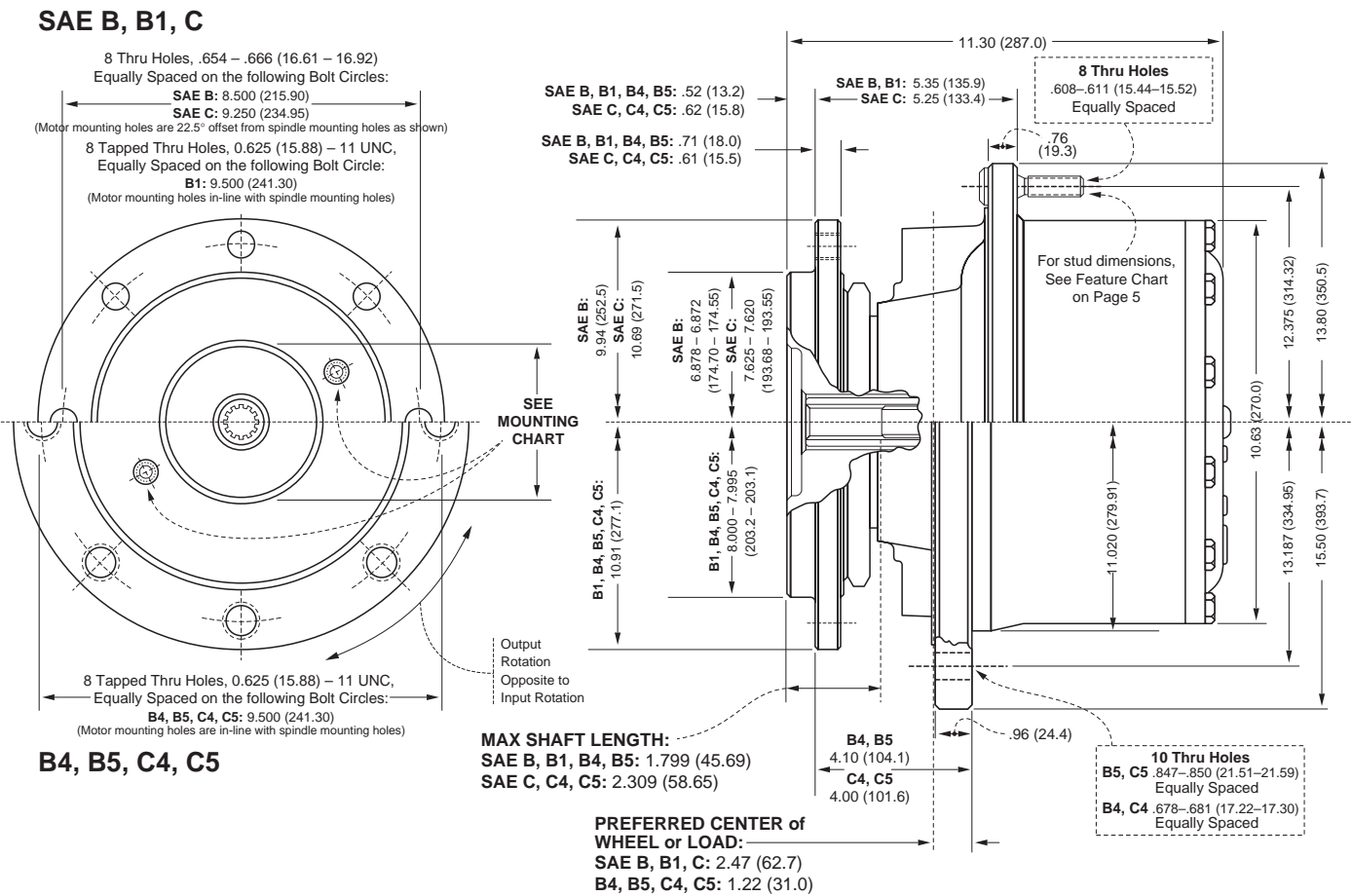
Max. intermittent output torque<sup>1,2</sup> 100,000 lb-in (11,300Nm)    Approximate Weight ..... 169 lbs (76.7 kg)  
 Max. input speed<sup>2</sup> ..... 5,000 RPM    Oil capacity ..... 47 oz (1,390 cc)

*For Lubrication Data, see Page 31*

<sup>1</sup> Depending on the duty cycle and the nature of the application, a normal continuous output torque of 1/3 to 1/2 of the maximum Intermittent should yield satisfactory *Power Wheel* life. Customer testing and application analysis is strongly recommended.

<sup>2</sup> If application exceeds published limits, contact Auburn Gear.

Dimensions given in: INCHES (mm)



### Wheel Stud – Detail

Note that the stud lengths shown in the feature chart represent the total length of the stud under the head.

**NON-POWERED UNITS ARE ALSO AVAILABLE**  
 Contact Auburn Gear for Information

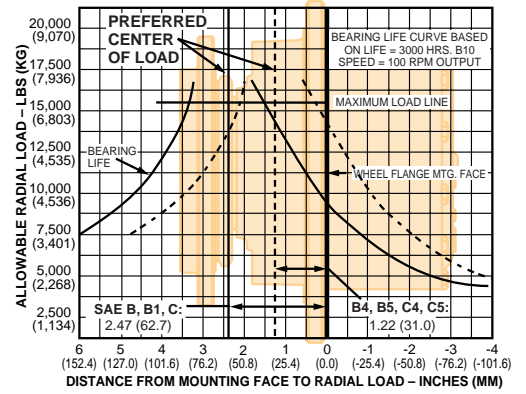
## FEATURE CHART: MODEL 8 WHEEL DRIVES DOUBLE REDUCTION

OPTIONS	DESCRIPTION	MAKE ALL SELECTIONS WITHIN ONE COLUMN		ORDER CODES	USE OPTION ORDER CODES TO BUILD ORDER NUMBER
MOTOR PILOT/HUB	<b>SAE B</b> B1 B4 B5 <b>SAE C</b> C4 C5	•	•	<b>8WB</b> <b>8WB1</b> 8WB4 8WB5 <b>8WC</b> 8WC4 <b>8WC5</b>	<b>8WB1</b>
INPUT SPLINE	<b>13T</b> , <sup>16</sup> / <sub>32</sub> <b>14T</b> , <sup>12</sup> / <sub>24</sub> 15T, <sup>16</sup> / <sub>32</sub>	•	•	<b>13</b> <b>14</b> 15	<b>13</b>
RATIO OPTIONS	14.39:1 17.83:1 <b>22.59:1</b> 25.71:1 <b>30.50:1</b> <b>34.20:1</b> <b>41.42:1</b> 49.00:1	•	•	14 17 <b>22</b> 25 <b>30</b> <b>34</b> <b>41</b> 49	<b>34</b>
WHEEL STUDS	<sup>1</sup> / <sub>2</sub> x 2.50 <sup>9</sup> / <sub>16</sub> x 2.75 <b><sup>5</sup>/<sub>8</sub> x 2.37</b> <b><sup>3</sup>/<sub>4</sub> x 3.21*</b> NONE	•	•	5 7 <b>8</b> <b>11</b> 0	<b>8</b>
SPECIAL FEATURES	Brake Disc** <b>Boot Seal</b> Brake Disc Holes <b>Quick Disconnect</b> Oil Plugs/Spindle Side High Strength Carrier	•	•	D <b>Z</b> DH <b>Q</b> P Y	<b>Q</b>
Select desired characteristics from chart, note correct order codes, and order using sample format shown at right:				<b>8WB1 13 34 8 Q</b>	

\* Available with B5 and C5 mountings only

\*\* Customer supplied, Auburn Gear assembled

**BOLDFACE** INDICATES REGULAR VOLUME PRODUCED ITEMS WITH BEST AVAILABILITY.



### NOTE:

These curves are supplied as a design guide and apply to resultant radial load only. They indicate the importance of maintaining wheel position over the bearing center.

For actual analysis, applications should be reviewed by Auburn Gear Engineering using data supplied on Application Data Form.

### BEARING LOAD, LIFE AND SPEED RELATIONSHIPS

$$LF = \frac{SF \times R}{R'}$$

R = Allowable resultant load for given location from mounting flange

R' = Anticipated load at location from mounting flange

LF = Life Factor from table (see below)

SF = Speed Factor from table (see below)

OUTPUT SPEED (RPM)	SF	LF	BEARING HOURS B-10 LIFE
5	2.456	.584	500
10	1.994	.719	1000
20	1.620	.812	1500
30	1.435	.886	2000
40	1.316	.947	2500
50	1.231	1.000	3000
60	1.165	1.047	3500
70	1.113	1.090	4000
80	1.069	1.130	4500
90	1.032	1.166	5000
100	1.000	1.231	6000
200	.812	1.289	7000
300	.719	1.342	8000
400	.659	1.390	9000
500	.617	1.435	10000

**CAUTION:** The same torsional loading constraints used in the driving mode must be used in the braking mode when braking through the **Power Wheel** drive gear set.

### MOTOR MOUNTING CHART

MOTOR MOUNTING HOLE DIMENSIONS	DIAMETER
<b>SAE B, B1, B4, B5</b> (2) – .500 (12.70) -13 UNC 2B Thd Holes on 5.750 (146.05) B. C.	Ø 4.001 - 4.006 (101.62 - 101.75)
<b>SAE C, C4, C5</b> (4) – .500 (12.70) -13 UNC 2B Thd Holes on 6.375 (161.93) B. C.	Ø 5.001 - 5.006 (127.02 - 127.15)

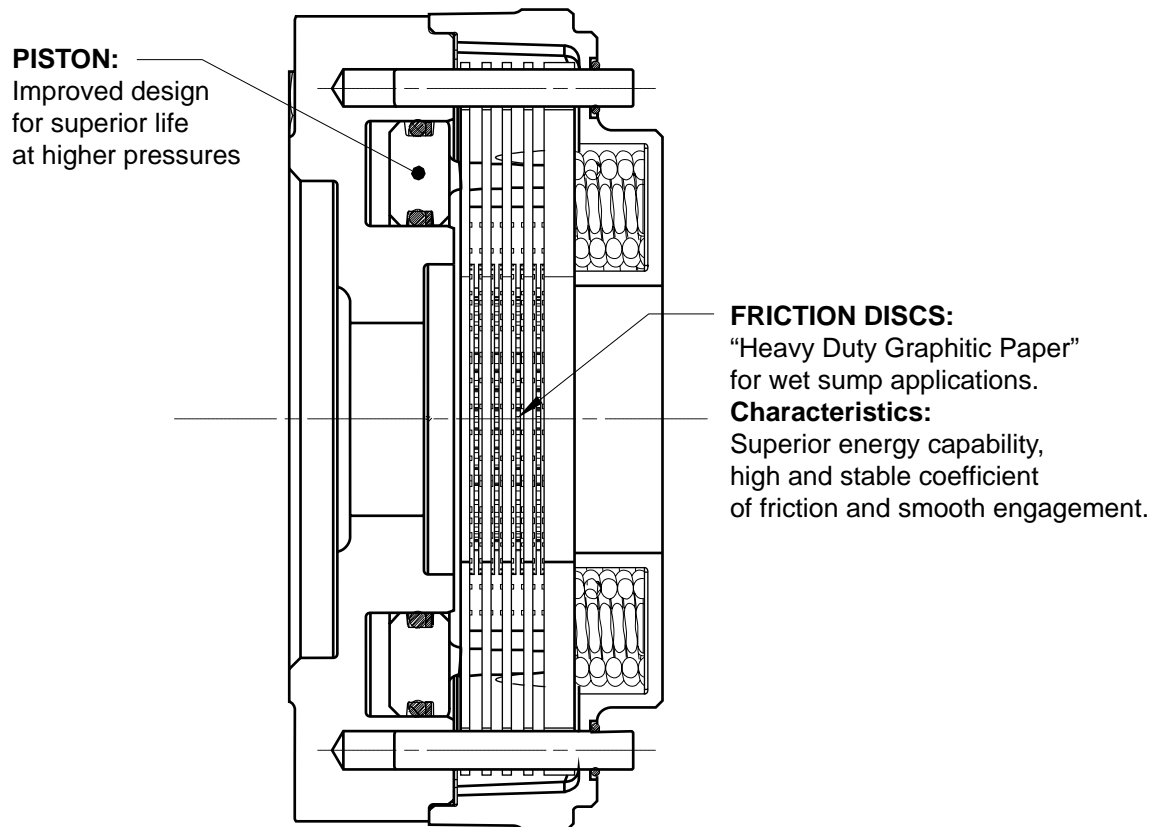
\*"O" RING OR GASKET REQUIRED (Not Supplied by Auburn Gear)  
"O" RING SIZES: SAE "B" 2-155, SAE "C" 2-159

### NOTE:

The data presented in this catalog is for general information and preliminary layout purposes only. Auburn Gear, through its policy of continual improvement, reserves the right to update its products; therefore, the information presented is subject to change. For specific application and/or dimensional information, contact Auburn Gear.

# Model 8 Wheel Drives Double Reduction

with A2 Series Integral Parking Brake



## GENERAL A2 SERIES DATA:

1. Maximum operating pressure is 3,000 psi (206.4 Bar). Pressure spikes or surges not to exceed 3,500 psi (240.8 Bar). Surge pressure in excess of 3,500 psi (240.8 Bar) caused by spikes in the hydraulic system could shorten brake life and must be avoided.
2. Use only SAE grade 8 mounting bolts and torque to 80-90 lb. ft. (108-122 N-m) for motor mounting.
3. **PRECAUTION:** Bench testing may cause distortion of components or bolt failure. Mounting bolts must be used for supplemental clamping.
4. Minimum Release Pressure is defined as the hydraulic pressure required to obtain full running clearance.
5. Cubic Inch Displacement is the volume of oil required to release the brake piston:  
1.0 in<sup>3</sup> (16.4cc) for a new brake and 2.0 in<sup>3</sup> (32.8cc) for a worn brake pack - **SAE B, B1, B4, B5;**  
0.7 in<sup>3</sup> (11.5cc) for a new brake and 1.6 in<sup>3</sup> (26.2cc) for a worn brake pack - **SAE C, C4, C5.**



# Model 8 Wheel Drives

## Double Reduction with A2 Series Integral Parking Brake

### GENERAL SPECIFICATIONS

Max. intermittent output torque <sup>1,2</sup>	100,000 lb-in (11,300Nm)	Approximate Weight	186 lbs (84.4 kg)
Max. input speed <sup>3</sup>	2,000 RPM	Oil capacity	52 oz (1,540 cc)

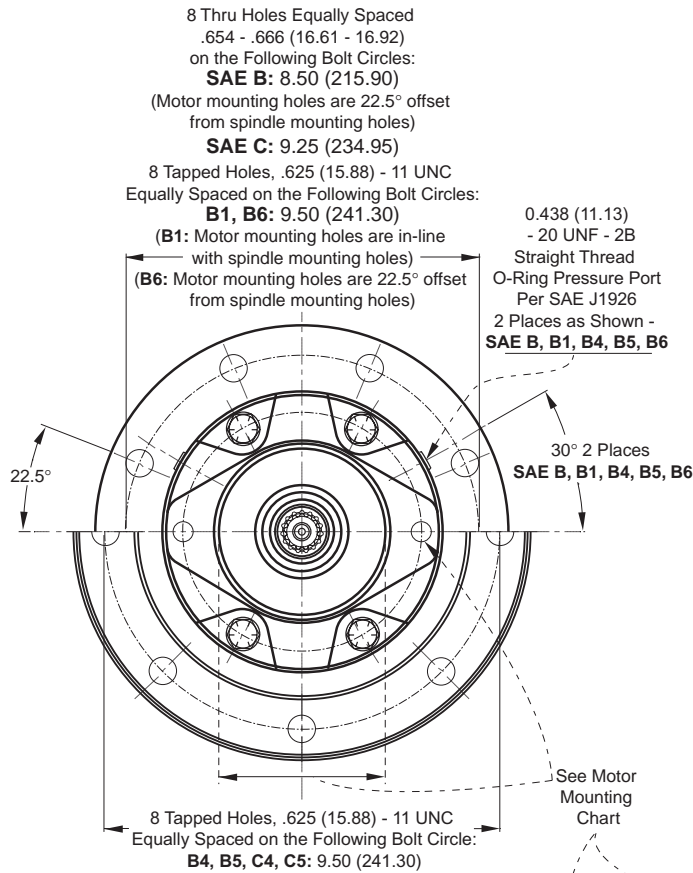
<sup>1</sup> Depending on the duty cycle and the nature of the application, a normal continuous output torque of 1/3 to 1/2 of the maximum Intermittent should yield satisfactory *Power Wheel* life. Customer testing and application analysis is strongly recommended.

<sup>2</sup> If application exceeds published limit, contact Auburn Gear.

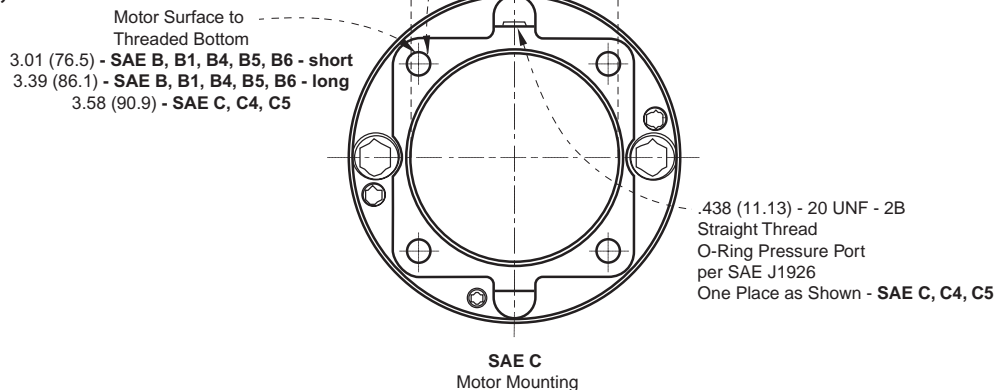
Dimensions given in: INCHES (mm)

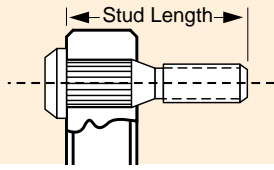
<sup>3</sup> For input speeds between 2,000 and 3,600 rpm please contact Auburn Gear for duty cycle analysis.

### SAE B, B1, B6, C



### B4, B5, C4, C5





### Wheel Stud – Detail

Note that the stud lengths shown in the feature chart represent the total length of the stud under the head.

**NON-POWERED UNITS  
ARE ALSO AVAILABLE**  
Contact Auburn Gear for Information

### SAE “C” BRAKE RATINGS

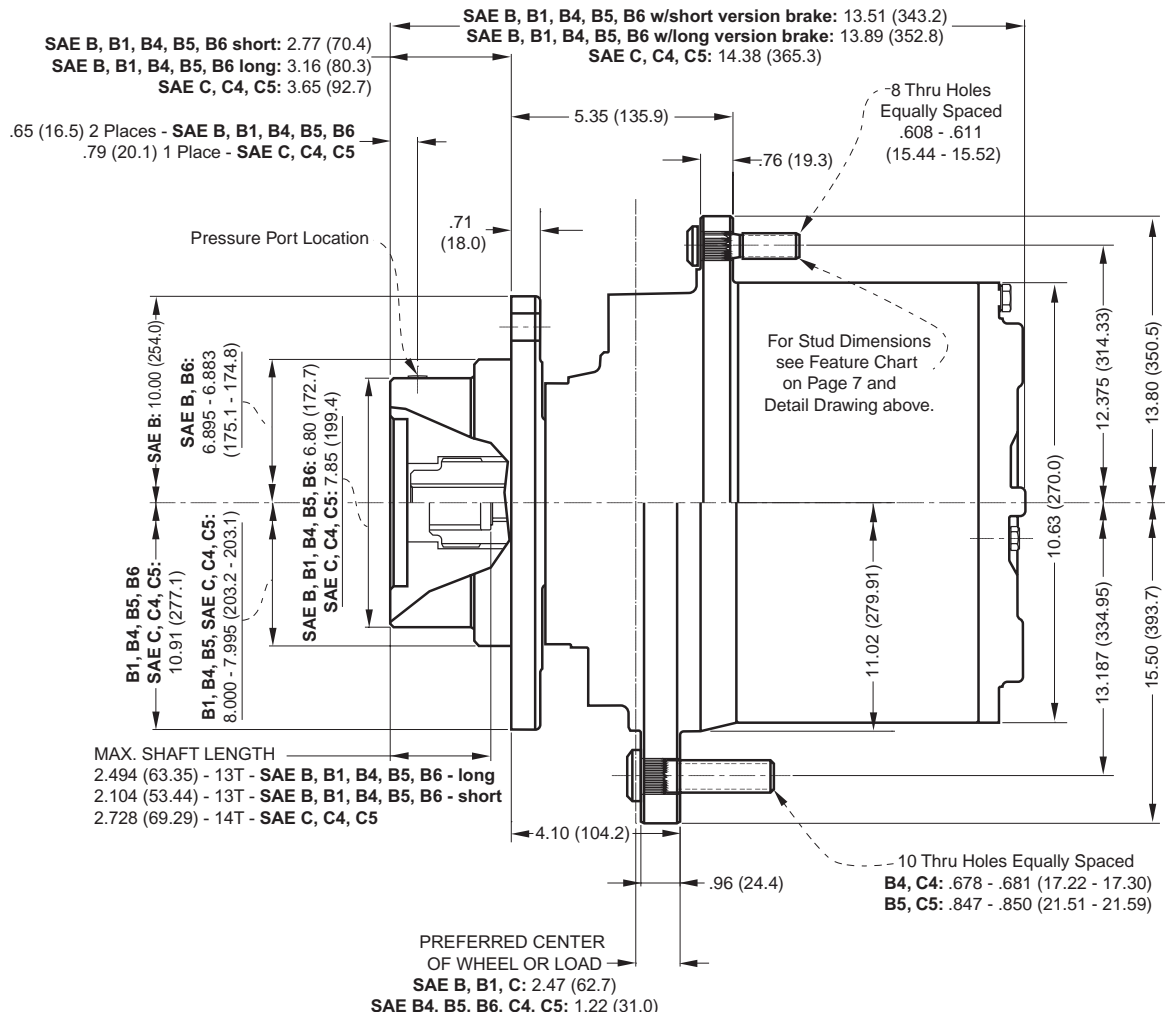
MODEL	TORQUE	MINIMUM RELEASE PRESSURE
B4	2,400 lb-in (271 N-m)	135 PSI (9.3 Bar)
B6	3,600 lb-in (407 N-m)	180 PSI (12.4 Bar)
B7	4,200 lb-in (475 N-m)	210 PSI (14.5 Bar)

Maximum Release Pressure = 3,000 PSI (206.4 Bar)

### SAE “B” BRAKE RATINGS

MODEL	TORQUE	MINIMUM RELEASE PRESSURE	STYLE
B1	1,540 lb-in (174 N-m)	190 PSI (13.1 Bar)	Short
B2	1,800 lb-in (203 N-m)	220 PSI (15.1 Bar)	Short
B3	2,400 lb-in (271 N-m)	290 PSI (20.0 Bar)	Short
B4	2,400 lb-in (271 N-m)	160 PSI (11.0 Bar)	Long
B5	3,200 lb-in (362 N-m)	220 PSI (15.1 Bar)	Long
B6	3,600 lb-in (407 N-m)	230 PSI (15.8 Bar)	Long
B7	4,200 lb-in (475 N-m)	260 PSI (17.9 Bar)	Long

Maximum Release Pressure = 3,000 PSI (206.4 Bar)

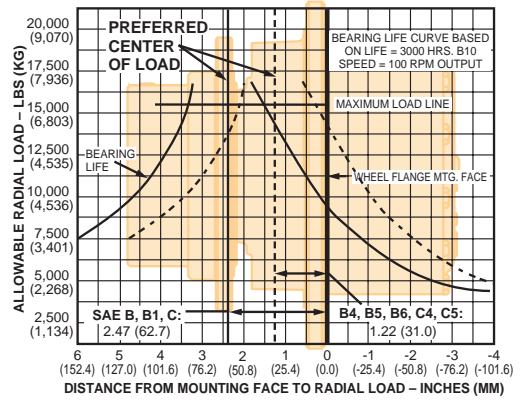




## FEATURE CHART: MODEL 8 WHEEL DRIVES DOUBLE REDUCTION with BRAKE

OPTIONS	DESCRIPTION	MAKE ALL SELECTIONS WITHIN ONE COLUMN		ORDER CODES	USE OPTION ORDER CODES TO BUILD ORDER NUMBER			
MOTOR PILOT/HUB	<b>SAE B</b>	•		<b>8WB</b>	<b>8WB</b>			
	B1	•		8WB1				
	B4	•		8WB4				
	B5	•		8WB5				
	B6	•		8WB6				
	SAE C	•	•	8WC				
C4	•		8WC4					
C5	•		8WC5					
INPUT SPLINE	<b>13T. - 16/32"</b>	•		<b>13</b>	<b>13</b>			
	14T. - 12/24"		•	14				
	15T. - 16/32"	•		15				
RATIO OPTIONS	14.39:1	•	•	14				
	17.83:1	•	•	17				
	<b>22.59:1</b>	•	•	<b>22</b>		<b>22</b>		
	25.71:1	•	•	25				
	<b>30.50:1</b>	•	•	<b>30</b>				
	<b>34.20:1</b>	•	•	<b>34</b>				
<b>41.42:1</b>	•	•	<b>41</b>					
49.00:1	•	•	49					
WHEEL STUDS	1/2" by 2.50	•	•	5				
	9/16" by 2.75	•	•	7				
	<b>5/8" by 2.37</b>	•	•	<b>8</b>		<b>8</b>		
	<b>3/4" by 3.21*</b>	•	•	<b>11</b>				
	<b>NONE</b>	•	•	<b>0</b>				
PARKING BRAKE	1,540 lb-in	•		B1				
	1,800 lb-in	•		B2				
	2,400 lb-in	•		B3				
	<b>2,400 lb-in</b>	•	•	<b>B4</b>				
	<b>3,200 lb-in</b>	•	•	<b>B5</b>				
	<b>3,600 lb-in</b>	•	•	<b>B6</b>				
<b>4,200 lb-in</b>	•	•	<b>B7</b>			<b>B7</b>		
SPECIAL FEATURES	Brake Disc**	•	•	D				
	<b>Boot Seal</b>	•	•	<b>Z</b>				<b>Z</b>
	Brake Disc Holes	•	•	DH				
	<b>Quick Disconnect</b>	•	•	<b>Q</b>				
	Oil Plugs/Spindle Side	•	•	P				
High Strength Carrier	•	•	Y					
Select desired characteristics from chart, note correct order codes, and order using sample format shown at right:				<b>8WB 13 22 8 B7 Z</b>				

\* Available with B5, and C5 mountings only      \*\* Customer supplied, Auburn Gear assembled  
**BOLDFACE** INDICATES REGULAR VOLUME PRODUCED ITEMS WITH BEST AVAILABILITY.



### NOTE:

These curves are supplied as a design guide and apply to resultant radial load only. They indicate the importance of maintaining wheel position over the bearing center.

For actual analysis, applications should be reviewed by Auburn Gear Engineering using data supplied on Application Data Form.

### BEARING LOAD, LIFE AND SPEED RELATIONSHIPS

$$LF = \frac{SF \times R}{R'}$$

R = Allowable resultant load for given location from mounting flange

R' = Anticipated load at location from mounting flange

LF = Life Factor from table (see below)

SF = Speed Factor from table (see below)

OUTPUT SPEED (RPM)	SF	LF	BEARING HOURS B-10 LIFE
5	2.456	.584	500
10	1.994	.719	1000
20	1.620	.812	1500
30	1.435	.886	2000
40	1.316	.947	2500
50	1.231	1.000	3000
60	1.165	1.047	3500
70	1.113	1.090	4000
80	1.069	1.130	4500
90	1.032	1.166	5000
100	1.000	1.231	6000
200	.812	1.289	7000
300	.719	1.342	8000
400	.659	1.390	9000
500	.617	1.435	10000

**CAUTION:** The same torsional loading constraints used in the driving mode must be used in the braking mode when braking through the **Power Wheel** drive gear set.

### MOTOR MOUNTING CHART

MOTOR MOUNTING HOLE DIMENSIONS	DIAMETER
SAE B, B1, B4, B5, B6 (2) – .500 (12.70) -13 UNC 2B Thd Holes on 5.750 (146.05) B. C.	Ø 4.001 - 4.006 (101.62 - 101.75)
SAE C, C4, C5 (4) – .500 (12.70) -13 UNC 2B Thd Holes on 6.375 (161.93) B. C.	Ø 5.001 - 5.006 (127.02 - 127.15)

\*"O" RING OR GASKET REQUIRED (Not Supplied by Auburn Gear)  
 "O" RING SIZES: SAE "B" 2-155, SAE "C" 2-159

### NOTE:

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# Model 8 Shaft Output Drives Single and Double Reductions

## GENERAL SPECIFICATIONS

### SINGLE REDUCTION DRIVES

### DOUBLE REDUCTION DRIVES

Max. intermittent output torque<sup>1,2</sup> 60,000 lb-in (6,780 Nm)  
 Max. input speed<sup>2</sup> ..... 3,500 RPM  
 Approximate Weight ..... 119 lbs (54 kg)  
 Oil capacity ..... 38 oz (1,125 cc)

Max. intermittent output torque<sup>1,2</sup> 100,000 lb-in (11,300 Nm)  
 Max. input speed<sup>2</sup> ..... 5,000 RPM  
 Approximate Weight ..... 155 lbs (70.3 kg)  
 Oil capacity ..... 42 oz (1,242 cc)

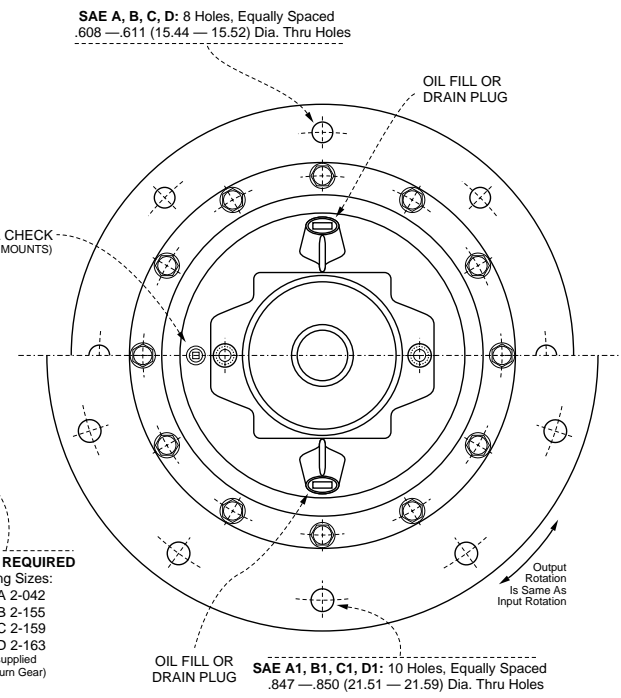
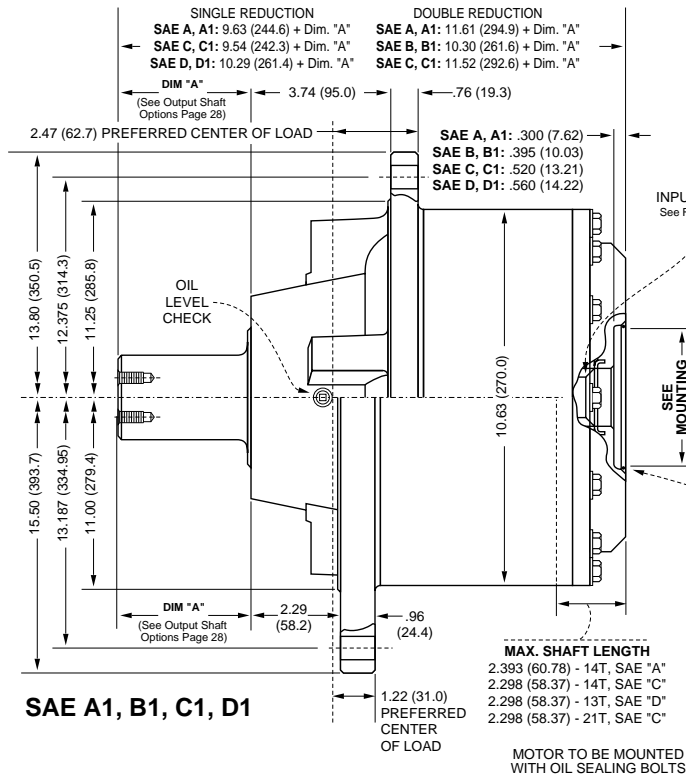
For Lubrication Data, see Page 31

<sup>1</sup> Depending on the duty cycle and the nature of the application, a normal continuous output torque of 1/3 to 1/2 of the maximum Intermittent should yield satisfactory Power Wheel life. Customer testing and application analysis is strongly recommended.

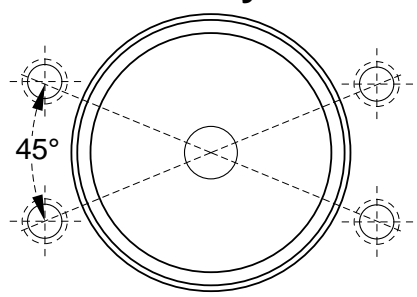
<sup>2</sup> If application exceeds published limits, contact Auburn Gear.

Dimensions given in: INCHES (mm)

### SAE A, B, C, D



### SAE A, A1 Hole Layout



### MOTOR MOUNTING CHART

MOTOR MOUNTING HOLE DIMENSIONS		DIAMETER
SAE A, A1	(4) — .500 (12.70) -13 UNC 2B Thd Holes on 4.188 (106.38) B. C.	Ø 3.251 - 3.256 (82.58 - 82.70)
SAE B, B1	(2) — .500 (12.70) -13 UNC 2B Thd Holes on 5.750 (146.05) B. C.	Ø 4.001 - 4.006 (101.62 - 101.75)
SAE C, C1	(4) — .500 (12.70) -13 UNC 2B Thd Holes on 6.375 (161.93) B. C.	Ø 5.001 - 5.006 (127.02 - 127.15)
	<b>OR</b> (2) — .625 (15.88) -11 UNC 2B Thd Holes on 7.125 (180.98) B. C.	
SAE D, D1	(4) — .750 (19.05) -10 UNC 2B Thd Holes on 9.000 (228.60) B. C.	Ø 6.001 - 6.006 (152.43 - 152.55)

\*O\* RING OR GASKET REQUIRED (Not Supplied by Auburn Gear)  
 \*O\* RING SIZES: SAE "A" 2-042, SAE "B" 2-155, SAE "C" 2-159, SAE "D" 2-163

## FEATURE CHART: MODEL 8 SHAFT OUTPUT DRIVES - SINGLE REDUCTION

OPTIONS	DESCRIPTION	MAKE ALL SELECTIONS WITHIN ONE COLUMN			ORDER CODES	USE OPTION ORDER CODES TO BUILD ORDER NUMBER		
MOTOR PILOT/HUB	SAE A	•			8TA	<b>8TC</b>		
	A1	•			8TA1			
	<b>SAE C</b>	•		•	<b>8TC</b>			
	C1	•		•	8TC1			
	SAE D		•		8TD			
	D1		•		8TD1			
INPUT SPLINE	13T - <sup>8</sup> / <sub>16</sub>		•		13		<b>14</b>	
	<b>14T - <sup>12</sup>/<sub>24</sub></b>	•			<b>14</b>			
	21T - <sup>16</sup> / <sub>32</sub>			•	21			
RATIO OPTIONS	3.92:1	•			03			
	4.86:1	•			04			
	5.50:1	•			05			
	6.00:1	•	•		06			
	<b>7.07:1</b>	•		•	<b>07</b>			<b>07</b>
OUTPUT SHAFTS	<b>23T - <sup>12</sup>/<sub>24</sub></b>	•	•	•	<b>23</b>			<b>K1</b>
	<b>2.0" Keyed</b>	•	•	•	<b>K1</b>			
	3.0" Keyed	•	•	•	K2			
	<b>20T - <sup>8</sup>/<sub>16</sub></b>	•	•	•	<b>20</b>			
	23T - <sup>8</sup> / <sub>16</sub>	•	•	•	23S			
	<b>23T - <sup>8</sup>/<sub>16</sub></b>	•	•	•	<b>23L</b>			
	2.0" Round	•	•	•	A1			
	2.56" Round	•	•	•	A2			
	<b>2.0" Hex</b>	•	•	•	<b>H1</b>			
	2.0" Hex	•	•	•	H2			
	Spindle	•	•	•	F2			
	Spindle	•	•	•	F3			

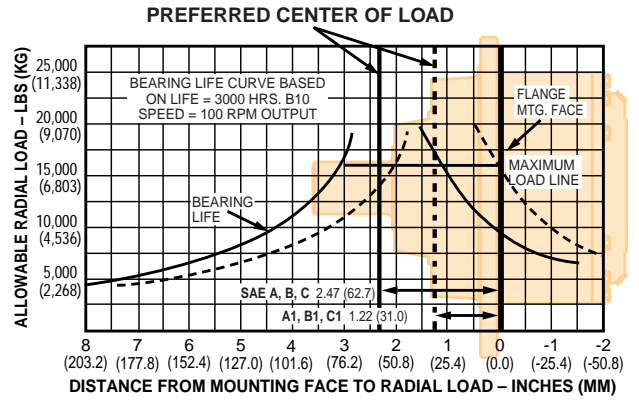
Select desired characteristics from chart, note correct order codes, and order using sample format shown at right: **8TC 14 07 K1**

## FEATURE CHART: MODEL 8 SHAFT OUTPUT DRIVES - DOUBLE REDUCTION

OPTIONS	DESCRIPTION	MAKE ALL SELECTIONS WITHIN ONE COLUMN			ORDER CODES	USE OPTION ORDER CODES TO BUILD ORDER NUMBER		
MOTOR PILOT/HUB	SAE A	•			8SA	<b>8SB</b>		
	A1	•			8SA1			
	<b>SAE B</b>		•		<b>8SB</b>			
	B1		•		8SB1			
	<b>SAE C</b>			•	<b>8SC</b>			
	C1			•	8SC1			
INPUT SPLINE	<b>13T - <sup>16</sup>/<sub>32</sub></b>		•		<b>13</b>		<b>13</b>	
	<b>14T - <sup>12</sup>/<sub>24</sub></b>	•		•	<b>14</b>			
RATIO OPTIONS	15.39:1	•	•	•	15			
	18.83:1	•	•	•	18			
	<b>23.59:1</b>	•	•	•	<b>23</b>			
	26.71:1	•	•	•	26			
	<b>31.50:1</b>	•	•	•	<b>31</b>			
	<b>35.20:1</b>	•	•	•	<b>35</b>			
	<b>42.42:1</b>	•	•	•	<b>42</b>			<b>42</b>
	50.00:1	•	•	•	50			
OUTPUT SHAFTS	<b>23T - <sup>12</sup>/<sub>24</sub></b>	•	•	•	<b>23</b>			<b>20</b>
	<b>2.0" Keyed</b>	•	•	•	<b>K1</b>			
	3.0" Keyed	•	•	•	K2			
	<b>20T - <sup>8</sup>/<sub>16</sub></b>	•	•	•	<b>20</b>			
	23T - <sup>8</sup> / <sub>16</sub>	•	•	•	23S			
	<b>23T - <sup>8</sup>/<sub>16</sub></b>	•	•	•	<b>23L</b>			
	2.0" Round	•	•	•	A1			
	2.56" Round	•	•	•	A2			
	<b>2.0" Hex</b>	•	•	•	<b>H1</b>			
	2.0" Hex	•	•	•	H2			
	Spindle	•	•	•	F2			
	Spindle	•	•	•	F3			

Select desired characteristics from chart, note correct order codes, and order using sample format shown at right: **8SB 13 42 20**

**BOLDFACE** INDICATES REGULAR VOLUME PRODUCED ITEMS WITH BEST AVAILABILITY.



**NOTE:**

These curves are supplied as a design guide and apply to resultant radial load only. They indicate the importance of maintaining load position over the bearing center.

For actual analysis, applications should be reviewed by Auburn Gear Engineering using data supplied on Application Data Form.

### BEARING LOAD, LIFE AND SPEED RELATIONSHIPS

$$LF = \frac{SF \times R}{R'}$$

R = Allowable resultant load for given location from mounting flange

R' = Anticipated load at location from mounting flange

LF = Life Factor from table (see below)

SF = Speed Factor from table (see below)

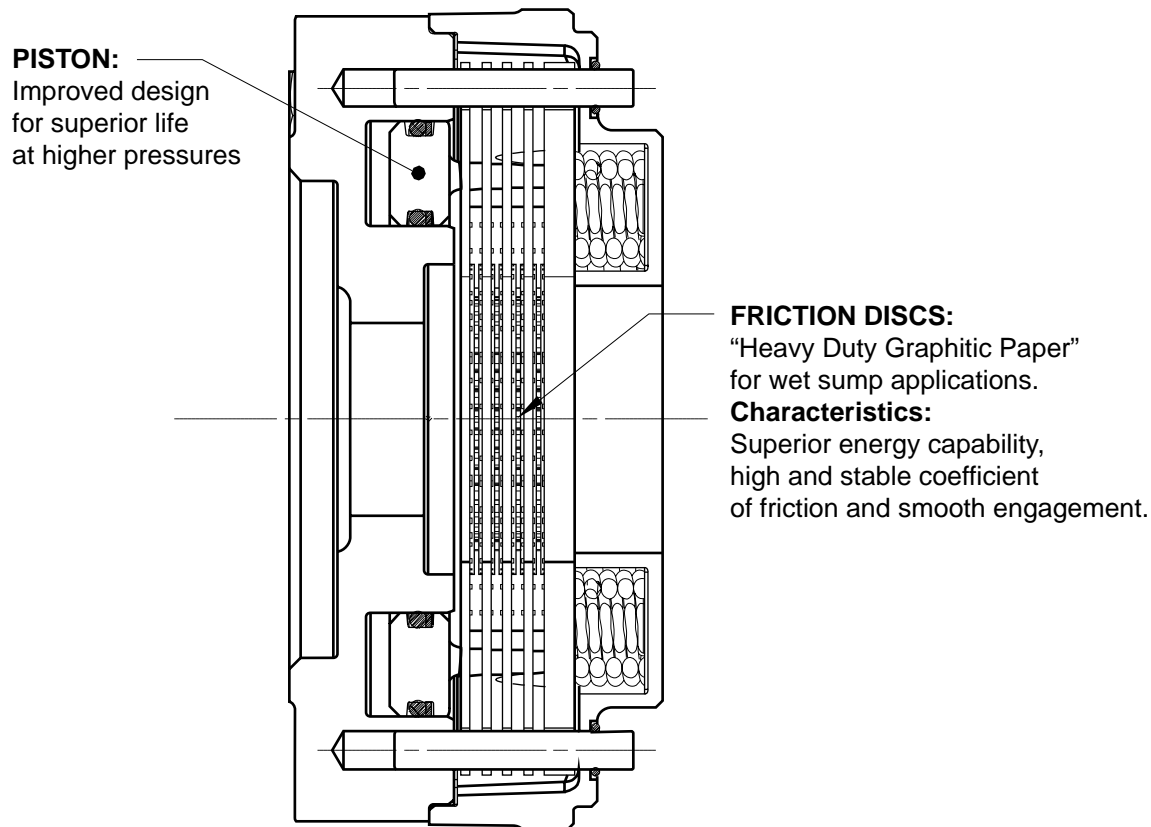
OUTPUT SPEED (RPM)	SF	LF	BEARING HOURS B-10 LIFE
5	2.456	.584	500
10	1.994	.719	1000
20	1.620	.812	1500
30	1.435	.886	2000
40	1.316	.947	2500
50	1.231	1.000	3000
60	1.165	1.047	3500
70	1.113	1.090	4000
80	1.069	1.130	4500
90	1.032	1.166	5000
100	1.000	1.231	6000
200	.812	1.289	7000
300	.719	1.342	8000
400	.659	1.390	9000
500	.617	1.435	10000

**CAUTION:** The same torsional loading constraints used in the driving mode must be used in the braking mode when braking through the **Power Wheel** drive gear set.

**NOTE:**

The data presented in this catalog is for general information and preliminary layout purposes only. Auburn Gear, through its policy of continual improvement, reserves the right to update its products; therefore, the information presented is subject to change. For specific application and/or dimensional information, contact Auburn Gear.

# Model 8 Shaft Output Drives Single and Double Reductions



## GENERAL A2 SERIES DATA:

1. Maximum operating pressure is 3,000 psi (206.4 Bar). Pressure spikes or surges not to exceed 3,500 psi (240.8 Bar). Surge pressure in excess of 3,500 psi (240.8 Bar) caused by spikes in the hydraulic system could shorten brake life and must be avoided.
2. Use only SAE grade 8 mounting bolts and torque to 80-90 lb. ft. (108-122 N-m) for motor mounting.
3. **PRECAUTION:** Bench testing may cause distortion of components or bolt failure. Mounting bolts must be used for supplemental clamping.
4. Minimum Release Pressure is defined as the hydraulic pressure required to obtain full running clearance.
5. Cubic Inch Displacement is the volume of oil required to release the brake piston:  
1.0 in<sup>3</sup> (16.4cc) for a new brake and 2.0 in<sup>3</sup> (32.8cc) for a worn brake pack. - **SAE B, B1;**  
0.7 in<sup>3</sup> (11.5cc) for a new brake and 1.6 in<sup>3</sup> (26.2cc) for a worn brake pack - **SAE C, C1.**
6. For vertical shaft output applications, shaft up or shaft down, please contact Auburn Gear to insure proper brake configuration is specified.

# Model 8 Shaft Output Drives Double Reduction with A2 Series Integral Parking Brake<sup>1</sup>

## GENERAL SPECIFICATIONS

Max. intermittent output torque<sup>2,3</sup> 100,000 lb-in (11,300Nm)    Approximate Weight ..... 185 lbs (83.9 kg)  
 Max. input speed<sup>4</sup> ..... 2,000 RPM    Oil capacity ..... 54 oz (1,597 cc)

*For Lubrication Data, see Page 31*

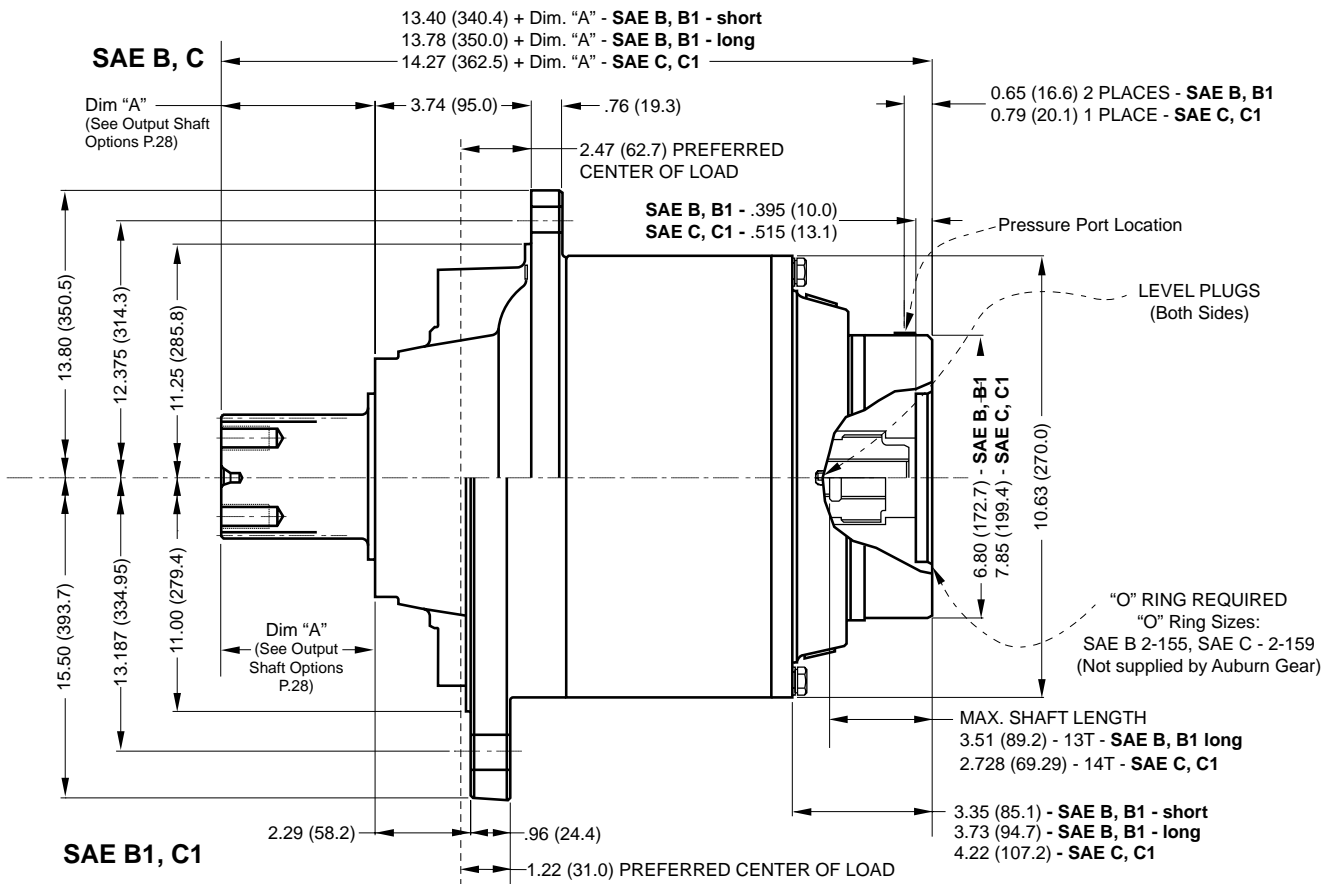
<sup>1</sup> For vertical applications, shaft up or shaft down, contact Auburn Gear.

<sup>2</sup> Depending on the duty cycle and the nature of the application, a normal continuous output torque of 1/3 to 1/2 of the maximum Intermittent should yield satisfactory *Power Wheel* life. Customer testing and application analysis is strongly recommended.

<sup>3</sup> If application exceeds published limit, contact Auburn Gear.

<sup>4</sup> For input speeds between 2,000 and 3,600 rpm please contact Auburn Gear for duty cycle analysis.

Dimensions given in: INCHES (mm)



## SAE "C" BRAKE RATINGS

MODEL	TORQUE	MINIMUM RELEASE PRESSURE	
B4	2,400 lb-in (271 N-m)	135 PSI	(9.3 Bar)
B6	3,600 lb-in (407 N-m)	180 PSI	(12.4 Bar)
B7	4,200 lb-in (475 N-m)	210 PSI	(14.5 Bar)

Maximum Release Pressure = 3,000 PSI (206.4 Bar)

## MOTOR MOUNTING CHART

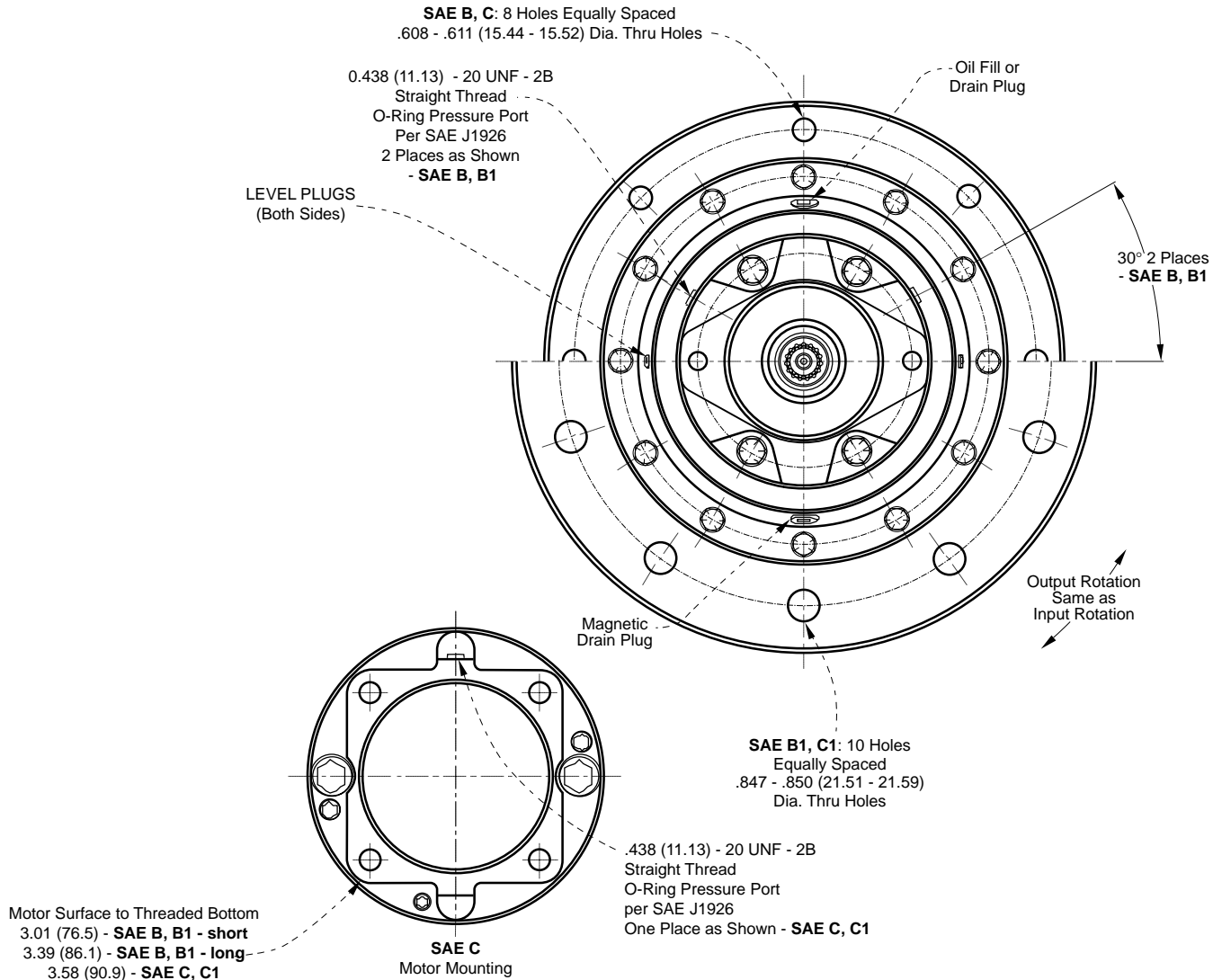
MOTOR MOUNTING HOLE DIMENSIONS	DIAMETER
<b>SAE B, B1</b> (2) – .500 (12.70) -13 UNC - 2B Thd Holes on 5.750 (146.05) B. C.	Ø 4.001 - 4.006 (101.62 - 101.75)
<b>SAE C, C1</b> (4) – .500 (12.70) -13 UNC - 2B Thd Holes on 6.375 (161.93) B. C.	Ø 5.001 - 5.006 (127.02 - 127.15)

\*"O" RING OR GASKET REQUIRED (Not Supplied by Auburn Gear)  
"O" RING SIZES: SAE "B" 2-155, SAE "C" 2-159

## SAE "B" BRAKE RATINGS

MODEL	TORQUE	MINIMUM RELEASE PRESSURE		STYLE
B1	1,540 lb-in (174 N-m)	190 PSI	(13.1 Bar)	Short
B2	1,800 lb-in (203 N-m)	220 PSI	(15.1 Bar)	Short
B3	2,400 lb-in (271 N-m)	290 PSI	(20.0 Bar)	Short
B4	2,400 lb-in (271 N-m)	160 PSI	(11.0 Bar)	Long
B5	3,200 lb-in (362 N-m)	220 PSI	(15.1 Bar)	Long
B6	3,600 lb-in (407 N-m)	230 PSI	(15.8 Bar)	Long
B7	4,200 lb-in (475 N-m)	260 PSI	(17.9 Bar)	Long

Maximum Release Pressure = 3,000 PSI (206.4 Bar)

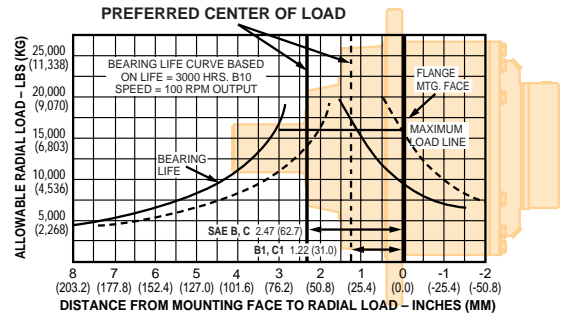




## FEATURE CHART: MODEL 8 SHAFT OUTPUT DOUBLE REDUCTION with BRAKE

OPTIONS	DESCRIPTION	MAKE ALL SELECTIONS WITHIN ONE COLUMN		ORDER CODES	USE OPTION ORDER CODES TO BUILD ORDER NUMBER				
MOTOR PILOT/HUB	<b>SAE B</b> SAEB1 <b>SAE C</b> SAEC1	•	•	<b>8SB</b> 8SB1 <b>8SC</b> 8SC1	<b>8SC</b>				
INPUT SPLINE	<b>13T</b> - <sup>16</sup> / <sub>32</sub> <b>14T</b> - <sup>12</sup> / <sub>24</sub>	•	•	<b>13</b> <b>14</b>	<b>13</b>				
RATIO OPTIONS	15.39:1 18.83:1 <b>23.59:1</b> 26.71:1 <b>31.50:1</b> <b>35.20:1</b> <b>42.42:1</b> 50.00:1	•	•	15 18 <b>23</b> 26 <b>31</b> <b>35</b> <b>42</b> 50		<b>23</b>			
OUTPUT SHAFT OPTIONS	<b>23T</b> - <sup>12</sup> / <sub>24</sub> <b>2.0" Keyed</b> 3.0" Keyed <b>20T</b> - <sup>8</sup> / <sub>16</sub> 23T - <sup>8</sup> / <sub>16</sub> <b>23T</b> - <sup>8</sup> / <sub>16</sub> 2.0" Round 2.56" Round <b>2.0" Hex</b> 2.0" Hex Spindle Spindle	•	•	<b>23</b> <b>K1</b> K2 <b>20</b> 23S <b>23L</b> A1 A2 <b>H1</b> H2 F2 F3		<b>20</b>			
PARKING BRAKE	1,540 lb-in 1,800 lb-in 2,400 lb-in	•	•	B1 B2 B3					
	<b>2,400 lb-in</b> <b>3,200 lb-in</b> <b>3,600 lb-in</b> <b>4,200 lb-in</b>	•	•	<b>B4</b> <b>B5</b> <b>B6</b> <b>B7</b>			<b>B7</b>		
Select desired characteristics from chart, note correct order codes, and order using sample format shown at right:					<b>8SC</b>	<b>13</b>	<b>23</b>	<b>20</b>	<b>B7</b>

**BOLDFACE** INDICATES REGULAR VOLUME PRODUCED ITEMS WITH BEST AVAILABILITY.



**NOTE:**

These curves are supplied as a design guide and apply to resultant radial load only. They indicate the importance of maintaining load position over the bearing center.

For actual analysis, applications should be reviewed by Auburn Gear Engineering using data supplied on Application Data Form.

### BEARING LOAD, LIFE AND SPEED RELATIONSHIPS

$$LF = \frac{SF \times R}{R'}$$

R = Allowable resultant load for given location from mounting flange

R' = Anticipated load at location from mounting flange

LF = Life Factor from table (see below)

SF = Speed Factor from table (see below)

OUTPUT SPEED (RPM)	SF	LF	BEARING HOURS B-10 LIFE
5	2.456	.584	500
10	1.994	.719	1000
20	1.620	.812	1500
30	1.435	.886	2000
40	1.316	.947	2500
50	1.231	1.000	3000
60	1.165	1.047	3500
70	1.113	1.090	4000
80	1.069	1.130	4500
90	1.032	1.166	5000
100	1.000	1.231	6000
200	.812	1.289	7000
300	.719	1.342	8000
400	.659	1.390	9000
500	.617	1.435	10000

**CAUTION:** The same torsional loading constraints used in the driving mode must be used in the braking mode when braking through the **Power Wheel** drive gear set.

**NOTE:**

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# Model 8 Shaft Input/Shaft Output Drives - Double Reduction

## GENERAL SPECIFICATIONS

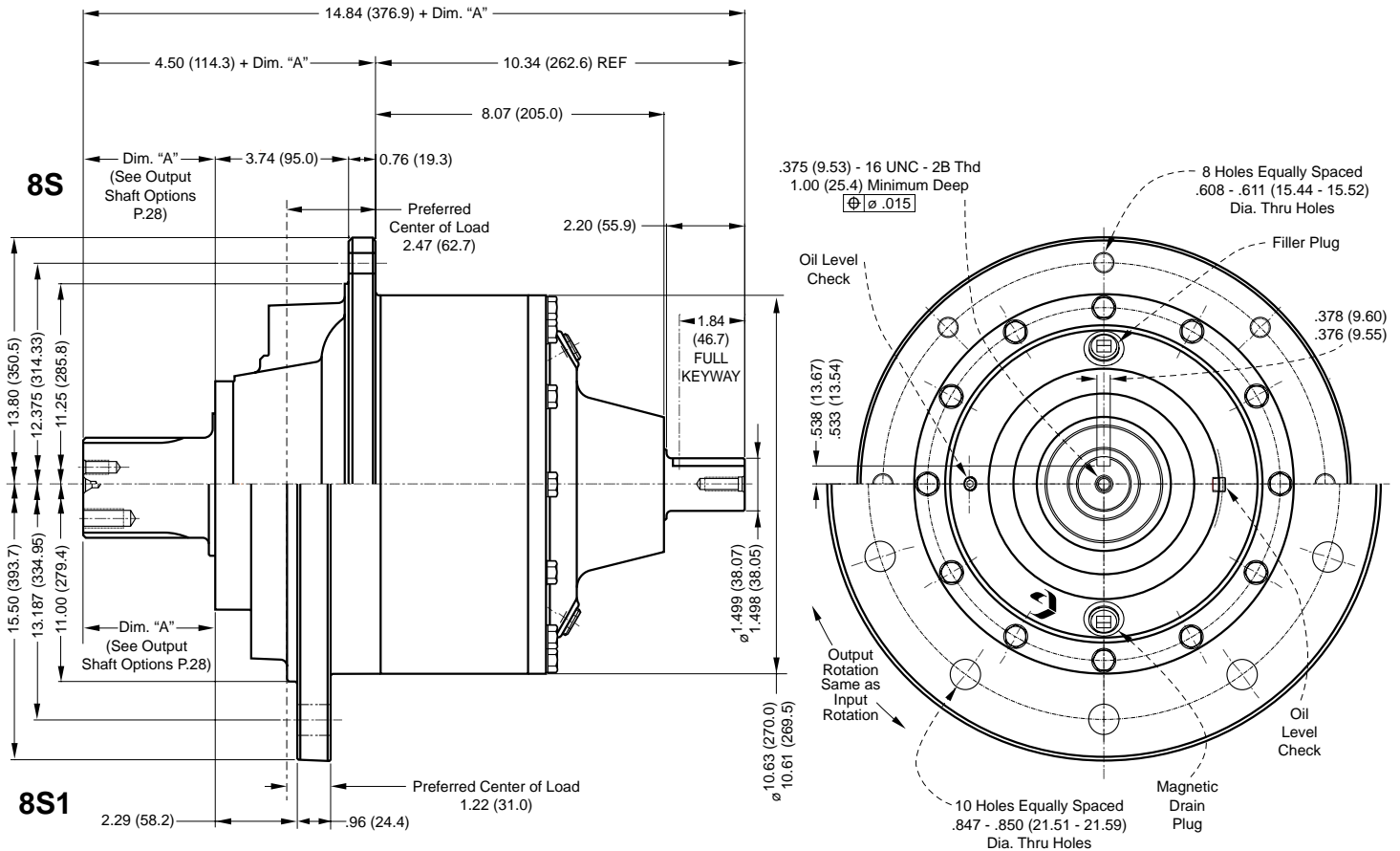
Max. intermittent output torque <sup>1,2</sup> 100,000 lb-in (11,300 Nm)	Approximate Weight .....	185 lbs (83.9 kg)	
Max. input speed <sup>2</sup> .....	5,000 RPM	Oil capacity .....	54 oz (1,597 ml)

*For Lubrication Data, see Page 31*

<sup>1</sup> Depending on the duty cycle and the nature of the application, a normal continuous output torque of 1/3 to 1/2 of the maximum Intermittent should yield satisfactory *Power Wheel* life. Customer testing and application analysis is strongly recommended.

<sup>2</sup> If application exceeds published limits, contact Auburn Gear.

Dimensions given in: INCHES (mm)

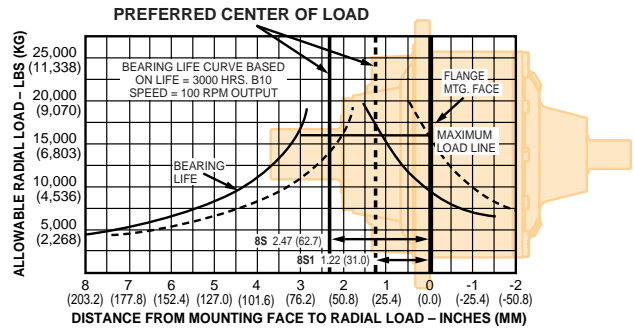


## FEATURE CHART: MODEL 8 SHAFT INPUT/SHAFT OUTPUT DRIVES - DOUBLE REDUCTION

OPTIONS	DESCRIPTION	MAKE ALL SELECTIONS WITHIN ONE COLUMN	ORDER CODES	USE OPTION ORDER CODES TO BUILD ORDER NUMBER
HUB	<b>Small Flange</b> Large Flange	• •	<b>8S</b> 8S1	<b>8S</b>
INPUT SHAFT OPTIONS	<b>1 1/2" Keyed</b>	•	<b>KOO</b>	<b>KOO</b>
RATIO OPTIONS	15.39:1 18.83:1 <b>23.59:1</b> 26.71:1 <b>31.50:1</b> <b>35.20:1</b> <b>42.42:1</b> 50.00:1	• • • • • • • •	15 18 <b>23</b> 26 <b>31</b> <b>35</b> <b>42</b> 50	<b>23</b>
OUTPUT SHAFTS	<b>23T. 12/24</b> <b>2.0" Keyed</b> 3.0" Keyed <b>20T. 8/16</b> 23T. 8/16 <b>23T. 8/16</b>	• • • • • •	<b>23</b> <b>K1</b> K2 <b>20</b> 23S <b>23L</b>	<b>20</b>

Select desired characteristics from chart, note correct order codes, and order using sample format shown at right: **8S KOO 23 20**

**BOLDFACE** INDICATES REGULAR VOLUME PRODUCED ITEMS WITH BEST AVAILABILITY.



### NOTE:

These curves are supplied as a design guide and apply to resultant radial load only. They indicate the importance of maintaining load position over the bearing center.

For actual analysis, applications should be reviewed by Auburn Gear Engineering using data supplied on Application Data Form.

### BEARING LOAD, LIFE AND SPEED RELATIONSHIPS

$$LF = \frac{SF \times R}{R'}$$

R = Allowable resultant load for given location from mounting flange

R' = Anticipated load at location from mounting flange

LF = Life Factor from table (see below)

SF = Speed Factor from table (see below)

OUTPUT SPEED (RPM)	SF	LF	BEARING HOURS B-10 LIFE
5	2.456	.584	500
10	1.994	.719	1000
20	1.620	.812	1500
30	1.435	.886	2000
40	1.316	.947	2500
50	1.231	1.000	3000
60	1.165	1.047	3500
70	1.113	1.090	4000
80	1.069	1.130	4500
90	1.032	1.166	5000
100	1.000	1.231	6000
200	.812	1.289	7000
300	.719	1.342	8000
400	.659	1.390	9000
500	.617	1.435	10000

**CAUTION:** The same torsional loading constraints used in the driving mode must be used in the braking mode when braking through the **Power Wheel** drive gear set.

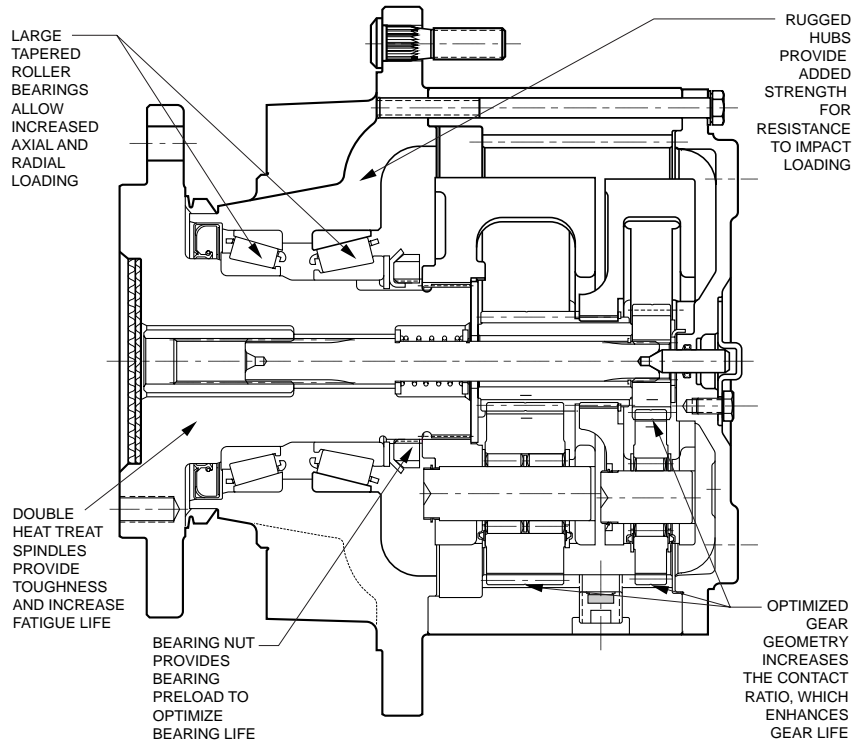
### NOTE:

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# Model 8 Series B

Power Wheel®

## MODEL 8 SERIES B FEATURES



### PERFORMANCE FEATURES - MODEL 8 SERIES B VERSUS STANDARD MODEL 8

#### SIMILARITIES:

- **Torque Rating:** Both use the same optimized gear geometry and gear material, therefore they both are rated at 100,000 lb-in (11,300 Nm) of intermittent output torque.

#### DIFFERENCES:

- **Bearing Retention:** Standard Model 8 uses a snap ring which provides end play/clearance. The Model 8 Series B uses a bearing nut which provides preload/no clearance. Therefore, the Model 8 Series B will provide reduced deflections in the gear box, which will enhance the life of a unit in certain applications.
- **Spindle Material and Heat Treatment:** Again, the Model 8 Series B spindle properties differ and are enhanced over the Model 8. These differences allow for increased fatigue life under high impact and side loading.
- **Bearing Capacity:** The Model 8 Series B has greater radial and axial bearing capacity which may be required in certain applications.

# Model 8 Series B Wheel Drives Double Reduction

## GENERAL SPECIFICATIONS

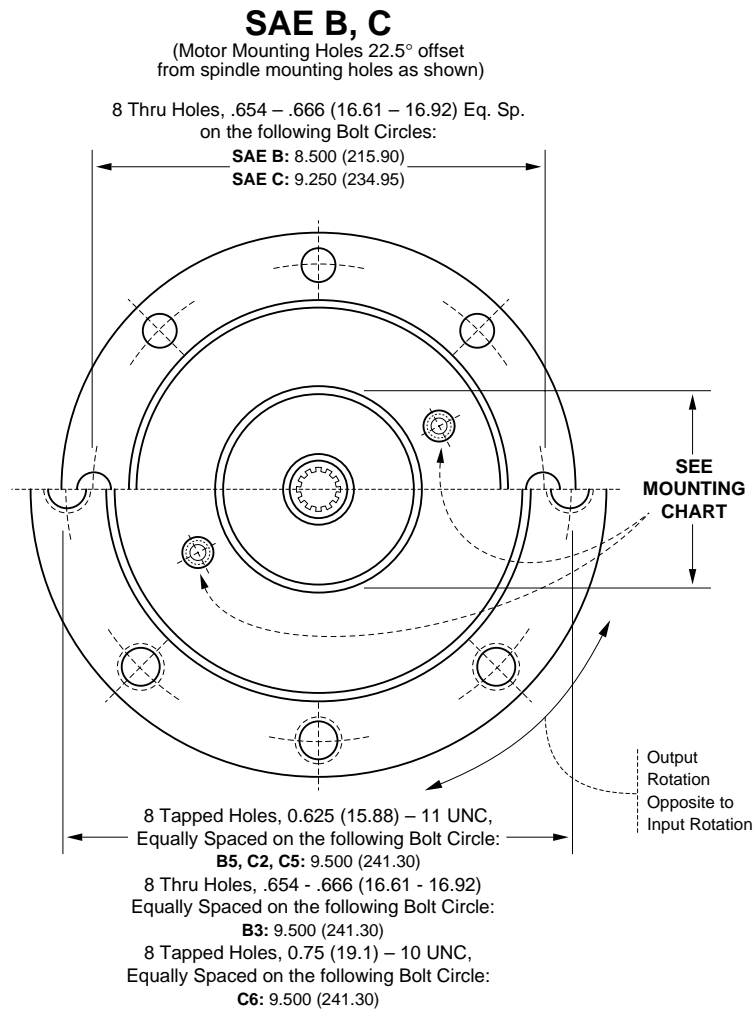
Max. intermittent output torque <sup>1,2</sup>	100,000 lb-in (11,300 Nm)	Approximate Weight .....	208 lbs (94 kg)
Max. input speed <sup>2</sup> .....	5,000 RPM	Oil capacity .....	57 oz (1.685 ml)

*For Lubrication Data, see Page 31*

<sup>1</sup> Depending on the duty cycle and the nature of the application, a normal continuous output torque of 1/3 to 1/2 of the maximum Intermittent should yield satisfactory *Power Wheel* life. Customer testing and application analysis is strongly recommended.

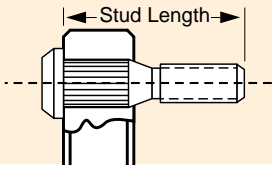
<sup>2</sup> If application exceeds published limit, contact Auburn Gear.

Dimensions given in: INCHES (mm)



### SAE B3, B5, C2, C5, C6

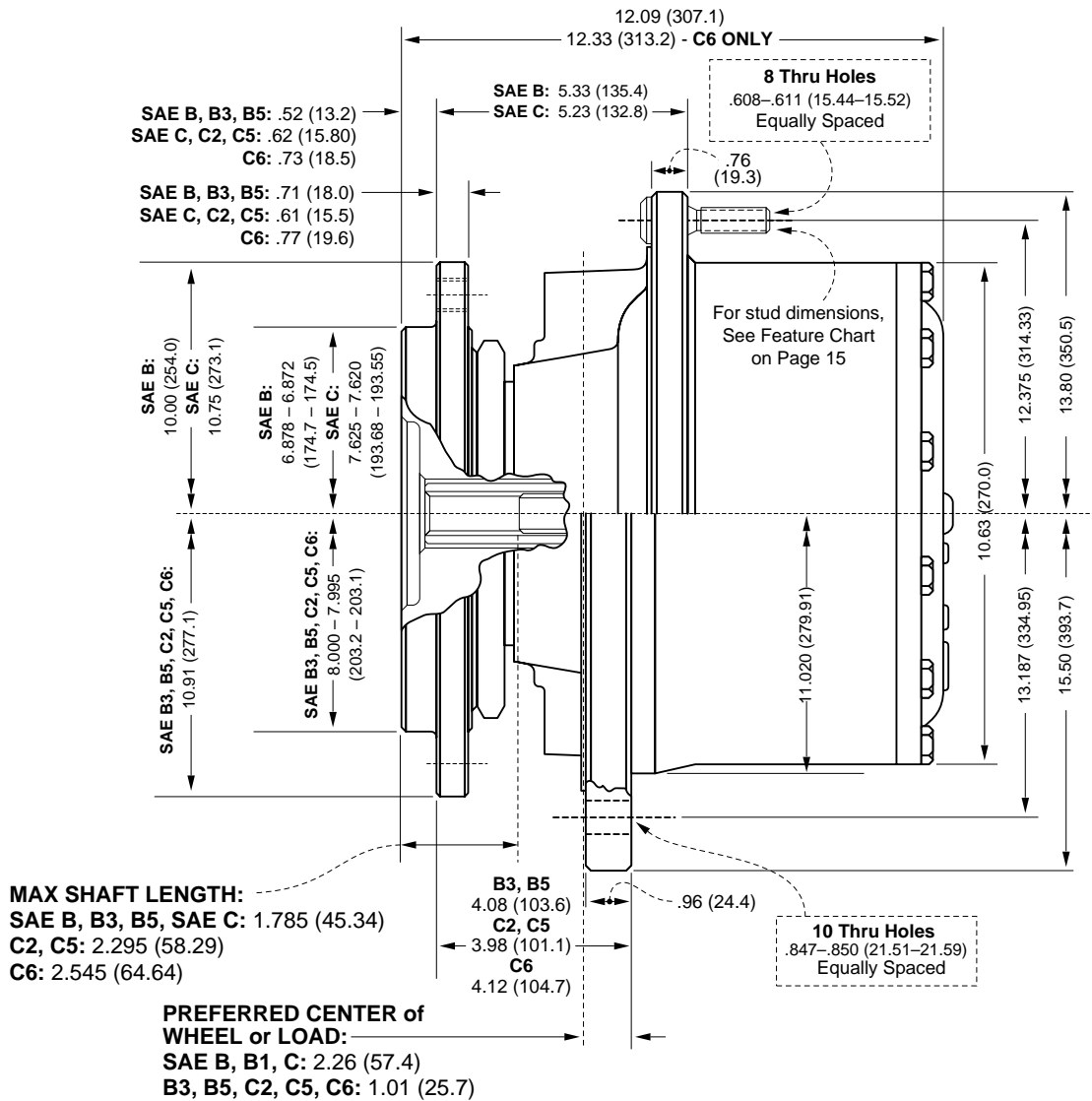
(Motor Mounting Holes in-line with spindle mounting holes, except C2 = 22.5° offset as shown)



### Wheel Stud – Detail

Note that the stud lengths shown in the feature chart represent the total length of the stud under the head.

**NON-POWERED UNITS  
ARE ALSO AVAILABLE**  
Contact Auburn Gear for Information



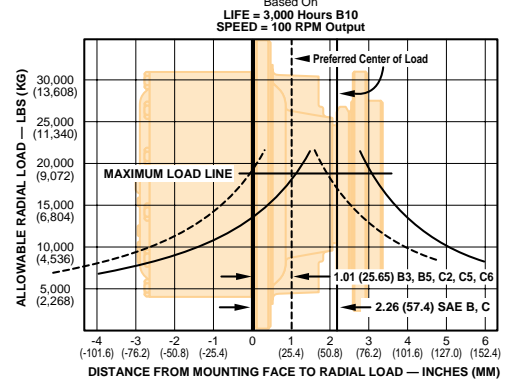
## FEATURE CHART: MODEL 8 SERIES B WHEEL DRIVES - DOUBLE REDUCTION

OPTIONS	DESCRIPTION	MAKE ALL SELECTIONS WITHIN ONE COLUMN		ORDER CODES	USE OPTION ORDER CODES TO BUILD ORDER NUMBER
MOTOR PILOT/HUB	<b>SAE B</b> B3 <b>B5</b> SAE C <b>C2</b> <b>C5</b> C6	•		<b>8W2B</b> 8W2B3 <b>8W2B5</b> 8W2C <b>8W2C2</b> <b>8W2C5</b> 8W2C6	<b>8W2B</b>
INPUT SPLINE	<b>13T</b> , <sup>16</sup> / <sub>32</sub> <b>14T</b> , <sup>12</sup> / <sub>24</sub> <b>15T</b> , <sup>16</sup> / <sub>32</sub>	•	•	<b>13</b> <b>14</b> <b>15</b>	<b>13</b>
RATIO OPTIONS	14.39:1 17.83:1 <b>22.59:1</b> 25.71:1 <b>30.50:1</b> <b>34.20:1</b> <b>37.89:1</b> <b>41.42:1</b> <b>49.00:1</b>	•	•	14 17 <b>22</b> 25 <b>30</b> <b>34</b> <b>37</b> <b>41</b> <b>49</b>	<b>34</b>
WHEEL STUDS	<sup>1</sup> / <sub>2</sub> x 2.50 <b><sup>9</sup>/<sub>16</sub> x 2.75</b> <b><sup>5</sup>/<sub>8</sub> x 2.37</b> <sup>3</sup> / <sub>4</sub> x 3.21* <b>NONE</b>	•	•	5 <b>7</b> <b>8</b> <b>11</b> <b>0</b>	<b>8</b>
SPECIAL FEATURES	Brake Disc** <b>Boot Seal</b> Brake Disc Holes <b>Quick Disconnect</b> Oil Plugs/Spindle Side High Strength Carrier	•	•	D <b>Z</b> DH <b>Q</b> P Y	<b>Z</b>
Select desired characteristics from chart, note correct order codes, and order using sample format shown at right:					<b>8W2B 13 34 8 Z</b>

\* Available with B3, B5, C2, C5 and C6 mountings  
 \*\* Customer supplied, Auburn Gear assembled

**BOLDFACE** INDICATES REGULAR VOLUME PRODUCED ITEMS WITH BEST AVAILABILITY.

MODEL 8 Series B BEARING LIFE CURVE



**NOTE:**

These curves are supplied as a design guide and apply to resultant radial load only. They indicate the importance of maintaining wheel position over the bearing center.

For actual analysis, applications should be reviewed by Auburn Gear Engineering using data supplied on Application Data Form.

### BEARING LOAD, LIFE AND SPEED RELATIONSHIPS

$$LF = \frac{SF \times R}{R'}$$

R = Allowable resultant load for given location from mounting flange

R' = Anticipated load at location from mounting flange

LF = Life Factor from table (see below)

SF = Speed Factor from table (see below)

OUTPUT SPEED (RPM)	SF	LF	BEARING HOURS B-10 LIFE
5	2.456	.584	500
10	1.994	.719	1000
20	1.620	.812	1500
30	1.435	.886	2000
40	1.316	.947	2500
50	1.231	1.000	3000
60	1.165	1.047	3500
70	1.113	1.090	4000
80	1.069	1.130	4500
90	1.032	1.166	5000
100	1.000	1.231	6000
200	.812	1.289	7000
300	.719	1.342	8000
400	.659	1.390	9000
500	.617	1.435	10000

**CAUTION:** The same torsional loading constraints used in the driving mode must be used in the braking mode when braking through the **Power Wheel** drive gear set.

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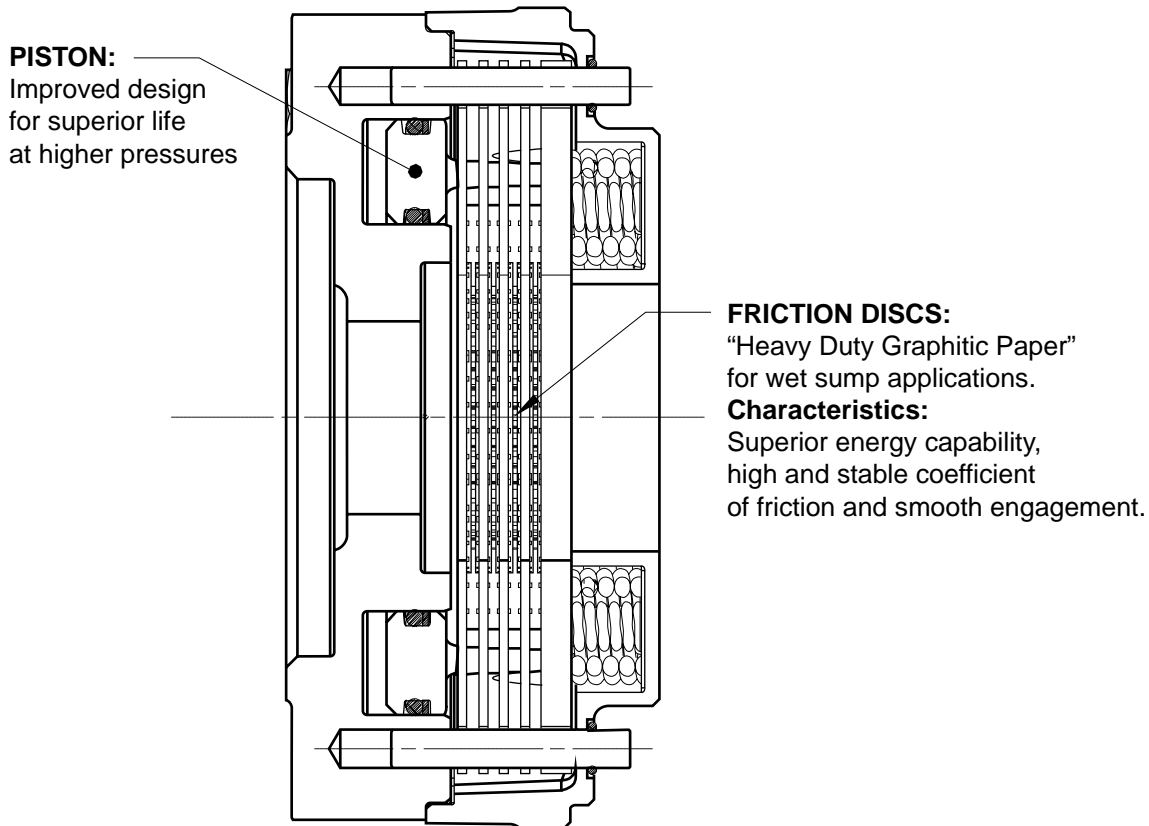
### MOTOR MOUNTING CHART

MOTOR MOUNTING HOLE DIMENSIONS	DIAMETER
<b>SAE B, B3, B5</b> (2) – .500 (12.70) -13 UNC 2B Thd Holes on 5.750 (146.05) B.C.	Ø 4.001 - 4.006 (101.62 - 101.75)
<b>SAE C, C6</b> (4) – .500 (12.70) -13 UNC 2B Thd Holes on 6.375 (161.93) B.C.	Ø 5.001 - 5.006 (127.02 - 127.15)
<b>C2</b> (2) – .625 (15.88) -11 UNC 2B Thd Holes on 7.125 (180.98) B.C.	Ø 5.001 - 5.006 (127.02 - 127.15)
<b>C5</b> (4) – .500 (12.70) -13 UNC 2B Thd Holes on 6.375 (161.93) B.C. <b>AND</b> (2) – .625 (15.88) -11 UNC 2B Thd Holes on 7.125 (180.98) B.C.	Ø 5.001 - 5.006 (127.02 - 127.15)

\*"O" RING OR GASKET REQUIRED (Not Supplied by Auburn Gear)  
 "O" RING SIZES: SAE "B" 2-155, SAE "C" 2-159

## Model 8 Series B Wheel Drives Double Reduction

with A2 Series  
Integral Parking  
Brake



### GENERAL A2 SERIES DATA:

1. Maximum operating pressure is 3,000 psi (206.4 Bar). Pressure spikes or surges not to exceed 3,500 psi (240.8 Bar). Surge pressure in excess of 3,500 psi (240.8 Bar) caused by spikes in the hydraulic system could shorten brake life and must be avoided.
2. Use only SAE grade 8 mounting bolts and torque to 80-90 lb. ft. (108-122 N-m) for motor mounting.
3. **PRECAUTION:** Bench testing may cause distortion of components or bolt failure. Mounting bolts must be used for supplemental clamping.
4. Minimum Release Pressure is defined as the hydraulic pressure required to obtain full running clearance.
5. Cubic Inch Displacement is the volume of oil required to release the brake piston:  
1.0 in<sup>3</sup> (16.4cc) for a new brake and 2.0 in<sup>3</sup> (32.8cc) for a worn brake pack - **SAE B, B5;**  
0.7 in<sup>3</sup> (11.5cc) for a new brake and 1.6 in<sup>3</sup> (26.2cc) for a worn brake pack - **SAE C, C5.**



# Model 8 Series B Wheel Drives Double Reduction

with A2 Series  
Integral Parking  
Brake

**GENERAL SPECIFICATIONS**

Max. intermittent output torque <sup>1,2</sup> 100,000 lb-in (11,300 Nm)	Approximate Weight .....	225 lbs (102 kg)
Max. input speed <sup>3</sup> .....	2,000 RPM	Oil capacity .....
		62 oz (1,835 cc)

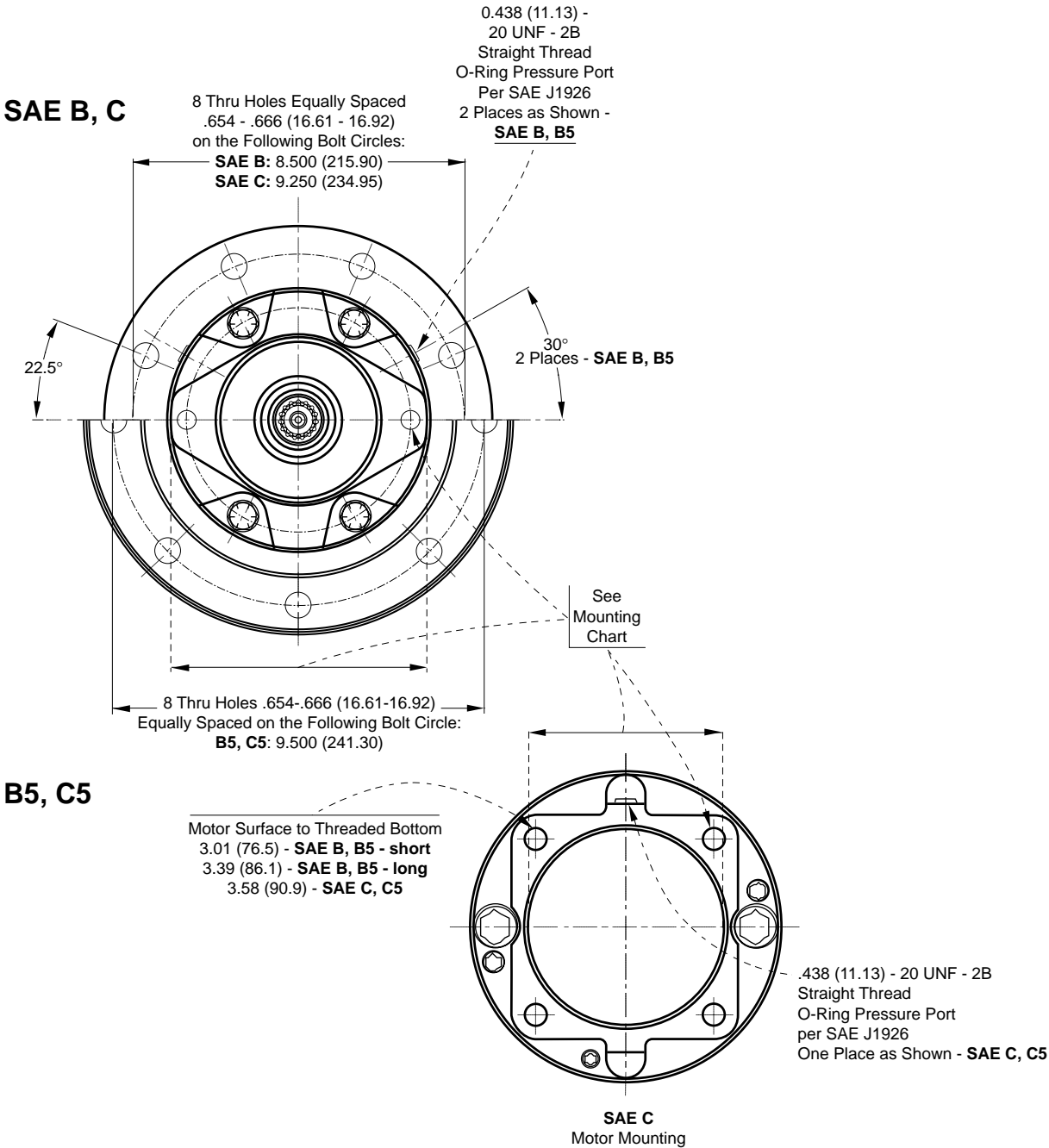
*For Lubrication Data, see Page 31*

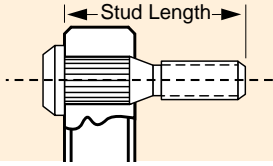
<sup>1</sup> Depending on the duty cycle and the nature of the application, a normal continuous output torque of 1/3 to 1/2 of the maximum Intermittent should yield satisfactory *Power Wheel* life. Customer testing and application analysis is strongly recommended.

<sup>2</sup> If application exceeds published limit, contact Auburn Gear.

Dimensions given in: INCHES (mm)

<sup>3</sup> For input speed between 2,000 and 3,600 rpm contact Auburn Gear for duty cycle analysis.





### Wheel Stud – Detail

Note that the stud lengths shown in the feature chart represent the total length of the stud under the head.

**NON-POWERED UNITS  
ARE ALSO AVAILABLE**  
Contact Auburn Gear for Information

### SAE “C” BRAKE RATINGS

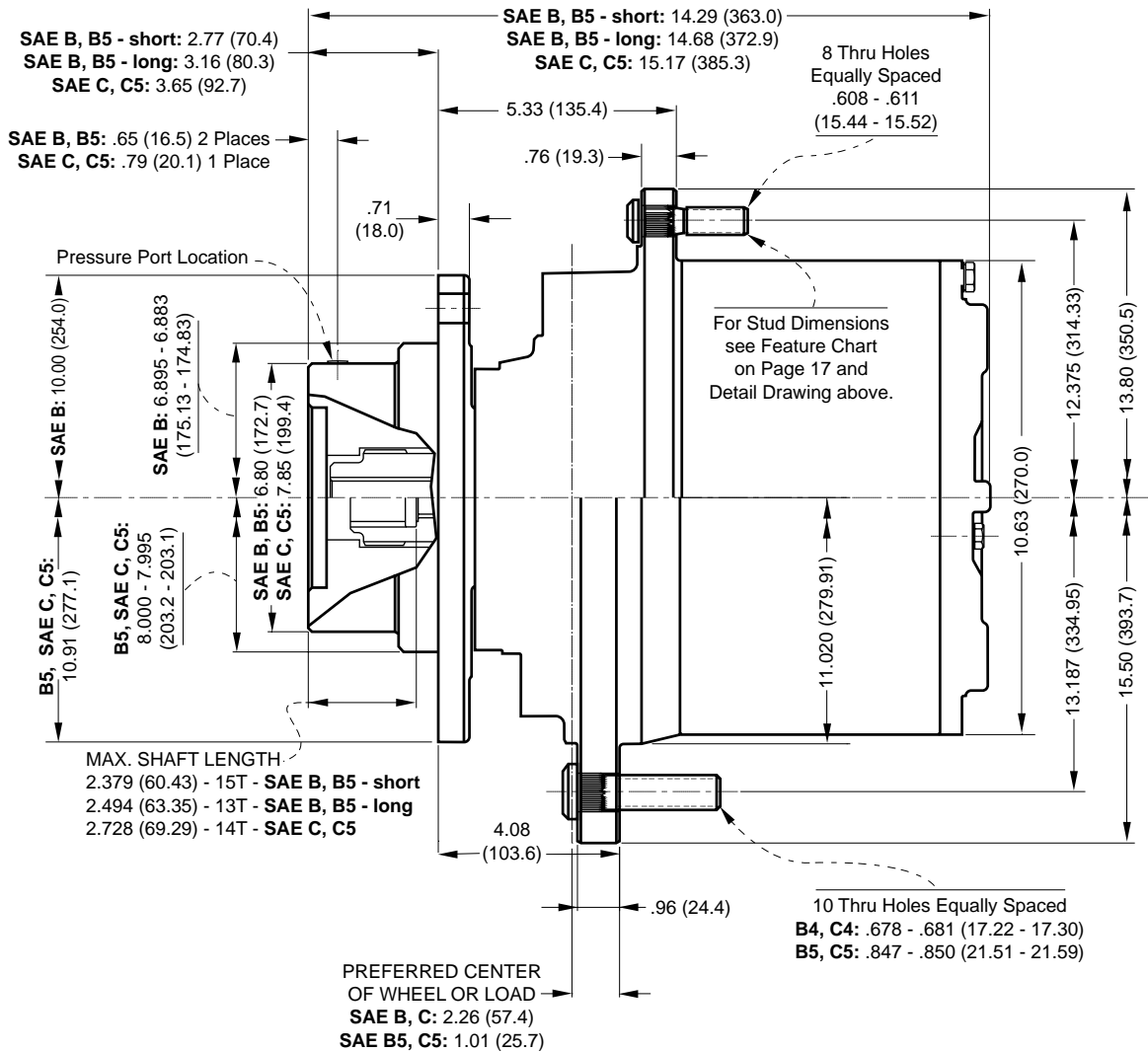
MODEL	TORQUE	MINIMUM RELEASE PRESSURE
B4	2,400 lb-in (271 N-m)	135 PSI (9.3 Bar)
B6	3,600 lb-in (407 N-m)	180 PSI (12.4 Bar)
B7	4,200 lb-in (475 N-m)	210 PSI (14.5 Bar)

Maximum Release Pressure = 3,000 PSI (206.4 Bar)

### SAE “B” BRAKE RATINGS

MODEL	TORQUE	MINIMUM RELEASE PRESSURE	STYLE
B1	1,540 lb-in (174 N-m)	190 PSI (13.1 Bar)	Short
B2	1,800 lb-in (203 N-m)	220 PSI (15.1 Bar)	Short
B3	2,400 lb-in (271 N-m)	290 PSI (20.0 Bar)	Short
B4	2,400 lb-in (271 N-m)	160 PSI (11.0 Bar)	Long
B5	3,200 lb-in (362 N-m)	220 PSI (15.1 Bar)	Long
B6	3,600 lb-in (407 N-m)	230 PSI (15.8 Bar)	Long
B7	4,200 lb-in (475 N-m)	260 PSI (17.9 Bar)	Long

Maximum Release Pressure = 3,000 PSI (206.4 Bar)

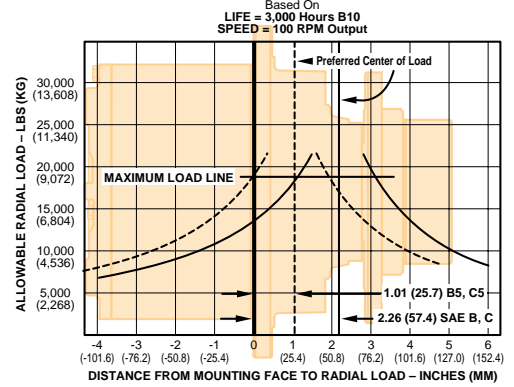


## FEATURE CHART: MODEL 8 SERIES B WHEEL DRIVES DOUBLE REDUCTION with BRAKE

OPTIONS	DESCRIPTION	MAKE ALL SELECTIONS WITHIN ONE COLUMN		ORDER CODES	USE OPTION ORDER CODES TO BUILD ORDER NUMBER			
MOTOR PILOT/HUB	SAE B <b>B5</b> SAE C <b>C5</b>	•		8W2B <b>8W2B5</b> 8W2C <b>8W2C5</b>	<b>8W2B5</b>			
INPUT SPLINE	<b>13T.</b> - 1 <sup>6</sup> /32" <b>14T.</b> - 1 <sup>2</sup> /24" <b>15T.</b> - 1 <sup>6</sup> /32"	•	•	<b>13</b> <b>14</b> <b>15</b>	<b>13</b>			
RATIO OPTIONS	14.39:1 17.83:1 <b>22.59:1</b> 25.71:1 <b>30.50:1</b> <b>34.20:1</b> <b>37.89:1</b> <b>41.42:1</b> <b>49.00:1</b>	•	•	14 17 <b>22</b> 25 <b>30</b> <b>34</b> <b>37</b> <b>41</b> <b>49</b>		<b>34</b>		
WHEEL STUDS	1/2" by 2.50 9/16" by 2.75 <b>5/8" by 2.37</b> <b>3/4" by 3.21*</b> <b>NONE</b>	•	•	5 7 <b>8</b> <b>11</b> <b>0</b>		<b>8</b>		
PARKING BRAKE	1,540 lb-in 1,800 lb-in 2,400 lb-in	•	•	B1 B2 B3				
	<b>2,400 lb-in</b> <b>3,200 lb-in</b> <b>3,600 lb-in</b> <b>4,200 lb-in</b>	•	•	<b>B4</b> <b>B5</b> <b>B6</b> <b>B7</b>		<b>B5</b>		
SPECIAL FEATURES	Brake Disc**	•	•	D				<b>Z</b>
	Boot Seal	•	•	Z				
	Brake Disc Holes	•	•	DH				
	Quick Disconnect	•	•	Q				
	Oil Plugs/Spindle Side High Strength Carrier	•	•	P Y				
Select desired characteristics from chart, note correct order codes, and order using sample format shown at right:					<b>8W2B5 13 34 8 B5 Z</b>			

**BOLDFACE** INDICATES REGULAR VOLUME PRODUCED ITEMS WITH BEST AVAILABILITY.

MODEL 8 Series B BEARING LIFE CURVE



**NOTE:**

These curves are supplied as a design guide and apply to resultant radial load only. They indicate the importance of maintaining wheel position over the bearing center. For actual analysis, applications should be reviewed by Auburn Gear Engineering using data supplied on Application Data Form.

**BEARING LOAD, LIFE AND SPEED RELATIONSHIPS**

$$LF = \frac{SF \times R}{R'}$$

R = Allowable resultant load for given location from mounting flange

R' = Anticipated load at location from mounting flange

LF = Life Factor from table (see below)

SF = Speed Factor from table (see below)

OUTPUT SPEED (RPM)	SF	LF	BEARING HOURS B-10 LIFE
5	2.456	.584	500
10	1.994	.719	1000
20	1.620	.812	1500
30	1.435	.886	2000
40	1.316	.947	2500
50	1.231	1.000	3000
60	1.165	1.047	3500
70	1.113	1.090	4000
80	1.069	1.130	4500
90	1.032	1.166	5000
100	1.000	1.231	6000
200	.812	1.289	7000
300	.719	1.342	8000
400	.659	1.390	9000
500	.617	1.435	10000

**CAUTION:** The same torsional loading constraints used in the driving mode must be used in the braking mode when braking through the **Power Wheel** drive gear set.

### MOTOR MOUNTING CHART

MOTOR MOUNTING HOLE DIMENSIONS	DIAMETER
SAE B, B5 (2) - .500 (12.70) -13 UNC - 2B Thd Holes on 5.750 (146.05) B. C.	Ø 4.001 - 4.006 (101.62 - 101.75)
SAE C, C5 (4) - .500 (12.70) -13 UNC - 2B Thd Holes on 6.375 (161.93) B. C.	Ø 5.001 - 5.006 (127.02 - 127.15)

\*\*"O" RING OR GASKET REQUIRED (Not Supplied by Auburn Gear)  
"O" RING SIZES: SAE "B" 2-155, SAE "C" 2-159

**NOTE:**

The data presented in this catalog is for general information and preliminary layout purposes only. Auburn Gear, through its policy of continual improvement, reserves the right to update its products; therefore, the information presented is subject to change. For specific application and/or dimensional information, contact Auburn Gear.

# Model 8 Series B Shaft Output Drives Single and Double Reductions

## GENERAL SPECIFICATIONS

### SINGLE REDUCTION DRIVES

### DOUBLE REDUCTION DRIVES

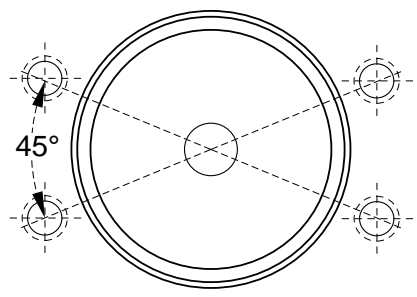
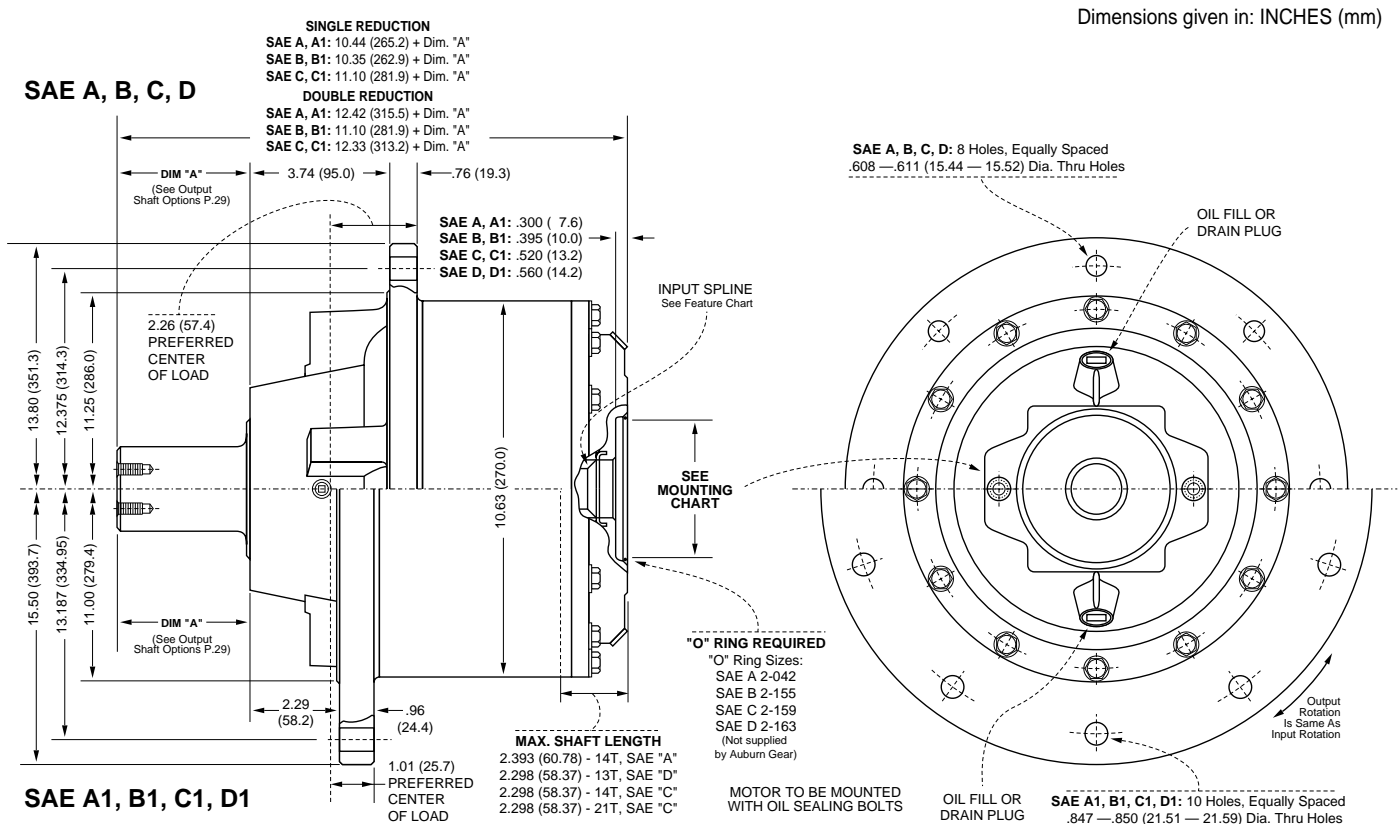
Max. intermittent output torque<sup>1,2</sup> 60,000 lb-in (6,780 Nm)  
 Max. input speed<sup>2</sup> ..... 3,500 RPM  
 Approximate Weight ..... 158 lbs (72 kg)  
 Oil capacity ..... 48 oz (1,420 cc)

Max. intermittent output torque<sup>1,2</sup> 100,000 lb-in (11,300 Nm)  
 Max. input speed<sup>2</sup> ..... 5,000 RPM  
 Approximate Weight ..... 194 lbs (88 kg)  
 Oil capacity ..... 52 oz (1,540 cc)

For Lubrication Data, see Page 31

<sup>1</sup> Depending on the duty cycle and the nature of the application, a normal continuous output torque of 1/3 to 1/2 of the maximum Intermittent should yield satisfactory Power Wheel life. Customer testing and application analysis is strongly recommended.

<sup>2</sup> If application exceeds published limits, contact Auburn Gear.



## FEATURE CHART: MODEL 8 SERIES B SHAFT OUTPUT DRIVES - SINGLE REDUCTION

OPTIONS	DESCRIPTION	MAKE ALL SELECTIONS WITHIN ONE COLUMN	ORDER CODES	USE OPTION ORDER CODES TO BUILD ORDER NUMBER
MOTOR PILOT/HUB	SAE A <b>A1</b> SAE C C1 SAE D D1	• • • • •	8T2A <b>8T2A1</b> <b>8T2C</b> 8T2C1 8T2D 8T2D1	<b>8T2C</b>
INPUT SPLINE	<b>13T</b> <sup>8/16</sup> <b>14T</b> <sup>12/24</sup> <b>21T</b> <sup>16/32</sup>	• • •	<b>13</b> <b>14</b> <b>21</b>	<b>14</b>
RATIO OPTIONS	6.00:1 <b>7.07:1</b>	• •	06 <b>07</b>	<b>07</b>
OUTPUT SHAFTS	<b>2.5" Hex</b> <b>3.0" Keyed</b> <b>20T</b> - <sup>8/16</sup> <b>23T</b> - <sup>8/16</sup> <b>23T</b> - <sup>8/16</sup>	• • • • •	<b>H1</b> <b>K2</b> <b>20</b> <b>23S</b> <b>23L</b>	<b>K2</b>
Select desired characteristics from chart, note correct order codes, and order using sample format shown at right:				<b>8T2C 14 07 K2</b>

## FEATURE CHART: MODEL 8 SERIES B SHAFT OUTPUT DRIVES - DOUBLE REDUCTION

OPTIONS	DESCRIPTION	MAKE ALL SELECTIONS WITHIN ONE COLUMN	ORDER CODES	USE OPTION ORDER CODES TO BUILD ORDER NUMBER
MOTOR PILOT/HUB	SAE A <b>A1</b> SAE B B1 SAE C C1	• • • • •	8S2A <b>8S2A1</b> <b>8S2B</b> 8S2B1 <b>8S2C</b> 8S2C1	<b>8S2B</b>
INPUT SPLINE	<b>13T</b> <sup>16/32</sup> <b>14T</b> <sup>12/24</sup>	• •	<b>13</b> <b>14</b>	<b>13</b>
RATIO OPTIONS	15.39:1 18.83:1 <b>23.59:1</b> 26.71:1 <b>31.50:1</b> <b>35.20:1</b> <b>42.42:1</b> <b>50.00:1</b>	• • • • • • • •	15 18 <b>23</b> 26 <b>31</b> <b>35</b> <b>42</b> <b>50</b>	<b>31</b>
OUTPUT SHAFTS	<b>2.5" Hex</b> <b>3.0" Keyed</b> <b>20T</b> - <sup>8/16</sup> <b>23T</b> - <sup>8/16</sup> <b>23T</b> - <sup>8/16</sup>	• • • • •	<b>H1</b> <b>K2</b> <b>20</b> <b>23S</b> <b>23L</b>	<b>K2</b>
Select desired characteristics from chart, note correct order codes, and order using sample format shown at right:				<b>8S2B 13 31 K2</b>

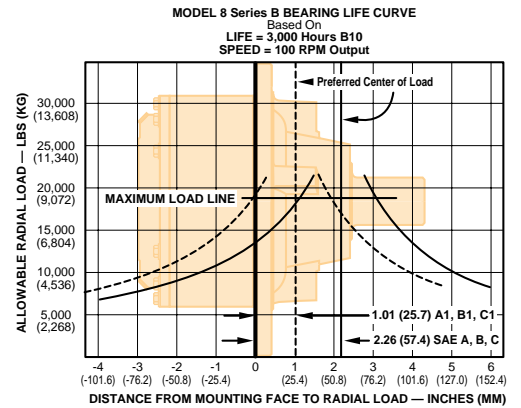
**BOLDFACE** INDICATES REGULAR VOLUME PRODUCED ITEMS WITH BEST AVAILABILITY.

### MOTOR MOUNTING CHART

MOTOR MOUNTING HOLE DIMENSIONS	DIAMETER
<b>SAE A, A1</b> (4) - .500 (12.70) -13 UNC 2B Thd Holes on 4.188 (106.38) B. C.	Ø 3.251 - 3.256 (82.58 - 82.70)
<b>SAE B, B1</b> (2) - .500 (12.70) -13 UNC 2B Thd Holes on 5.750 (146.05) B. C.	Ø 4.001 - 4.006 (101.62 - 101.75)
<b>SAE C, C1</b> (4) - .500 (12.70) -13 UNC 2B Thd Holes on 6.375 (161.93) B. C.	Ø 5.001 - 5.006 (127.02 - 127.15)
<b>OR</b> (2) - .625 (15.88) -11 UNC 2B Thd Holes on 7.125 (180.98) B. C.	
<b>SAE D, D1</b> (4) - .750 (19.05) -10 UNC 2B Thd Holes on 9.000 (228.60) B. C.	Ø 6.001 - 6.006 (152.43 - 152.55)

\*"O" RING OR GASKET REQUIRED (Not Supplied by Auburn Gear)

"O" RING SIZES: SAE "A" 2-042, SAE "B" 2-155, SAE "C" 2-159, SAE "D" 2-163



#### NOTE:

These curves are supplied as a design guide and apply to resultant radial load only. They indicate the importance of maintaining wheel position over the bearing center.

For actual analysis, applications should be reviewed by Auburn Gear Engineering using data supplied on Application Data Form.

#### BEARING LOAD, LIFE AND SPEED RELATIONSHIPS

$$LF = \frac{SF \times R}{R'}$$

R = Allowable resultant load for given location from mounting flange

R' = Anticipated load at location from mounting flange

LF = Life Factor from table (see below)

SF = Speed Factor from table (see below)

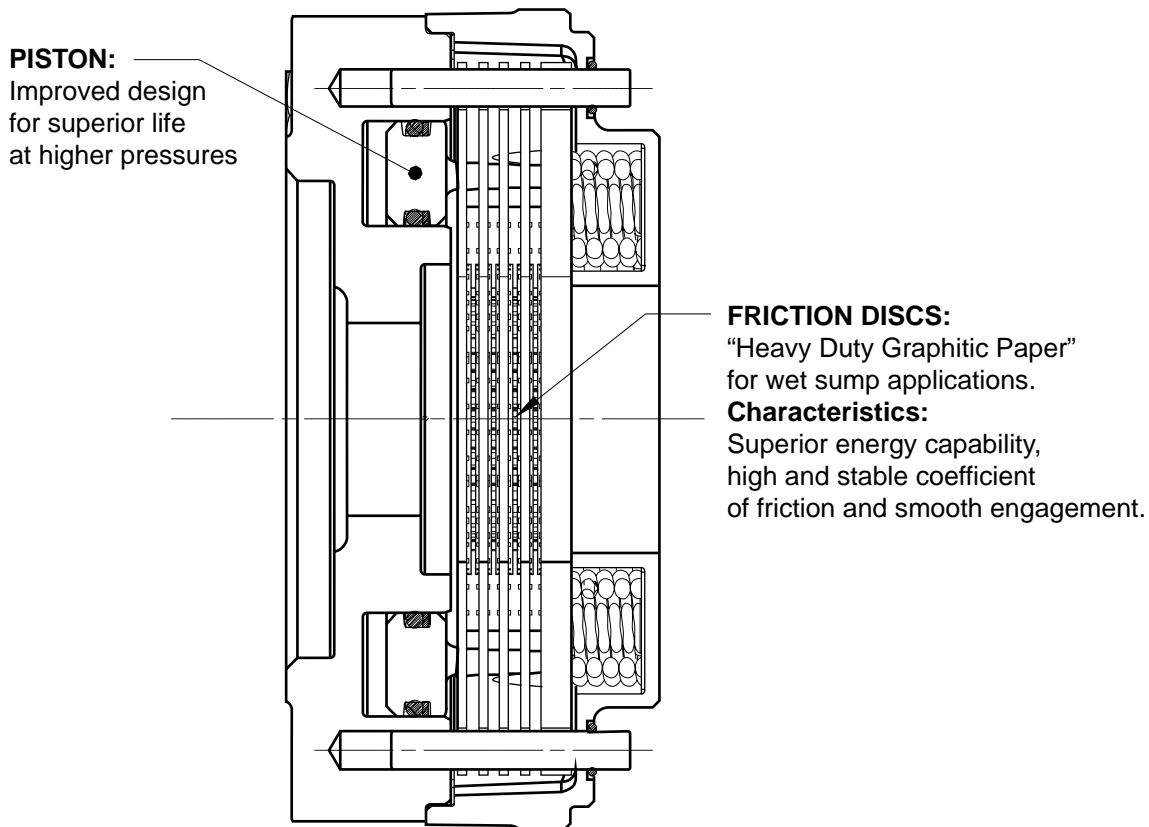
OUTPUT SPEED (RPM)	SF	LF	BEARING HOURS B-10 LIFE
5	2.456	.584	500
10	1.994	.719	1000
20	1.620	.812	1500
30	1.435	.886	2000
40	1.316	.947	2500
50	1.231	1.000	3000
60	1.165	1.047	3500
70	1.113	1.090	4000
80	1.069	1.130	4500
90	1.032	1.166	5000
100	1.000	1.231	6000
200	.812	1.289	7000
300	.719	1.342	8000
400	.659	1.390	9000
500	.617	1.435	10000

**CAUTION:** The same torsional loading constraints used in the driving mode must be used in the braking mode when braking through the **Power Wheel** drive gear set.

#### NOTE:

The data presented in this catalog is for general information and preliminary layout purposes only. Auburn Gear, through its policy of continual improvement, reserves the right to update its products; therefore, the information presented is subject to change. For specific application and/or dimensional information, contact Auburn Gear.

# Model 8 Series B Shaft Output Drives Double Reduction with A2 Series Integral Parking Brake



## GENERAL A2 SERIES DATA:

1. Maximum operating pressure is 3,000 psi (206.4 Bar). Pressure spikes or surges not to exceed 3,500 psi (240.8 Bar). Surge pressure in excess of 3,500 psi (240.8 Bar) caused by spikes in the hydraulic system could shorten brake life and must be avoided.
2. Use only SAE grade 8 mounting bolts and torque to 80-90 lb. ft. (108-122 N-m) for motor mounting.
3. **PRECAUTION:** Bench testing may cause distortion of components or bolt failure. Mounting bolts must be used for supplemental clamping.
4. Minimum Release Pressure is defined as the hydraulic pressure required to obtain full running clearance.
5. Cubic Inch Displacement is the volume of oil required to release the brake piston:  
1.0 in<sup>3</sup> (16.4cc) for a new brake and 2.0 in<sup>3</sup> (32.8cc) for a worn brake pack - **SAE B, B1**;  
0.7 in<sup>3</sup> (11.5cc) for a new brake and 1.6 in<sup>3</sup> (26.2cc) for a worn brake pack - **SAE C, C1**.
6. For vertical shaft output applications, shaft up or shaft down, please contact Auburn Gear to insure proper brake configuration is specified.

# Model 8 Series B Shaft Output Drives Double Reduction with A2 Series Integral Parking Brake<sup>1</sup>

## GENERAL SPECIFICATIONS

Max. intermittent output torque<sup>2,3</sup> 100,000 lb-in (11,300 Nm)    Approximate Weight ..... 194 lbs (88 kg)  
 Max. input speed<sup>4</sup> ..... 2,000 RPM    Oil capacity ..... 50 oz (1,478 cc)

*For Lubrication Data, see Page 31*

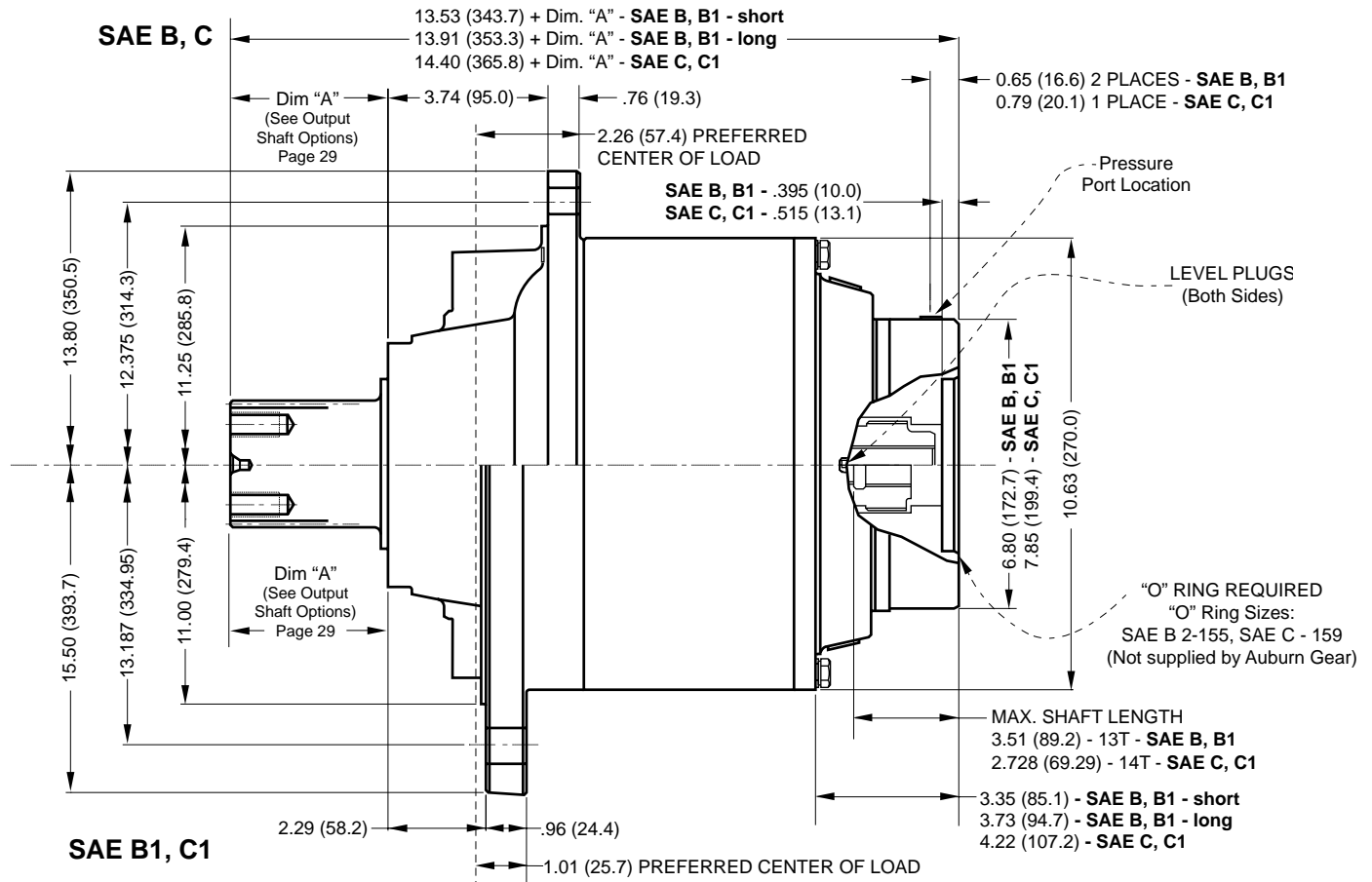
<sup>1</sup> For vertical applications, shaft up or shaft down, contact Auburn Gear.

<sup>2</sup> Depending on the duty cycle and the nature of the application, a normal continuous output torque of 1/3 to 1/2 of the Maximum Intermittent should yield satisfactory *Power Wheel* life. Customer testing and application analysis is strongly recommended.

<sup>3</sup> If application exceeds published limit, contact Auburn Gear.

Dimensions given in: INCHES (mm)

<sup>4</sup> For input speeds between 2,000 and 3,600 rpm, contact Auburn Gear for duty cycle analysis.





### SAE "C" BRAKE RATINGS

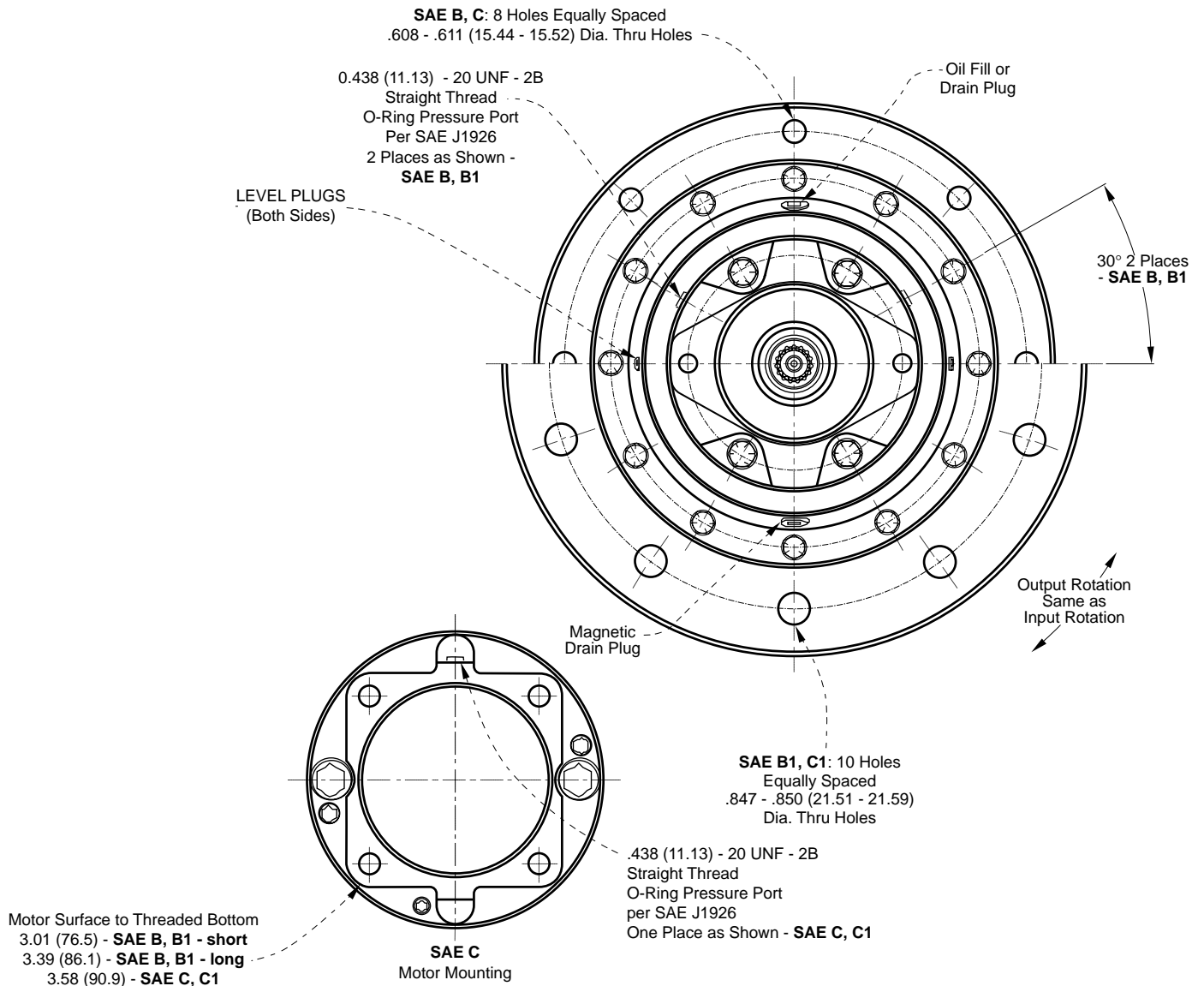
MODEL	TORQUE	MINIMUM RELEASE PRESSURE
B4	2,400 lb-in (271 N-m)	135 PSI (9.3 Bar)
B6	3,600 lb-in (407 N-m)	180 PSI (12.4 Bar)
B7	4,200 lb-in (475 N-m)	210 PSI (14.5 Bar)

Maximum Release Pressure = 3,000 PSI (206.4 Bar)

### SAE "B" BRAKE RATINGS

MODEL	TORQUE	MINIMUM RELEASE PRESSURE	STYLE
B1	1,540 lb-in (174 N-m)	190 PSI (13.1 Bar)	Short
B2	1,800 lb-in (203 N-m)	220 PSI (15.1 Bar)	Short
B3	2,400 lb-in (271 N-m)	290 PSI (20.0 Bar)	Short
B4	2,400 lb-in (271 N-m)	160 PSI (11.0 Bar)	Long
B5	3,200 lb-in (362 N-m)	220 PSI (15.1 Bar)	Long
B6	3,600 lb-in (407 N-m)	230 PSI (15.8 Bar)	Long
B7	4,200 lb-in (475 N-m)	260 PSI (17.9 Bar)	Long

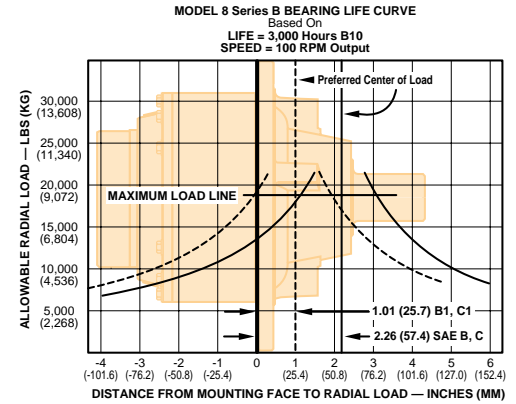
Maximum Release Pressure = 3,000 PSI (206.4 Bar)



## FEATURE CHART: MODEL 8 SERIES B SHAFT OUTPUT DRIVES DOUBLE REDUCTION with BRAKE

OPTIONS	DESCRIPTION	MAKE ALL SELECTIONS WITHIN ONE COLUMN		ORDER CODES	USE OPTION ORDER CODES TO BUILD ORDER NUMBER		
MOTOR PILOT/HUB	<b>SAE B B1</b> SAE C C1	•		<b>8S2B</b> <b>8S2B1</b> 8S2C 8S2C1	<b>8S2B</b>		
INPUT SPLINE	<b>13T</b> - <sup>16</sup> / <sub>32</sub> 14T - <sup>12</sup> / <sub>24</sub>	•	•	<b>13</b> 14	<b>13</b>		
RATIO OPTIONS	15.39:1	•	•	15			
	18.83:1	•	•	18			
	<b>23.59:1</b>	•	•	<b>23</b>			
	26.71:1	•	•	26			
	<b>31.50:1</b>	•	•	<b>31</b>			
	<b>35.20:1</b>	•	•	<b>35</b>			
	<b>42.42:1</b>	•	•	<b>42</b>		<b>42</b>	
	<b>50.00:1</b>	•	•	<b>50</b>			
OUTPUT SHAFTS	<b>3.0" Keyed</b> <b>2.5" Hex</b> <b>20T</b> - <sup>8</sup> / <sub>16</sub> <b>23T</b> - <sup>8</sup> / <sub>16</sub> <b>23T</b> - <sup>8</sup> / <sub>16</sub>	•	•	<b>K2</b> <b>H1</b> <b>20</b> <b>23S</b> <b>23L</b>			<b>20</b>
PARKING BRAKE	1,540 lb-in	•		B1			
	1,800 lb-in	•		B2			
	2,400 lb-in	•		B3			
	<b>2,400 lb-in</b>	•	•	<b>B4</b>			<b>B6</b>
	<b>3,200 lb-in</b>	•	•	<b>B5</b>			
	<b>3,600 lb-in</b>	•	•	<b>B6</b>			
<b>4,200 lb-in</b>	•	•	<b>B7</b>				
Select desired characteristics from chart, note correct order codes, and order using sample format shown at right:					<b>8S2B 13 42 20 B6</b>		

**BOLDFACE** INDICATES REGULAR VOLUME PRODUCED ITEMS WITH BEST AVAILABILITY.



### NOTE:

These curves are supplied as a design guide and apply to resultant radial load only. They indicate the importance of maintaining load position over the bearing center.

For actual analysis, applications should be reviewed by Auburn Gear Engineering using data supplied on Application Data Form.

### BEARING LOAD, LIFE AND SPEED RELATIONSHIPS

$$LF = \frac{SF \times R}{R'}$$

R = Allowable resultant load for given location from mounting flange

R' = Anticipated load at location from mounting flange

LF = Life Factor from table (see below)

SF = Speed Factor from table (see below)

OUTPUT SPEED (RPM)	SF	LF	BEARING HOURS B-10 LIFE
5	2.456	.584	500
10	1.994	.719	1000
20	1.620	.812	1500
30	1.435	.886	2000
40	1.316	.947	2500
50	1.231	1.000	3000
60	1.165	1.047	3500
70	1.113	1.090	4000
80	1.069	1.130	4500
90	1.032	1.166	5000
100	1.000	1.231	6000
200	.812	1.289	7000
300	.719	1.342	8000
400	.659	1.390	9000
500	.617	1.435	10000

**CAUTION:** The same torsional loading constraints used in the driving mode must be used in the braking mode when braking through the **Power Wheel** drive gear set.

### MOTOR MOUNTING CHART

MOTOR MOUNTING HOLE DIMENSIONS	DIAMETER
<b>SAE B, B1</b> (2) - .500 (12.70) -13 UNC - 2B Thd Holes on 5.750 (146.05) B. C.	Ø 4.001 - 4.006 (101.62 - 101.75)
<b>SAE C, C1</b> (4) - .500 (12.70) -13 UNC - 2B Thd Holes on 6.375 (161.93) B. C.	Ø 5.001 - 5.006 (127.02 - 127.15)

\*"O" RING OR GASKET REQUIRED (Not Supplied by Auburn Gear)

"O" RING SIZES: SAE "B" 2-155, SAE "C" 2-159

### NOTE:

The data presented in this catalog is for general information and preliminary layout purposes only. Auburn Gear, through its policy of continual improvement, reserves the right to update its products; therefore, the information presented is subject to change. For specific application and/or dimensional information, contact Auburn Gear.

# Model 8 Series B Spindle Output Drives - Single and Double Reductions

## GENERAL SPECIFICATIONS

### SINGLE REDUCTION DRIVES

### DOUBLE REDUCTION DRIVES

Max. intermittent output torque<sup>1,2</sup> 60,000 lb-in (6,780 Nm)  
 Max. input speed<sup>2</sup> ..... 3,500 RPM  
 Approximate Weight ..... 158 lbs (72 kg)  
 Oil capacity ..... 48 oz (1,420 cc)

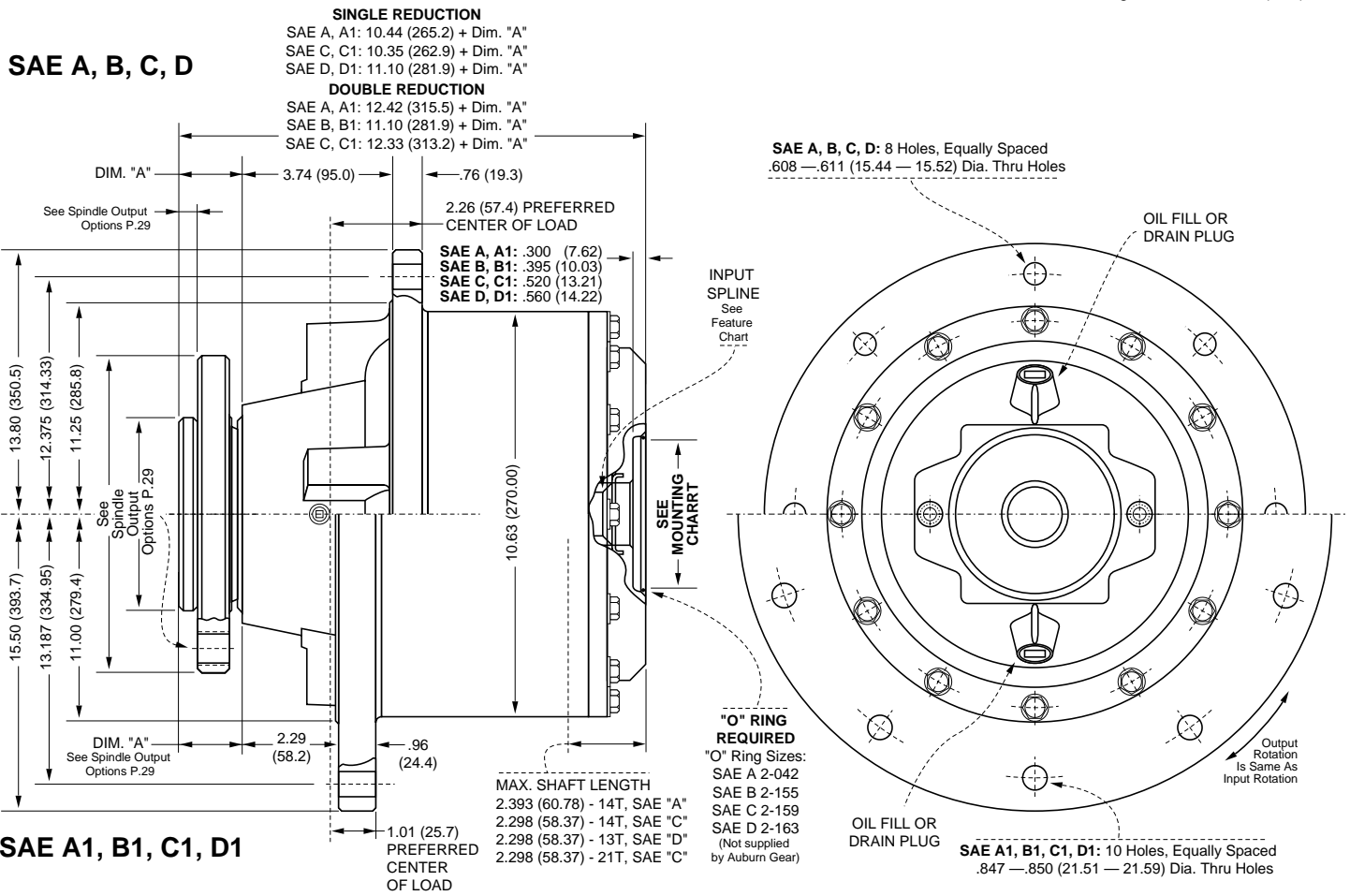
Max. intermittent output torque<sup>1,2</sup> 100,000 lb-in (11,300 Nm)  
 Max. input speed<sup>2</sup> ..... 5,000 RPM  
 Approximate Weight ..... 194 lbs (88 kg)  
 Oil capacity ..... 52 oz (1,540 cc)

For Lubrication Data, see Page 31

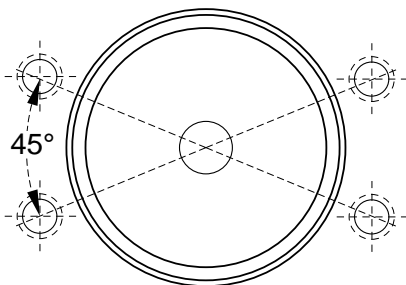
<sup>1</sup> Depending on the duty cycle and the nature of the application, a normal continuous output torque of 1/3 to 1/2 of the maximum Intermittent should yield satisfactory Power Wheel life. Customer testing and application analysis is strongly recommended.

<sup>2</sup> If application exceeds published limits, contact Auburn Gear.

Dimensions given in: INCHES (mm)



MOTOR TO BE MOUNTED WITH OIL SEALING BOLTS



## FEATURE CHART: MODEL 8 SERIES B SPINDLE OUTPUT DRIVES - SINGLE REDUCTION

OPTIONS	DESCRIPTION	MAKE ALL SELECTIONS WITHIN ONE COLUMN			ORDER CODES	USE OPTION ORDER CODES TO BUILD ORDER NUMBER		
MOTOR PILOT/HUB	SAE A <b>SAE A1</b> SAE C <b>SAE C1</b> SAE D SAE D1	•	•	•	8T2A <b>8T2A1</b> 8T2C <b>8T2C1</b> 8T2D 8T2D1	<b>8T2A1</b>		
INPUT SPLINE	<b>13T</b> - 9/16 <b>14T</b> - 12/24 <b>21T</b> - 16/32	•	•	•	<b>13</b> <b>14</b> <b>21</b>		<b>14</b>	
RATIO OPTIONS	6.00:1 <b>7.07:1</b>	•	•	•	06 <b>07</b>			<b>07</b>
OUTPUT SPINDLE	Spindle Tapped Holes 5/8 Spindle Thru Holes Spindle Tapped Holes 3/4	•	•	•	F1 F2 F5			<b>F1</b>
SPECIAL FEATURES	<b>Boot Seal</b>	•	•	•	<b>Z</b>			<b>Z</b>

Select desired characteristics from chart, note correct order codes, and order using sample format shown at right: **8T2A1 14 07 F1 Z**

## FEATURE CHART: MODEL 8 SERIES B SPINDLE OUTPUT DRIVES - DOUBLE REDUCTION

OPTIONS	DESCRIPTION	MAKE ALL SELECTIONS WITHIN ONE COLUMN			ORDER CODES	USE OPTION ORDER CODES TO BUILD ORDER NUMBER		
MOTOR PILOT/HUB	SAE A <b>SAE A1</b> SAE B SAE B1 SAE C <b>SAE C1</b>	•	•	•	8S2A <b>8S2A1</b> 8S2B 8S2B1 8S2C <b>8S2C1</b>	<b>8S2A1</b>		
INPUT SPLINE	<b>13T</b> - 16/32 <b>14T</b> - 12/24	•	•	•	<b>13</b> <b>14</b>		<b>14</b>	
RATIO OPTIONS	15.39:1 18.83:1 <b>23.59:1</b> 26.71:1 <b>31.50:1</b> <b>35.20:1</b> <b>42.42:1</b> <b>50.00:1</b>	•	•	•	15 18 <b>23</b> 26 <b>31</b> <b>35</b> <b>42</b> <b>50</b>			<b>35</b>
OUTPUT SPINDLE	Spindle Tapped Holes 5/8 Spindle Thru Holes Spindle Tapped Holes 3/4	•	•	•	F1 F2 F5			<b>F1</b>
SPECIAL FEATURES	<b>Boot Seal</b>	•	•	•	<b>Z</b>			

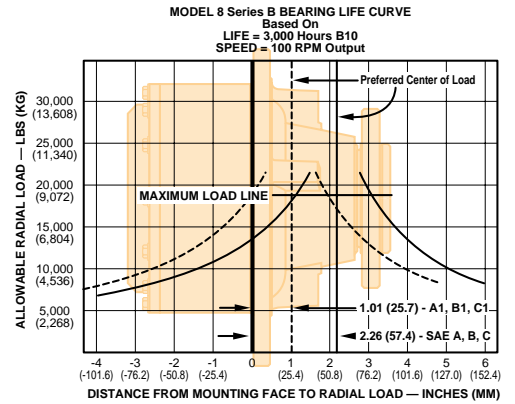
Select desired characteristics from chart, note correct order codes, and order using sample format shown at right: **8S2A1 14 35 F1 Z**

**BOLDFACE** INDICATES REGULAR VOLUME PRODUCED ITEMS WITH BEST AVAILABILITY.

### MOTOR MOUNTING CHART

MOTOR MOUNTING HOLE DIMENSIONS	DIAMETER
<b>SAE A, A1</b> (4) - .500 (12.70) -13 UNC 2B Thd Holes on 4.188 (106.38) B. C.	Ø 3.251 - 3.256 (82.58 - 82.70)
<b>SAE B, B1</b> (2) - .500 (12.70) -13 UNC 2B Thd Holes on 5.750 (146.05) B. C.	Ø 4.001 - 4.006 (101.62 - 101.75)
<b>SAE C, C1</b> (4) - .500 (12.70) -13 UNC 2B Thd Holes on 6.375 (161.93) B. C.	Ø 5.001 - 5.006 (127.02 - 127.15)
<b>OR</b> (2) - .625 (15.88) -11 UNC 2B Thd Holes on 7.125 (180.98) B. C.	
<b>SAE D, D1</b> (4) - .750 (19.05) -10 UNC 2B Thd Holes on 9.000 (228.60) B. C.	Ø 6.001 - 6.006 (152.43 - 152.55)

\*"O" RING OR GASKET REQUIRED (Not Supplied by Auburn Gear)  
"O" RING SIZES:  
SAE "A" 2-042  
SAE "B" 2-155  
SAE "C" 2-159  
SAE "D" 2-163



#### NOTE:

These curves are supplied as a design guide and apply to resultant radial load only. They indicate the importance of maintaining load position over the bearing center.

For actual analysis, applications should be reviewed by Auburn Gear Engineering using data supplied on Application Data Form.

### BEARING LOAD, LIFE AND SPEED RELATIONSHIPS

$$LF = \frac{SF \times R}{R'}$$

R = Allowable resultant load for given location from mounting flange

R' = Anticipated load at location from mounting flange

LF = Life Factor from table (see below)

SF = Speed Factor from table (see below)

OUTPUT SPEED (RPM)	SF	LF	BEARING HOURS B-10 LIFE
5	2.456	.584	500
10	1.994	.719	1000
20	1.620	.812	1500
30	1.435	.886	2000
40	1.316	.947	2500
50	1.231	1.000	3000
60	1.165	1.047	3500
70	1.113	1.090	4000
80	1.069	1.130	4500
90	1.032	1.166	5000
100	1.000	1.231	6000
200	.812	1.289	7000
300	.719	1.342	8000
400	.659	1.390	9000
500	.617	1.435	10000

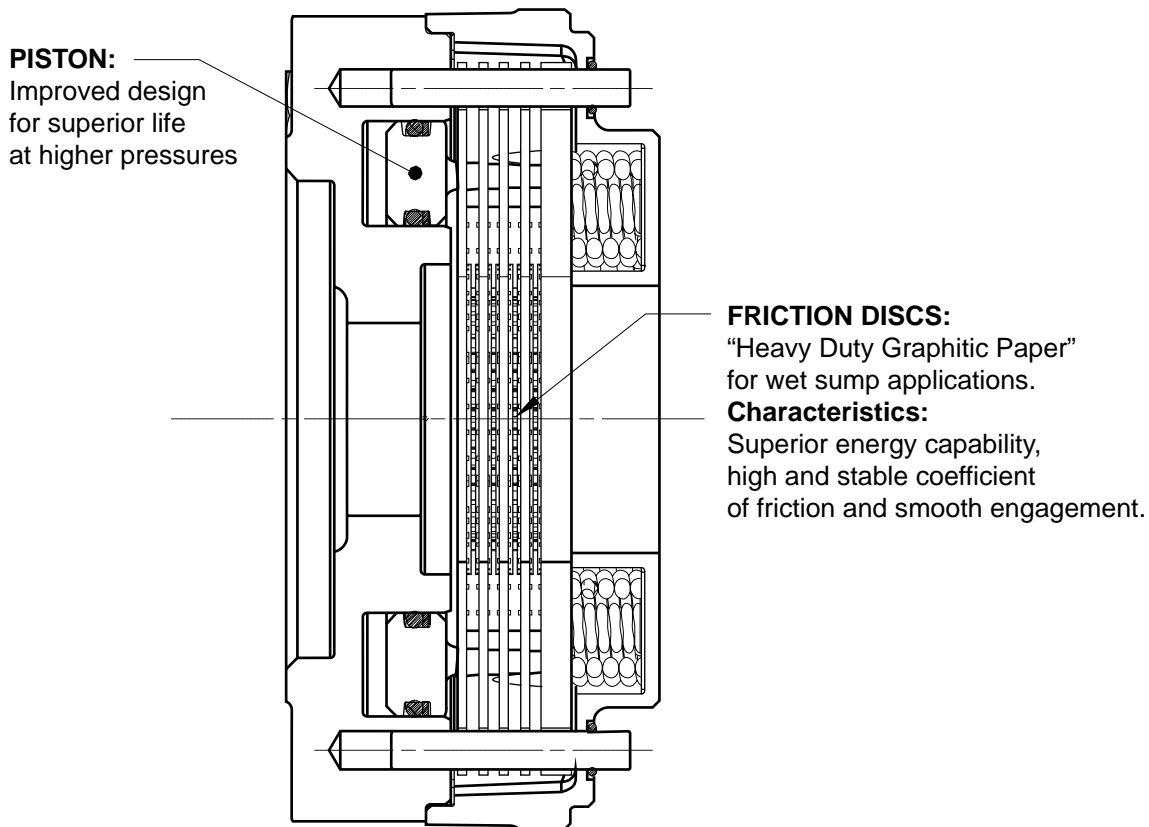
**CAUTION:** The same torsional loading constraints used in the driving mode must be used in the braking mode when braking through the **Power Wheel** drive gear set.

#### NOTE:

The data presented in this catalog is for general information and preliminary layout purposes only. Auburn Gear, through its policy of continual improvement, reserves the right to update its products; therefore, the information presented is subject to change. For specific application and/or dimensional information, contact Auburn Gear.

# Model 8 Series B Spindle Output Drives - Double Reduction

with A2 Series Integral Parking Brake



## GENERAL A2 SERIES DATA:

1. Maximum operating pressure is 3,000 psi (206.4 Bar). Pressure spikes or surges not to exceed 3,500 psi (240.8 Bar). Surge pressure in excess of 3,500 psi (240.8 Bar) caused by spikes in the hydraulic system could shorten brake life and must be avoided.
2. Use only SAE grade 8 mounting bolts and torque to 80-90 lb. ft. (108-122 N-m) for motor mounting.
3. **PRECAUTION:** Bench testing may cause distortion of components or bolt failure. Mounting bolts must be used for supplemental clamping.
4. Minimum Release Pressure is defined as the hydraulic pressure required to obtain full running clearance.
5. Cubic Inch Displacement is the volume of oil required to release the brake piston:  
1.0 in<sup>3</sup> (16.4cc) for a new brake and 2.0 in<sup>3</sup> (32.8cc) for a worn brake pack. - **SAE B, B1;**  
0.7 in<sup>3</sup> (11.5cc) for a new brake and 1.6 in<sup>3</sup> (26.2cc) for a worn brake pack - **SAE C, C1.**
6. For vertical spindle output applications, spindle up or spindle down, please contact Auburn Gear to insure proper brake configuration is specified.

# Model 8 Series B Spindle Output Drives - Double Reduction

with **A2 Series Integral Parking Brake<sup>1</sup>**

## GENERAL SPECIFICATIONS

Max. intermittent output torque <sup>2,3</sup>	100,000 lb-in (11,300 Nm)	Approximate Weight	..... 220 lbs (100 kg)
Max. input speed <sup>4</sup>	..... 2,000 RPM	Oil capacity	..... 57 oz (1.685 ml)

*For Lubrication Data, see Page 31*

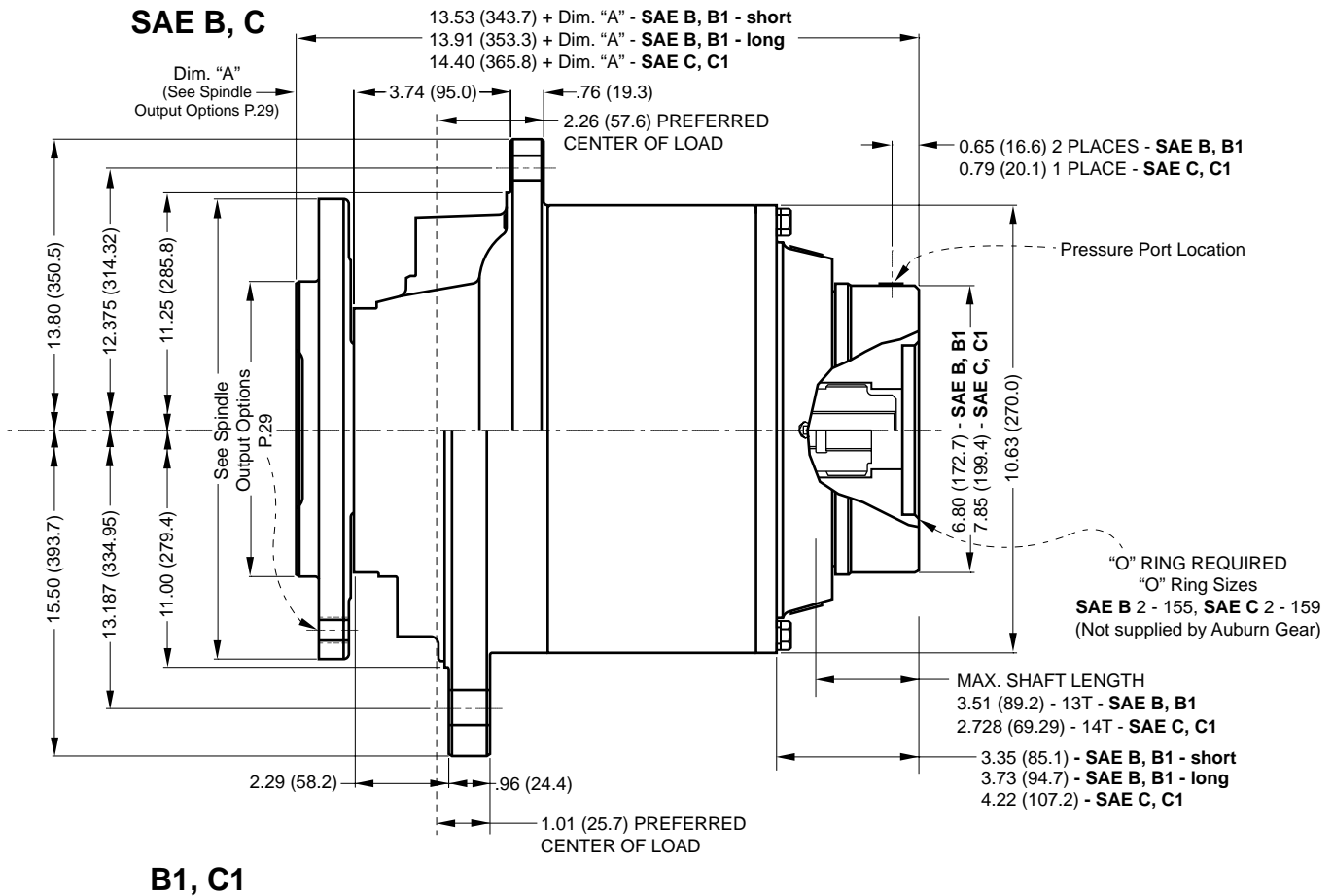
<sup>1</sup> For vertical applications, spindle up or spindle down, contact Auburn Gear.

<sup>2</sup> Depending on the duty cycle and the nature of the application, a normal continuous output torque of 1/3 to 1/2 of the maximum Intermittent should yield satisfactory *Power Wheel* life. Customer testing and application analysis is strongly recommended.

Dimensions given in: INCHES (mm)

<sup>3</sup> If application exceeds published limits, contact Auburn Gear.

<sup>4</sup> For input speeds between 2,000 and 3,600 rpm contact Auburn Gear for duty cycle analysis.



### SAE "C" BRAKE RATINGS

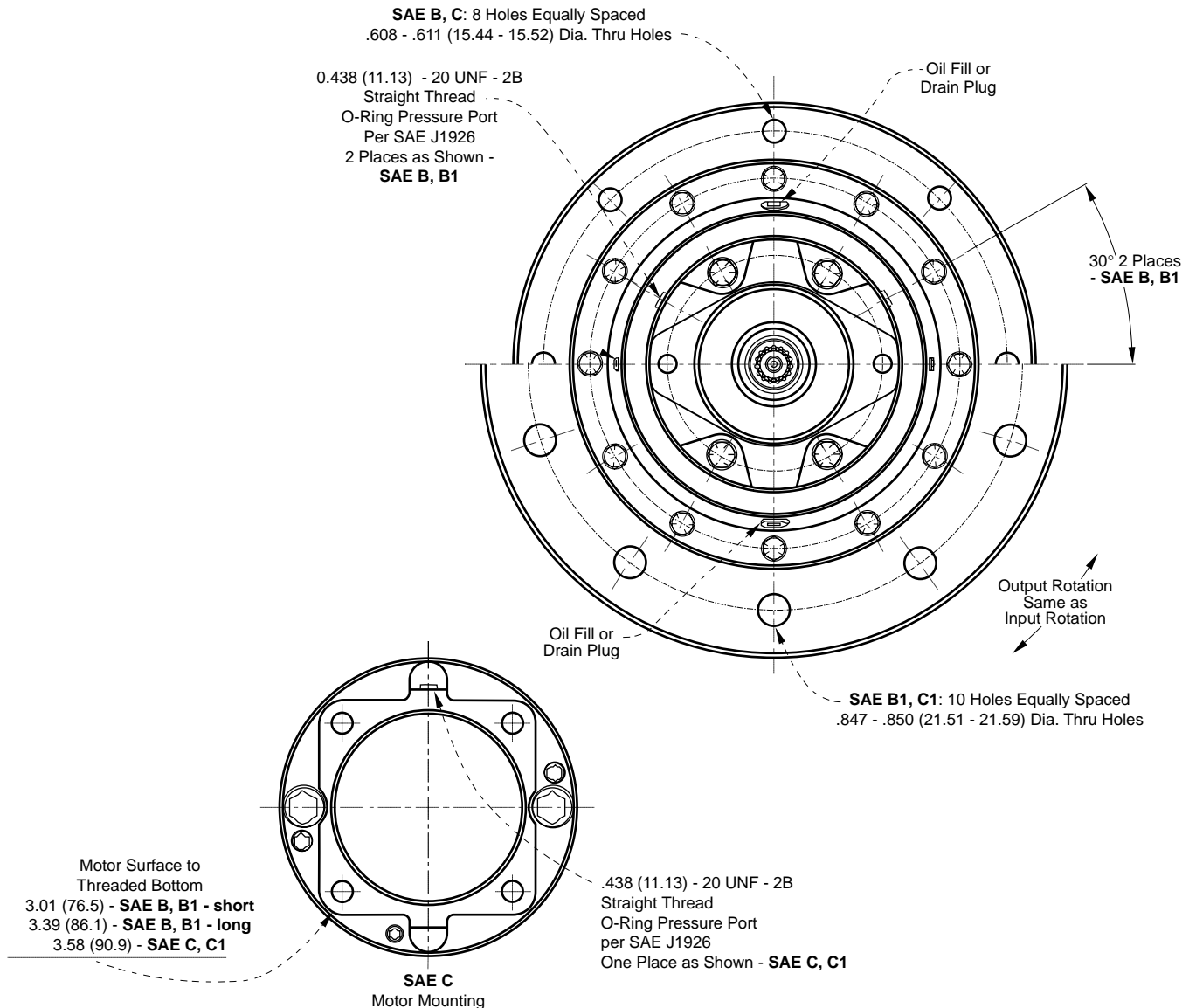
MODEL	TORQUE	MINIMUM RELEASE PRESSURE
B4	2,400 lb-in (271 N-m)	135 PSI (9.3 Bar)
B6	3,600 lb-in (407 N-m)	180 PSI (12.4 Bar)
B7	4,200 lb-in (475 N-m)	210 PSI (14.5 Bar)

Maximum Release Pressure = 3,000 PSI (206.4 Bar)

### SAE "B" BRAKE RATINGS

MODEL	TORQUE	MINIMUM RELEASE PRESSURE	STYLE
B1	1,540 lb-in (174 N-m)	190 PSI (13.1 Bar)	Short
B2	1,800 lb-in (203 N-m)	220 PSI (15.1 Bar)	Short
B3	2,400 lb-in (271 N-m)	290 PSI (20.0 Bar)	Short
B4	2,400 lb-in (271 N-m)	160 PSI (11.0 Bar)	Long
B5	3,200 lb-in (362 N-m)	220 PSI (15.1 Bar)	Long
B6	3,600 lb-in (407 N-m)	230 PSI (15.8 Bar)	Long
B7	4,200 lb-in (475 N-m)	260 PSI (17.9 Bar)	Long

Maximum Release Pressure = 3,000 PSI (206.4 Bar)





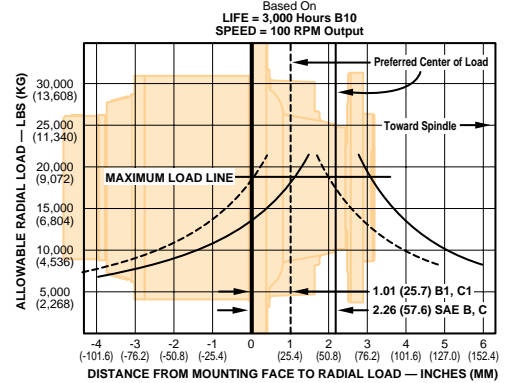
## FEATURE CHART: MODEL 8 SERIES B SPINDLE OUTPUT DOUBLE REDUCTION with BRAKE

OPTIONS	DESCRIPTION	MAKE ALL SELECTIONS WITHIN ONE COLUMN		ORDER CODES	USE OPTION ORDER CODES TO BUILD ORDER NUMBER				
MOTOR PILOT/HUB	<b>SAE B B1</b> SAE C C1	•	•	<b>8S2B</b> <b>8S2B1</b> 8S2C 8S2C1	<b>8S2B</b>				
INPUT SPLINE	<b>13T.</b> <sup>16/32</sup> <b>14T.</b> <sup>12/24</sup>	•	•	<b>13</b> <b>14</b>		<b>14</b>			
RATIO OPTIONS	15.39:1 18.83:1 <b>23.59:1</b> 26.71:1 <b>31.50:1</b> <b>35.20:1</b> <b>42.42:1</b> <b>50.00:1</b>	•	•	15 18 <b>23</b> 26 <b>31</b> <b>35</b> <b>42</b> <b>50</b>		<b>31</b>			
OUTPUT SPINDLES	Spindle Tapped Holes <sup>5/8</sup> Spindle Thru Holes Spindle Tapped Holes <sup>3/4</sup>	•	•	<b>F1</b> F2 <b>F5</b>			<b>F1</b>		
PARKING BRAKE	1,540 lb-in 1,800 lb-in 2,400 lb-in	•	•	B1 B2 B3					
	<b>2,400 lb-in</b> <b>3,200 lb-in</b> <b>3,600 lb-in</b> <b>4,200 lb-in</b>	•	•	<b>B4</b> <b>B5</b> <b>B6</b> <b>B7</b>			<b>B4</b>		
Select desired characteristics from chart, note correct order codes, and order using sample format shown at right:					<b>8S2B</b>	<b>14</b>	<b>31</b>	<b>F1</b>	<b>B4</b>

\* FOR HORIZONTAL OPERATION ONLY. Where vertical operation is required, contact Auburn Gear.

**BOLDFACE** INDICATES REGULAR VOLUME PRODUCED ITEMS WITH BEST AVAILABILITY.

MODEL 8 Series B BEARING LIFE CURVE



**NOTE:**

These curves are supplied as a design guide and apply to resultant radial load only. They indicate the importance of maintaining load position over the bearing center.

For actual analysis, applications should be reviewed by Auburn Gear Engineering using data supplied on Application Data Form.

### BEARING LOAD, LIFE AND SPEED RELATIONSHIPS

$$LF = \frac{SF \times R}{R'}$$

R = Allowable resultant load for given location from mounting flange

R' = Anticipated load at location from mounting flange

LF = Life Factor from table (see below)

SF = Speed Factor from table (see below)

OUTPUT SPEED (RPM)	SF	LF	BEARING HOURS B-10 LIFE
5	2.456	.584	500
10	1.994	.719	1000
20	1.620	.812	1500
30	1.435	.886	2000
40	1.316	.947	2500
50	1.231	1.000	3000
60	1.165	1.047	3500
70	1.113	1.090	4000
80	1.069	1.130	4500
90	1.032	1.166	5000
100	1.000	1.231	6000
200	.812	1.289	7000
300	.719	1.342	8000
400	.659	1.390	9000
500	.617	1.435	10000

**CAUTION:** The same torsional loading constraints used in the driving mode must be used in the braking mode when braking through the **Power Wheel** drive gear set.

### MOTOR MOUNTING CHART

MOTOR MOUNTING HOLE DIMENSIONS	DIAMETER
<b>SAE B, B1</b> (2) – .500 (12.70) -13 UNC 2B Thd Holes on 5.750 (146.05) B. C.	Ø 4.001 - 4.006 (101.62 - 101.75)
<b>SAE C, C1</b> (4) – .500 (12.70) -13 UNC 2B Thd Holes on 6.375 (161.93) B. C.	Ø 5.001 - 5.006 (127.02 - 127.15)

\*"O" RING OR GASKET REQUIRED (Not Supplied by Auburn Gear)  
"O" RING SIZES: SAE "B" 2-155, SAE "C" 2-159

**NOTE:**

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# Model 8 Series B Shaft Input/Shaft Output Drives - Double Reduction

## GENERAL SPECIFICATIONS

Max. intermittent output torque<sup>1,2</sup> 100,000 lb-in (11,300 Nm)    Approximate Weight ..... 224 lbs (101.6 kg)  
 Max. input speed<sup>2</sup> ..... 5,000 RPM    Oil capacity ..... 57 oz (1.685 ml)

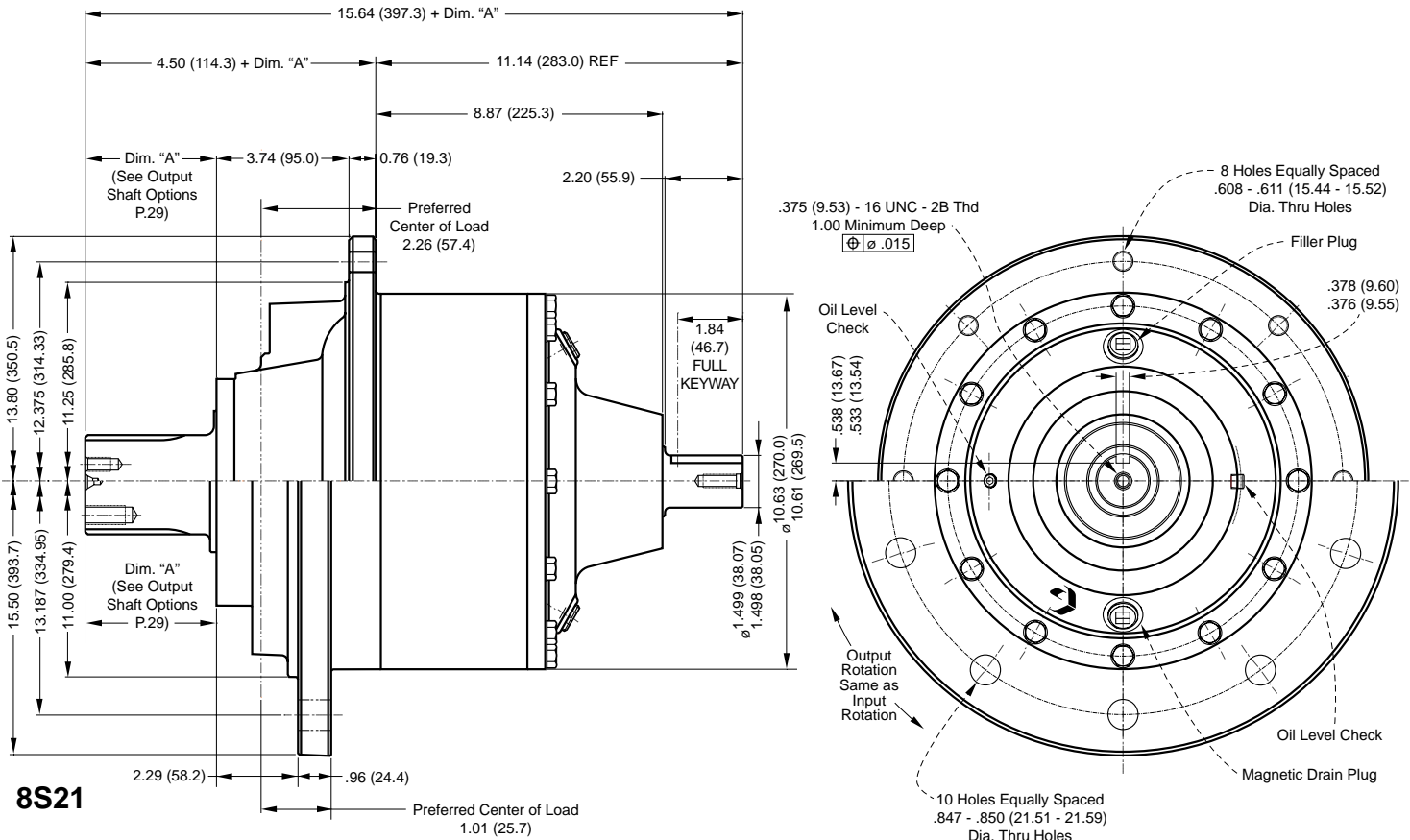
*For Lubrication Data, see Page 31*

<sup>1</sup> Depending on the duty cycle and the nature of the application, a normal continuous output torque of 1/3 to 1/2 of the maximum Intermittent should yield satisfactory *Power Wheel* life. Customer testing and application analysis is strongly recommended.

<sup>2</sup> If application exceeds published limit, contact Auburn Gear.

**8S2**

Dimensions given in: INCHES (mm)



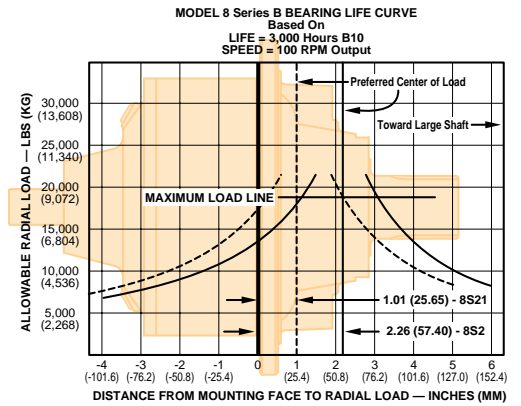
**8S21**

## FEATURE CHART: MODEL 8 SERIES B SHAFT INPUT/ SHAFT OUTPUT DRIVES - DOUBLE REDUCTION

OPTIONS	DESCRIPTION	MAKE ALL SELECTIONS WITHIN ONE COLUMN	ORDER CODES	USE OPTION ORDER CODES TO BUILD ORDER NUMBER
HUB	<b>Small Flange</b> Large Flange	• •	<b>8S2</b> 8S21	<b>8S2</b>
INPUT SHAFT OPTIONS	<b>1 1/2" Keyed</b>	•	<b>K00</b>	<b>K00</b>
RATIO OPTIONS	15.39:1 18.83:1 <b>23.59:1</b> 26.71:1 <b>31.50:1</b> <b>35.20:1</b> <b>42.42:1</b> <b>50.00:1</b>	• • • • • • • •	15 18 <b>23</b> 26 <b>31</b> <b>35</b> <b>42</b> <b>50</b>	<b>23</b>
OUTPUT SHAFTS	<b>3.0" Keyed</b> <b>20T. 8/16</b> <b>23T. 8/16</b> <b>23T. 8/16</b>	• • • •	<b>K2</b> <b>20</b> <b>23S</b> <b>23L</b>	<b>20</b>

Select desired characteristics from chart, note correct order codes, and order using sample format shown at right: **8S2 K00 2320**

**BOLDFACE** INDICATES REGULAR VOLUME PRODUCED ITEMS WITH BEST AVAILABILITY.



### NOTE:

These curves are supplied as a design guide and apply to resultant radial load only. They indicate the importance of maintaining load position over the bearing center.

For actual analysis, applications should be reviewed by Auburn Gear Engineering using data supplied on Application Data Form.

### BEARING LOAD, LIFE AND SPEED RELATIONSHIPS

$$LF = \frac{SF \times R}{R'}$$

R = Allowable resultant load for given location from mounting flange

R' = Anticipated load at location from mounting flange

LF = Life Factor from table (see below)

SF = Speed Factor from table (see below)

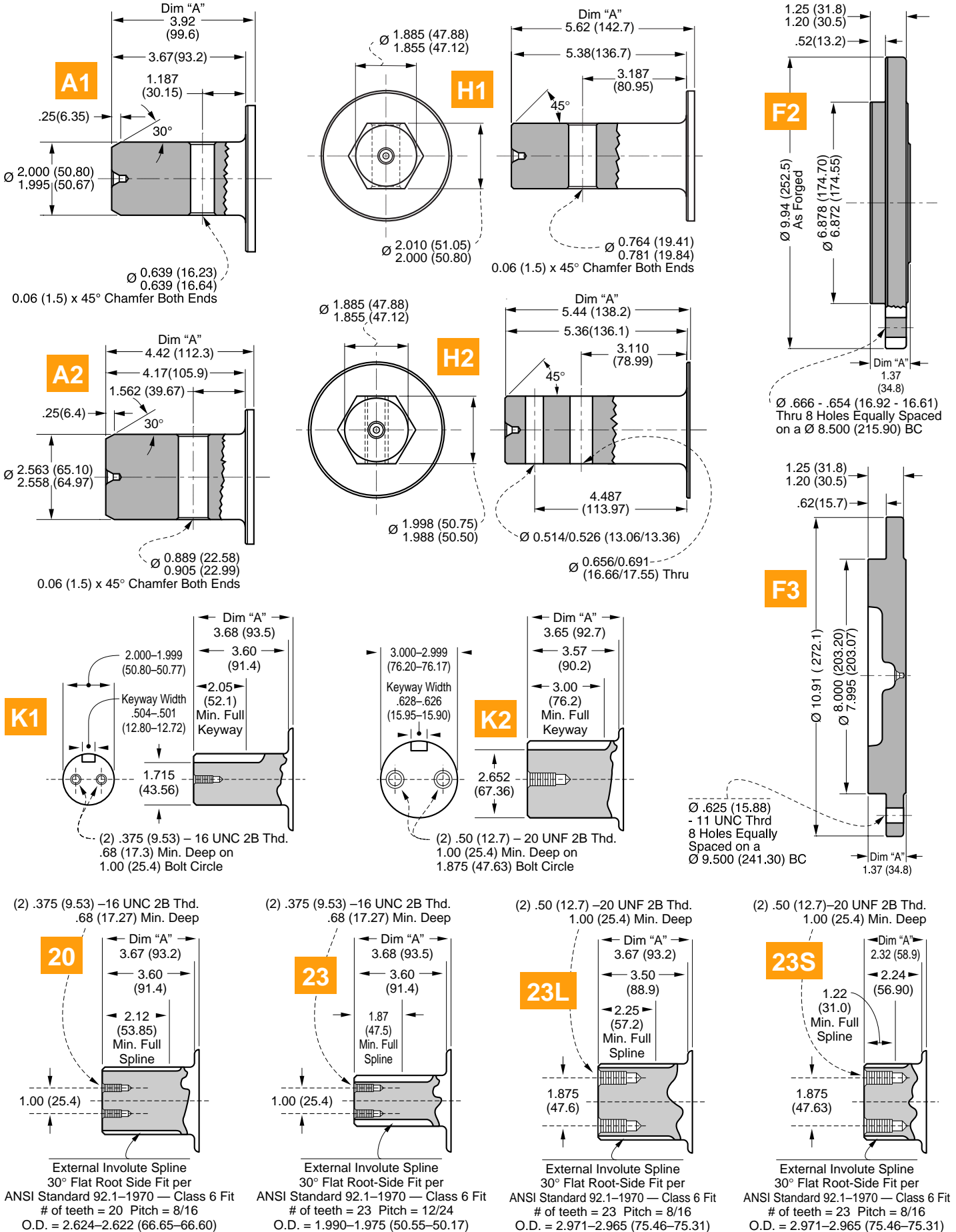
OUTPUT SPEED (RPM)	SF	LF	BEARING HOURS B-10 LIFE
5	2.456	.584	500
10	1.994	.719	1000
20	1.620	.812	1500
30	1.435	.886	2000
40	1.316	.947	2500
50	1.231	1.000	3000
60	1.165	1.047	3500
70	1.113	1.090	4000
80	1.069	1.130	4500
90	1.032	1.166	5000
100	1.000	1.231	6000
200	.812	1.289	7000
300	.719	1.342	8000
400	.659	1.390	9000
500	.617	1.435	10000

**CAUTION:** The same torsional loading constraints used in the driving mode must be used in the braking mode when braking through the **Power Wheel** drive gear set.

### NOTE:

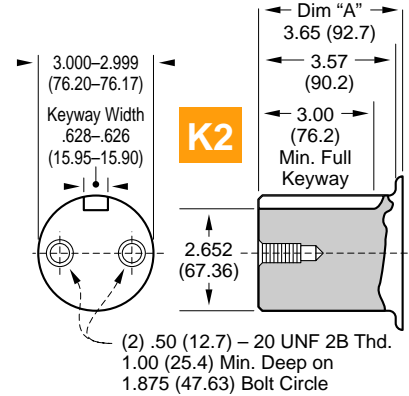
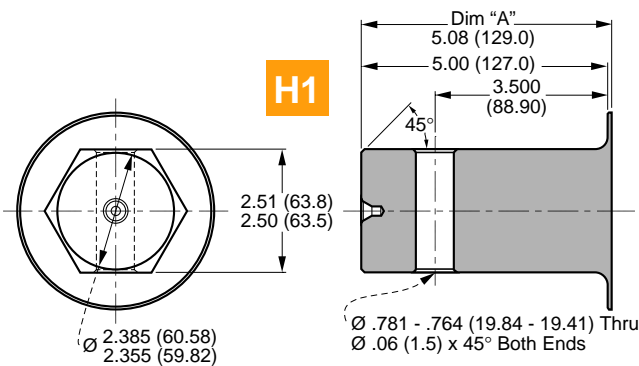
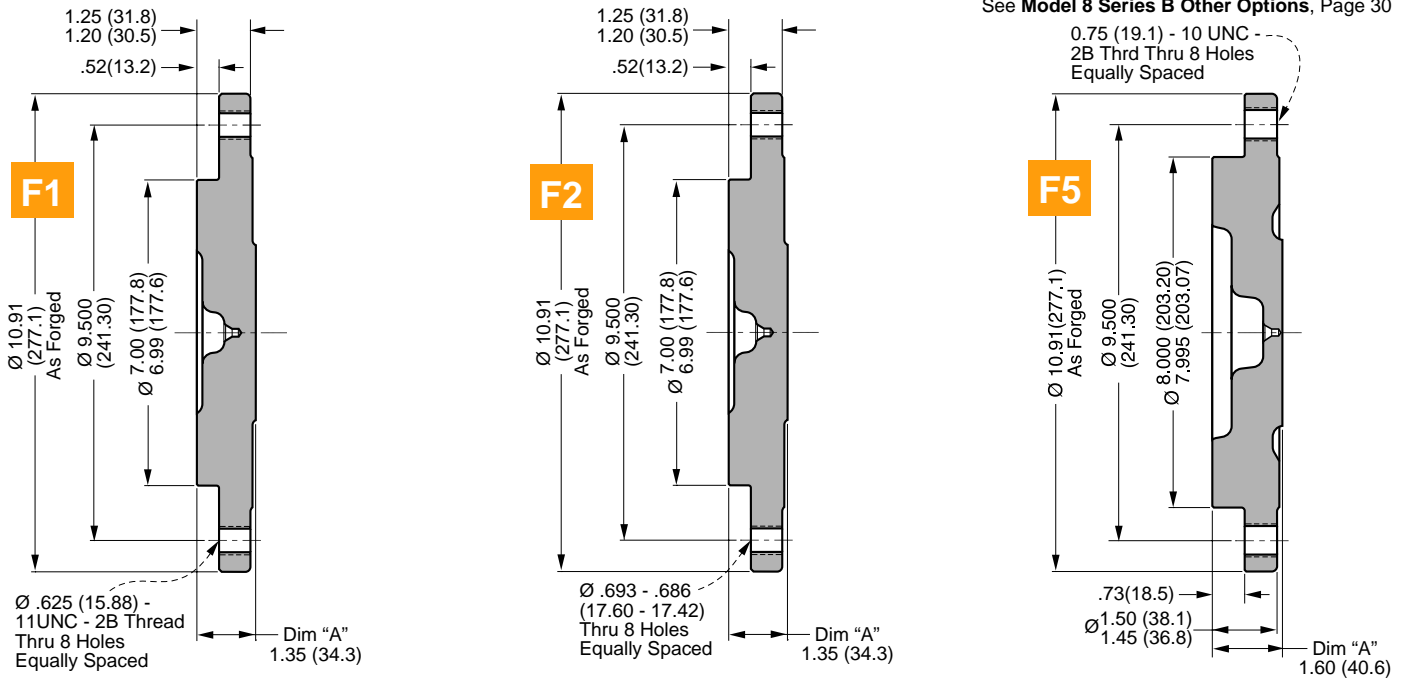
The data presented in this catalog is for general information and preliminary layout purposes only. Auburn Gear, through its policy of continual improvement, reserves the right to update its products; therefore, the information presented is subject to change. For specific application and/or dimensional information, contact Auburn Gear.

# Model 8 Shaft and Spindle Output Options

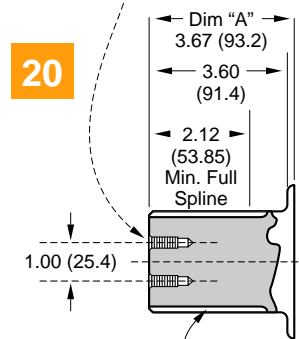


# Model 8 Series B

## Shaft and Spindle Output Options

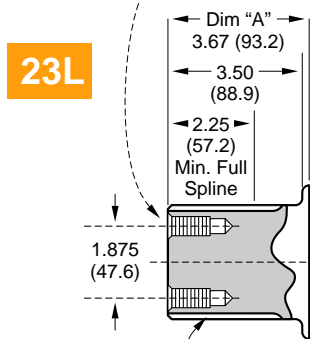


(2) .375 (9.53) -16 UNC 2B Thd.  
.68 (17.27) Min. Deep



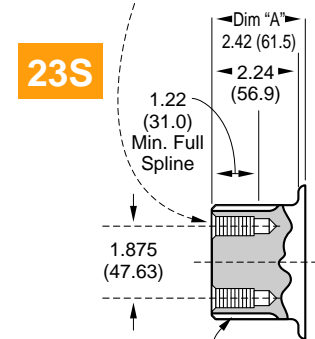
External Involute Spline  
30° Flat Root Side Fit per  
ANSI Standard 92.1-1970 — Class 6 Fit  
# of teeth = 20 Pitch = 8/16  
O.D. = 2.624-2.622 (66.65-66.60)

(2) .50 (12.7) -20 UNF 2B Thd.  
1.00 (25.4) Min. Deep



External Involute Spline  
30° Flat Root-Side Fit per  
ANSI Standard 92.1-1970 — Class 6 Fit  
# of teeth = 23 Pitch = 8/16  
O.D. = 2.971-2.965 (75.46-75.31)

(2) .50 (12.7) -20 UNF 2B Thd.  
1.00 (25.4) Min. Deep



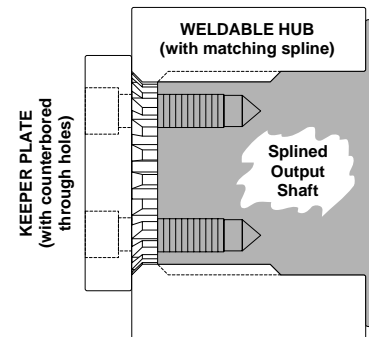
External Involute Spline  
30° Flat Root-Side Fit per  
ANSI Standard 92.1-1970 — Class 6 Fit  
# of teeth = 23 Pitch = 8/16  
O.D. = 2.971-2.965 (75.46-75.31)

# Model 8 and Model 8 Series B Other Options

## Weldable Hub

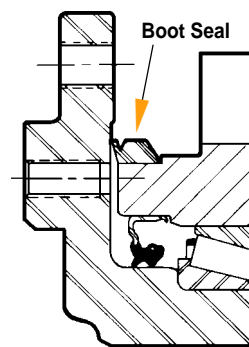
The hubs are 4140H steel and can be turned down and/or welded for mounting sprockets, pulleys, or other devices. A circular keeper plate secures the hub to the splined output shaft with two bolts (keeper plate and bolts included).

<u>KIT NUMBER</u>	<u>SPLINE</u>	<u>FITS MODELS</u>
6420105	23T- $1\frac{1}{2}$ / <sub>24</sub>	5, 6, & 8
6420106	23T- $\frac{8}{16}$	6B, 7, 8, 8B, 9, & 10
6420107	20T- $\frac{8}{16}$	8, 8B, & 9



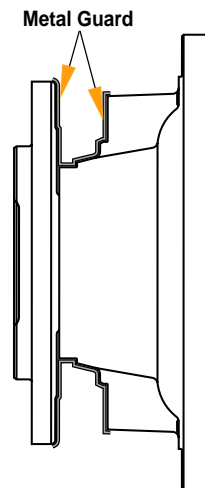
## Boot Seal

An optional seal that protects the main oil seal from dirt and other debris. The boot seal will give extended life on applications operating in extremely muddy or dirty conditions. Boot seals are available on a selective model basis.



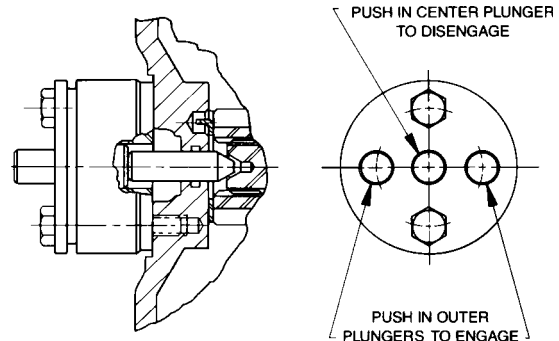
## Guard and Boot Seal System

A boot seal and metal guard are available with F5 spindle output units only. These can be ordered separately or together. They function best together. The guard and boot seal system are utilized in extremely high grit applications. The guard protects the boot seal from contaminants which will ultimately wear the boot seal lip.



## Quick Disconnect

This optional disconnect is available on all wheel drives. No tools are needed to disengage or re-engage the drive. The planetary drive is disengaged with the push of a button. The quick disconnect eliminates removal of the disconnect cover and external contaminants are sealed from the units by internal o-rings and a gasket that is sandwiched between the disconnect and planetary cover. The rugged, compact design ensures dependable service.



# Lubrication Data

Power Wheel Planetary Drives are shipped without lubricant and must be filled to the proper level prior to start-up.

**1. Type**

In normal applications use an extreme pressure lubricant API-GL-5 approved. AGI recommends SAE 80W, 90, 80W-90 and 85W-90 grades of lube under normal climate and operating conditions. See chart below. For severe or abnormal applications with special requirements consult either Auburn Gear or a lubricant manufacturer for further assistance.

**2. Change Interval**

Initial lubrication change after 50 hours of operation. Subsequent changes every 1000 hours or yearly whichever comes first.

**3. Lube Temperature**

Continuous operating temperatures of 160°F are allowable. Maximum intermittent temperature recommended is 200°F.

**4. Amount of Lube**

The unit should be half full when mounted horizontal. Lube levels for other mounts will vary. Consult Auburn Gear for details.

**5. Shaft or Spindle Up Mounting**

If mounting unit vertically with shaft or spindle up, special provisions apply to ensure adequate lubrication of output bearings. Consult Auburn Gear.

Auburn Gear Power Wheel Low Temperature Gear Lube Requirement	
SAE Viscosity Grade	Auburn Gear Recommended Minimum Temperature
75W-90	-40°F (-40°C)*
80W, 80W-90	-15°F (-26°C)*
85W, 85W-90	10°F (-12°C)*
90	35°F (2°C)

\* Maximum temperature for Brookfield Viscosity<sup>1</sup> of 150,000 centipoise (cP)<sup>2</sup> per SAE J306 MAR85

<sup>1</sup> Brookfield Viscosity - *apparent viscosity* as determined under ASTM D 2983

<sup>2</sup> 150,000 cP determined to provide sufficient low temperature lube properties for Auburn Gear Power Wheels

# Warranty Information

## Power Wheel® Warranty

Seller warrants to Purchaser that its Power Wheel® planetary gear products are free from defects in material and workmanship under normal use and service for a period of one year from the date the product is shown to have been placed into operation by original user or for two years from date of shipment from seller's plant, whichever shall first occur.

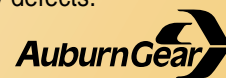
Seller's obligation under this warranty is expressly limited to the repair or replacement at its option, of the Power Wheel which is returned with a written claim of defect f.o.b. seller's factory, Auburn, Indiana, U.S.A., and which is determined by Seller to be defective in fact.

THIS IS THE SOLE AND ONLY WARRANTY OF SELLER AND NO OTHER WARRANTY IS APPLICABLE, EITHER EXPRESSED OR IMPLIED, IN FACT OR BY LAW, INCLUDING ANY WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE.

The sole and only remedy in regard to any defective Power Wheel shall be the repair or replacement thereof herein provided, and seller shall not be liable for any consequential, special, incidental, or punitive damages, losses or expenses resulting from or caused by any defects.

AUBURN GEAR, INC.

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*All specifications and data contained herein are nominal and subject to change without notice.  
Specific applications should be referred to Auburn Gear for current information.*