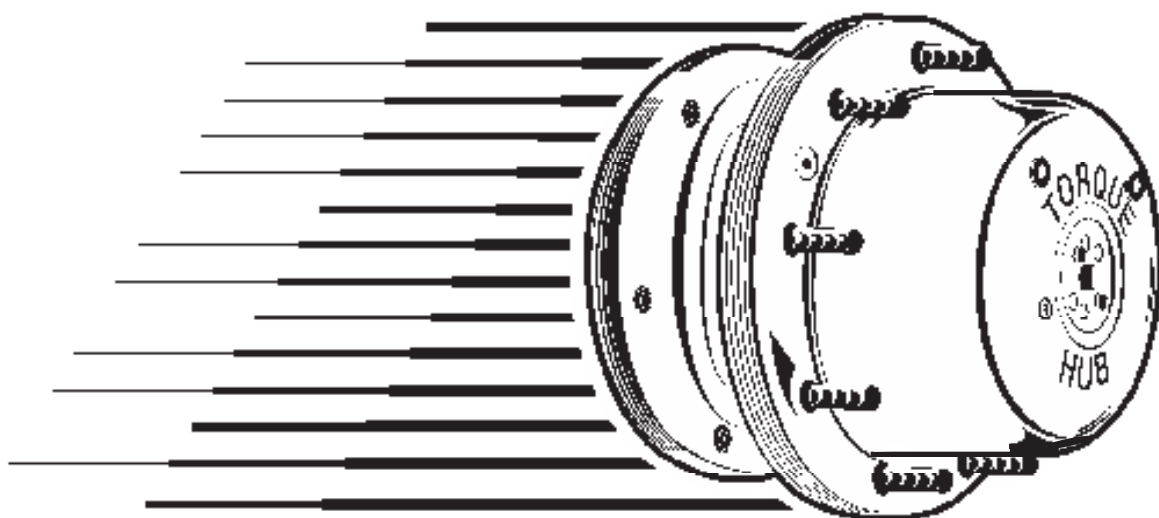


ærlikon fairfield



TORQUE-HUB®
PLANETARY FINAL DRIVES

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Form F800 (Parking Brake).....	2 copies

With over 85 years of experience, Fairfield has become one of the World's largest. non-captive producer of gears, custom gear assemblies, planetary final drives, and related gear products. Fairfield is distinguished by our extensive design, manufacturing, and applications engineering capabilities.

Our philosophy of synchronous engineering is a partnership that matches our best and brightest people with your people to evaluate your unique requirements, and develop products and assemblies that meet your needs.

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About This Guide...

This guide to Fairfield Torque-Hub® drive ratings and technical issues has been created to help you in selecting the proper Fairfield product for your application, as well as address the frequent questions that arise pertaining to available product options, features, and service issues. Our standard Torque-Hub® drives are available with maximum output torque ratings from 12,000 in-lbs up to 4,000,000 in-lbs, with ratios from 3:1 to more than 1,100:1.

The Fairfield approach to drive system applications centers around the belief that thorough “front-end” application engineering practices, field testing and in-depth communication with our customers and their designers, we’ll provide you with the best drive system. We pay particular attention to gear and bearing life, and feel that it is extremely important that our customers know how we obtain our product ratings. It is our belief that the information in this guide will provide you with a better understanding of how we rate

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Torque-Hub® Product Lubrication Specification

General Properties

The lubricant used in all Torque-Hub® drives should be a petroleum based, non-detergent gear fluid containing antioxidation, antifoaming and extreme pressure additives. The lubricant should have a minimum viscosity index of 95 cst and maintain a minimum viscosity of 40 cst under normal operating temperature conditions.

The following table lists the recommended viscosities for various ambient operating temperatures. These recommendations are based on a temperature rise of 50° to 100° F at normal operating conditions.

Maintenance

Oil amounts for each series of Torque-Hub® drives are indicated in the appropriate series literature. An initial oil change should be made after the first 50 hours of operation. Subsequent oil changes

should be made at 1000 hour intervals or annually, whichever comes first.

Oil temperature should be no higher than 160° to 180° for continuous operation, and no higher than 200° F for intermittent operation. For special applications, high horsepower, high speeds or wide temperature changes, please consult Fairfield Manufacturing.

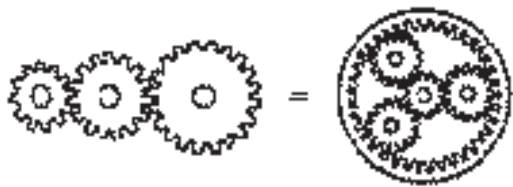
Oil Fill Level

When the Torque-Hub® unit is mounted horizontally, the gearbox should be filled half-full of oil. Consult the appropriate series literature for approximate fill volumes. Vertically mounted Torque-Hub® units may require special lubrication procedures. Please contact Fairfield Manufacturing for vertically mounted applications.

Differential Planetaries			Simple Planetaries	
Ambient Temperature	ISO Index	AGMA Lubricant Number	ISO Index	AGMA Lubricant Number
-40· to -5· F ⁽¹⁾	VG100	3EP	VG100	3EP
-5· to 40· F	VG150	4EP	VG100	3EP
40· to 105· F	VG220/VG320	5EP/6EP	VG150/VG220	4EP/5EP
105· to 150· F ⁽²⁾	VG460	7EP	VG320	6EP
Footnotes 1. For operation in this ambient temperature range a synthetic oil or multi-grade oil is recommended with a pour point of 10° F lower than the minimum ambient temperature. 2. For operation in this ambient temperature range a synthetic oil is recommended for proper lubricant life at elevated temperatures.				

Gear Basics

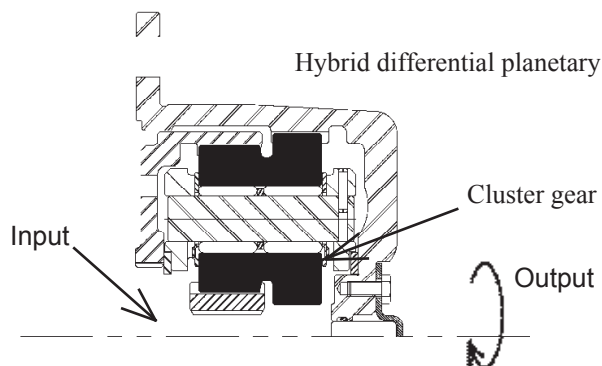
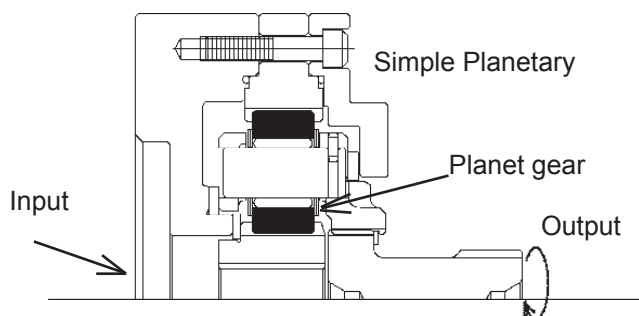
Gears come in many sizes and shapes. Their teeth may be straight or curved, and run parallel or inclined to the axis of rotation. They are connected together in many different ways (usually within a housing) to transmit motion and torque. Even with all the different combinations possible, their actions are quite similar. If one gear rotates, it will move any gear meshed with it in the opposite direction. A difference in speed between two gears produces a change in the amount of torque transmitted.



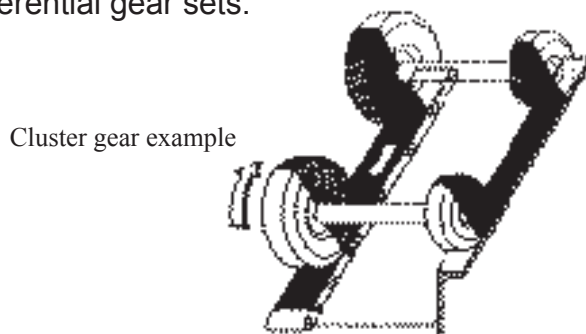
In-line gear set versus planetary gear set

The simplest spur gear set consists of two gears meshed together in the same plane (an in-line gear set). If both gears are the same size, they will rotate at the same speed and torque, but in opposite directions. When running gears in increasing sizes, the input torque is multiplied, reducing the speed. The output torque is proportionate to the combined ratios of all the gears in the gear set multiplied by the input torque. Torque-Hub® products use these basic principles in both the simple planetary and hybrid differential models.

The Simple Planetary Gear Set is defined as a sun (input) gear and planet gears, positioned by a carrier, and a ring gear. Compared to an in-line gear set, a planetary gear set provides torque multiplication in a smaller, more compact mounting package. However, the maximum ratio attainable from a single, simple planetary stage is 7.5:1. By stacking, or coupling, more than one simple planetary gear set together inside one final drive, higher reduction ratios are achieved.



Fairfield's Hybrid Differential Planetary Gear Set consists of a sun (input) gear, three cluster (planet) gears and two internal (ring) gears. The dotted line in the diagram above shows how torque flows through the input gear driving the cluster gears. The cluster gears then react off a fixed ring gear, causing output torque to flow to a second ring gear. The unique feature of a Fairfield hybrid differential planetary is the clustered planet gear. Each clustered planet gear consists of two gears with different diameters clustered together on the same shaft. This allows higher ratios in a shorter package when compared to simple planetary gear sets. The example below illustrates the mechanics of differential gear sets.



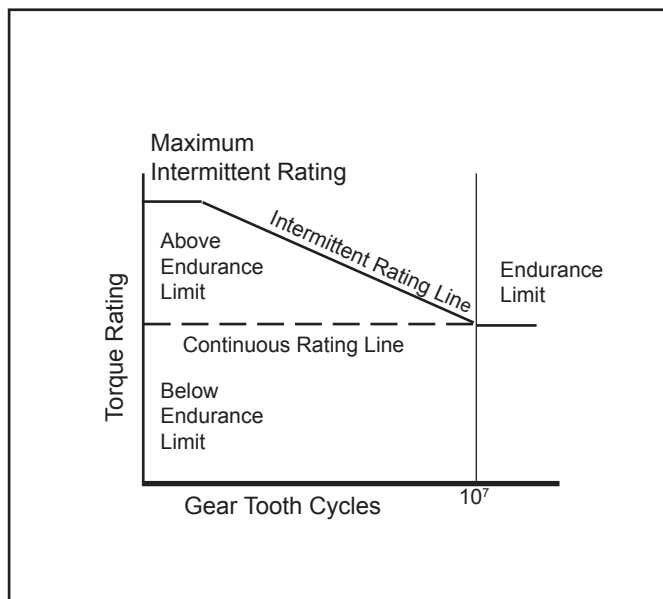
In this example, two wheels of different diameters are connected. The wheels represent the cluster gear. The smaller wheel is on a fixed track, while the larger wheel is on a movable track. The movable track represents the ring gear which drives the output member (hub). The fixed track represents the internal gear, which is the reaction member. After half a revolution, the movable track slides back a distance equal to one-half the difference in the circumferences of the two wheels. Differential gear sets differ from simple planetaries because their ratio is achieved by the difference in circumference between the large gear and the small gear on the planetary cluster.

Definition of Ratings

Continuous Rating - The continuous rating of a Torque-Hub® product is based upon the endurance limit of the gear material and heat treatment selected for the gears. By definition, the endurance limit means that Torque-Hub® products, operated at or below the continuous torque output rating, should not experience gear tooth breakage. Torque-Hub® product life will then be determined by bearing and seal wear, structural stresses, or thermodynamic considerations.

Intermittent Rating - Operation of the Torque-Hub® product above the continuous rating will result in gear tooth bending stresses above the endurance limit. Therefore, gear tooth breakage will occur in a finite number of cycles. Please reference the Sn curve, shown below, for a visual explanation.

Sn curve



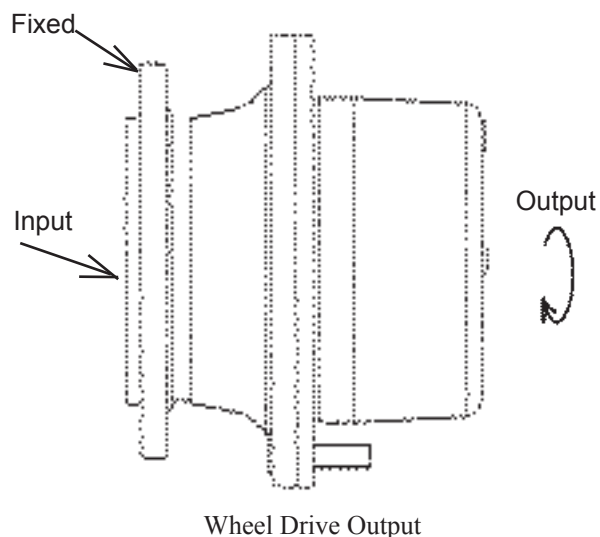
The maximum intermittent torque ratings listed for Torque-Hub® products represent structural limits for safe operation. Gear stresses at this level are still below the yield point for the material. Spindle shafts, hubs, and bolted connections have been designed to operate at their endurance value at the maximum intermittent torque rating.

Peak Rating - The peak rating for a Torque-Hub® product is the maximum one-time torsional load the Torque-Hub® unit can be subjected to without failure. However, this rating should be considered as a worst case or shock load only, and should not be considered as a part of the normal duty cycle.

Horsepower Capacity - High horsepower applications are defined as applications requiring continuous high speed and high torque. The horsepower capacity of each Torque-Hub® drive is based on thermodynamic capacity of the unit and the heat dissipation characteristics of its installation. The location of a Torque-Hub® drive in your installation greatly effects the steady state temperature value of that unit. For example, if a Torque-Hub® drive is located inside a drum or other closed cavity, then the resulting internal temperature will be higher than a Torque-Hub® unit located on an open wheel because of the lack of air flowing over the unit. In general, mobile applications experience a wide range of horsepower levels throughout a normal duty cycle. This is true of non-drawbar type vehicles such as spray tractors, combines, lift trucks, etc. Average horsepower throughout the duty cycle for these types of machines is usually acceptable if the unit is properly sized for torque and speed.

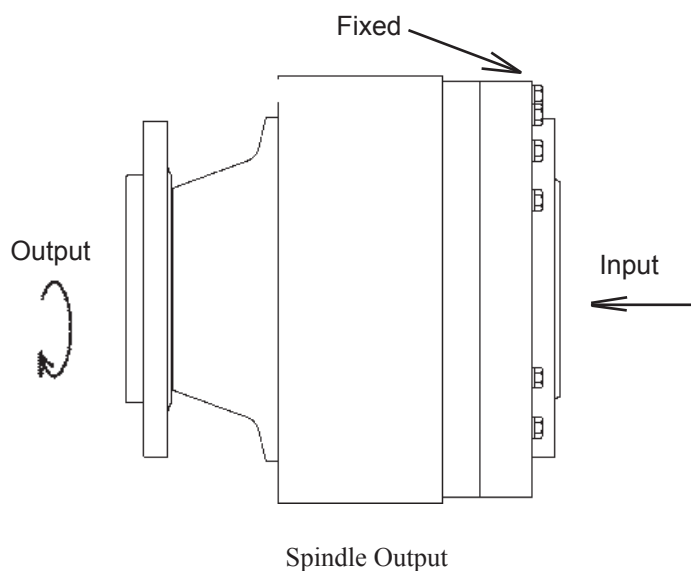
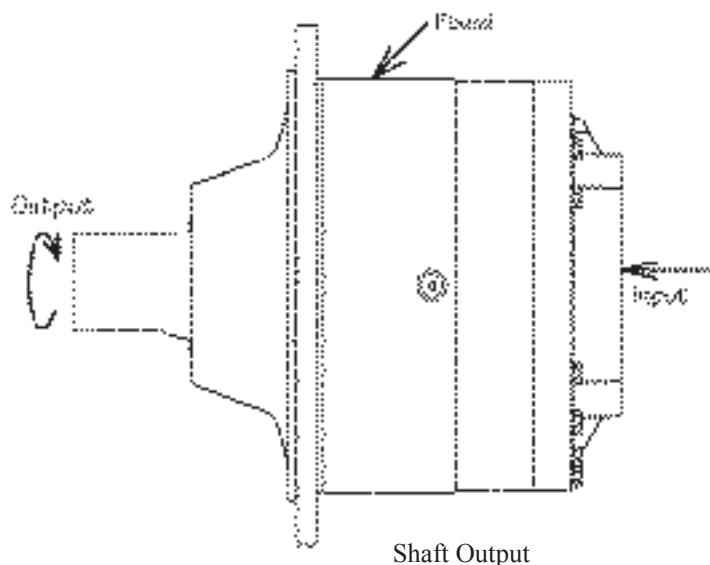
In contrast, drawbar type vehicles and industrial type applications often see long periods of continuous duty. This can result in higher continuous horsepower levels than normally experienced in mobile applications. In this case, the horsepower requirement by itself may dictate the size of the Torque-Hub® unit, rather than the torque output requirement. Forced cooling may be necessary to meet the thermal dissipation requirements of the gearbox in severe applications. Please contact a Fairfield representative for horsepower guidelines and suggestions when applying Torque-Hub® drives in high horsepower applications.

Product Configurations and Applications



Torque-Hub® Wheel Drives are proven performers in many types of off-road, mobile vehicles and equipment. In these applications, wheel drives are often used to propel pneumatic tires, tracks or rollers. They have also found a variety of uses in other industries such as on-road equipment, where Torque-Hub® units are applied in street sweepers and buses. In industrial and marine applications, wheel drives are used to power winches and hoists.

Torque-Hub® Shaft Output Drives can be applied to industrial applications such as conveyors, mixers, and augers. Shaft output Torque-Hub® units also meet power requirements for mobile equipment such as swing drives on access platforms, cranes, elevators and logging equipment. Our largest Torque-Hub® unit, the S200A shaft output, has a continuous rating of more than two million inch-pounds. It is used to raise and lower the legs of marine jack-up boats.



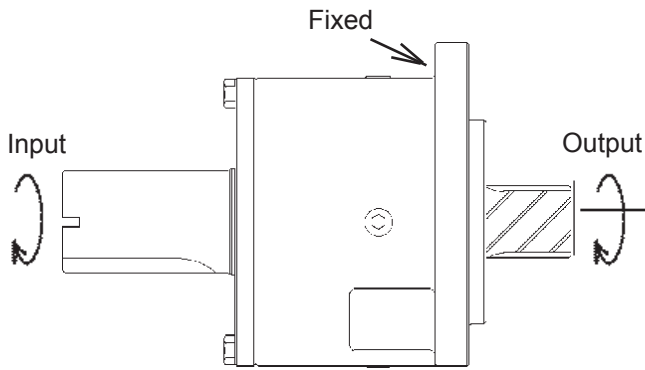
For applications requiring flange mounts, **Torque-Hub® Spindle Output Drives** offer design flexibility to meet your size restrictions. Spindle output units are used to power small lift trucks, mowers and scissor lifts. Any vehicle with small diameter drive wheels is a perfect candidate for spindle output

Product Information Chart

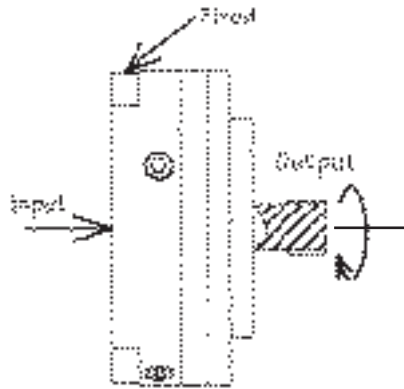
Series	Outputs Available	Ratios Available (x:1)	Planetary Type	Continuous Torque Rating (in-lbs x 1,000)	Intermittent Torque Rating (in-lbs x 1,000)	Max Speed (x 1,000 rpm)
07	whd,sho,spo	4,12	Simple	7.5	15	5
1	sho	3-6	Simple	15	30	5
1	whd,sho,spo	16-18	Differential	15	30	4
2	whd,sho,spo	13-49	Differential	25	50	4
3	whd,sho,spo	18-87	Differential	37.5	75	4
4	whd	12-37	Simple	40	80	5.5
5	whd	15-49	Simple	50	100	4
6	sho	4-6	Simple	60	120	3
6	whd,sho,spo	13-42	Simple	60	120	5
7	whd,sho,spo	26-94	Differential	75	150	3
8	whd	50	simple	80	160	5
9T	whd	35	Simple-2 Speed	90	250	3.75
10	whd,sho,spo	43-123	Differential	125	250	2
12	whd,sho,spo	20-40	Simple	125	250	4
12T	whd	20,29,40	Simple-2 Speed	125	250	3.75
16	whd,sho,spo	20-40	Simple	160	320	4
16T	whd,	20,29,40	Simple-2 Speed	160	320	3.75
20	whd,sho,spo	26-115	Differential	250	500	2
25	whd,sho,spo	19-25	Simple	200	400	3
40	whd,sho,spo	18-40	Simple	400	800	3
50	whd,sho,spo	18-40	Simple	500	1,000	3
80	whd,spo	20-35	Simple	800	1600	3
90	whd,spo	25	Simple	1,200	2,000	2
200	sho	1176	Hybrid	2,000	c/f	2
T2B	sho	3.46-4.09	Simple	6	c/f	3.75
T2A	sho	3.46-4.09	Simple	6	c/f	4
G07	sho	3.6	Simple	6	c/f	4
IA15	sho	1	Input Adapter	15	c/f	3.6
RA7	sho	1	Straight Bevel	3.7	c/f	3.4
RA70	sho	1.53	Straight Bevel	1.2	c/f	3.4
RA10	sho	2.78	Straight Bevel	3.7	c/f	3.4

Series	Outputs Available	Ratios Available (x:1)	Planetary Type	Continuous Torque Rating (Nm x 1,000)	Intermittent Torque Rating (Nm x 1,000)	Max Speed (x 1,000 rpm)
7000	whd	19-57	Simple	3.5	7	units w/ brake - 5
11000	whd	15-57	Simple	5.5	11	
18000	whd	15-57	Simple	9	18	
CW12	whd	18-51	Simple	6	12	units w/o brake - 6
CW18	whd	26-51	Simple	9	18	
CT18	whd	63-136	Simple	9	18	
CT26	whd	51-202	Simple	13	26	Key whd = wheel hub drive sho = shaft output spo = spindle output c/f = contact Fairfield
CT35	whd	63-136	Simple	17.5	35	
CT45	whd	63-136	Simple	22.5	45	

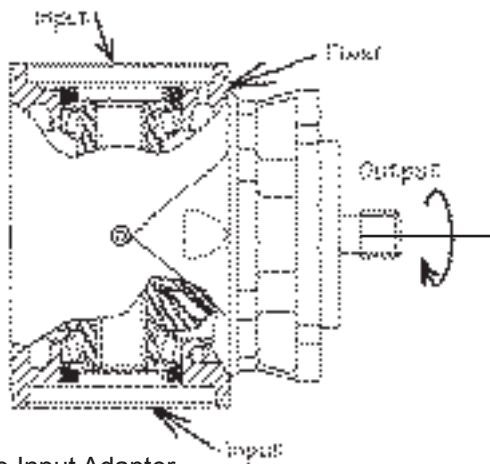
Input Adapters



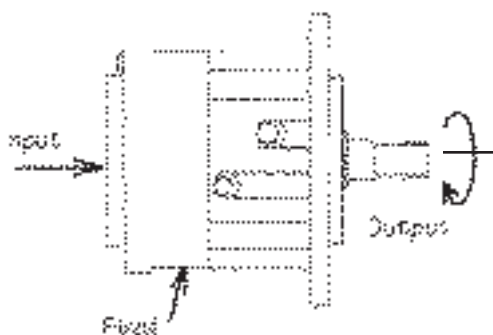
Inline Adapter



G07



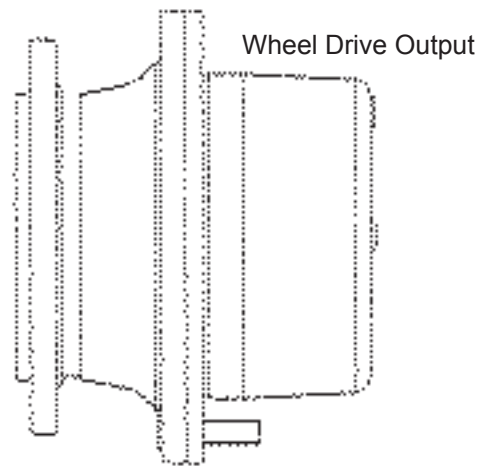
Right-Angle Input Adapter



T2A

The **Inline Adapter** series is the simplest of the input adapters. The straight keyed input shaft makes it possible for virtually any rotating member, such as PTO shaft inputs or pulleys, to drive the Torque-Hub®. Its large common shaft is supported in a rugged housing by two heavy duty bearings. This allows for large multiple row belts and larger centerline offsets than most commercially available overhung load adapters.

The **G07** “gearhead” increases the input torque by 3.6 and reduces the output speed by the same ratio. This makes it possible to increase the reduction of an existing machine or add reduction for a new design, while still using a standard Torque-Hub®. Its oil is shared with the primary Torque-Hub®, but may be accessed from the G07 housing.



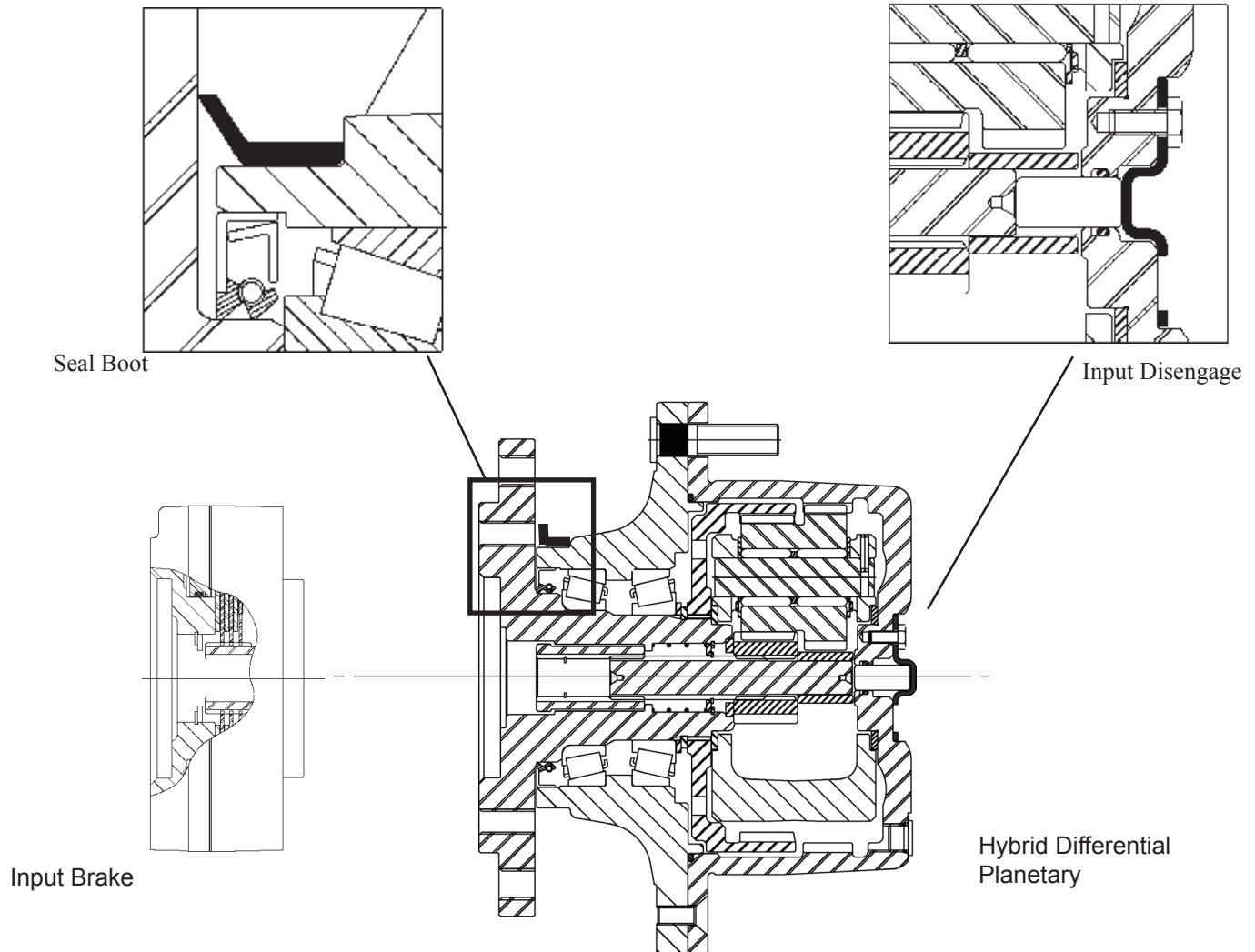
The **Right-Angle** series makes it possible to drive a Torque-Hub® from 90° to its centerline. This keeps the overall length shorter than an inline drive. The dual inputs on either side of the housing make it possible to use multiple drives or add a brake. Ports are available for speed sensors. The RA oil may be shared with the primary Torque-Hub® or sealed from it.

The **Two Speed (T2A)** series can make any Torque-Hub® a two speed transmission. The ratio range is 1:1 and 3.56 or 4.09:1. The T2A is shifted by hydraulic or pneumatic pressure. Ratio changes are achieved by a unique, patented Fairfield shifter that can shift while moving but not under load. The result is a very economical way to create a two speed axle.

Options

The **Seal Boot** is a supplementary seal that helps protect the main oil seal from dirt and debris encountered in the operating environment, thus extending the life of your equipment. The seal is lubricated by injecting grease through a Zerk fitting (not provided) on the motor mount.

The **Input Disengage** feature is standard on most Torque-Hub® wheel drives. When the disengagement cap is removed and reversed, the Torque-Hub® gear package is disconnected from the motor so that the machine may be towed. Towing speeds, however, cannot exceed the maximum speed rating for the unit (Please reference product information chart for maximum speed information).

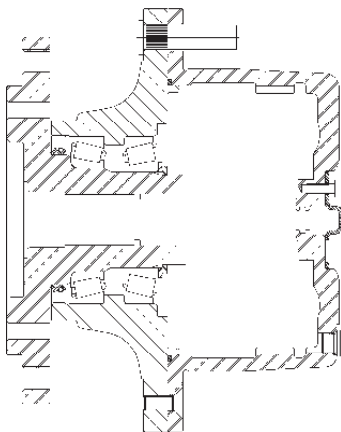


Input Brakes are available for almost every Torque-Hub® product. They come in two basic styles, a bolt-on extra like the “pancake” brake, shown above, or as a fully integrated brake like the CT/CW series. These brakes are to be used as parking brakes only. Dynamic braking is not allowed under normal operating conditions. Please consult our applications engineering personnel for further information.

Dynamic (service) brakes can be applied to Torque-Hub® products in the form of some wet types of pancake brakes, disc/caliper brakes and by conventional drum brakes on certain Torque-Hub® models. Ask your Fairfield representative for ideas and information about adding dynamic braking to your Torque-Hub® application.

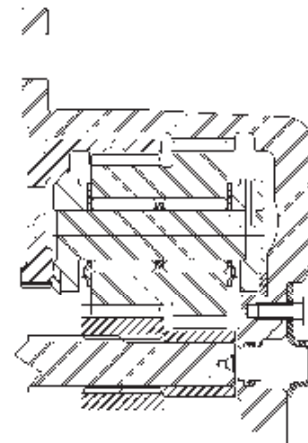
Kits

A **Bearing Support Kit** usually contains all the non-drive parts of a Torque-Hub® unit. They are very useful where load support is needed, but no drive is required. The reason why the bearing support kit is more economical than custom-made parts is due to the fact that they contain standard Torque-Hub® parts which are manufactured in large quantities.



Bearing Support Kit

Where space or design limitations preclude the use of a Torque-Hub® unit, a **Gear Kit** allows the designer to retain the torque and ratio capabilities of the Torque-Hub® product while meeting other design criteria. The standard gear kit contains a ring gear, carrier package, input gear, input coupling and shaft, and a cover. Many combinations exist to meet your specific torque and speed requirements.



Gear Kit

Torque-Hub® Mobile Application Warranty Policy

Fairfield Manufacturing Company, Inc., warrants all products manufactured to be free from defects in material and workmanship, for a period of (12) months from the date of product is put into service, or (18) months from date of shipment from our factory, whichever comes first.

Fairfield Manufacturing Company, Inc., may elect to repair or replace, at its discretion, any product that it deems defective, based on inspection and examination of the returned goods.

This warranty is in lieu of all other warranties, either implied or expressed, and all other obligations or liabilities, including damages resulting directly or indirectly due to said defects. Fairfield Manufacturing Company, Inc., neither assumes nor authorizes any person or company to assume liability on the company's behalf, in connection with the sale of our products.

This warranty does not cover any labor charges for replacement of parts, adjustments, repairs, or any other work done in connection with the use of Fairfield products.

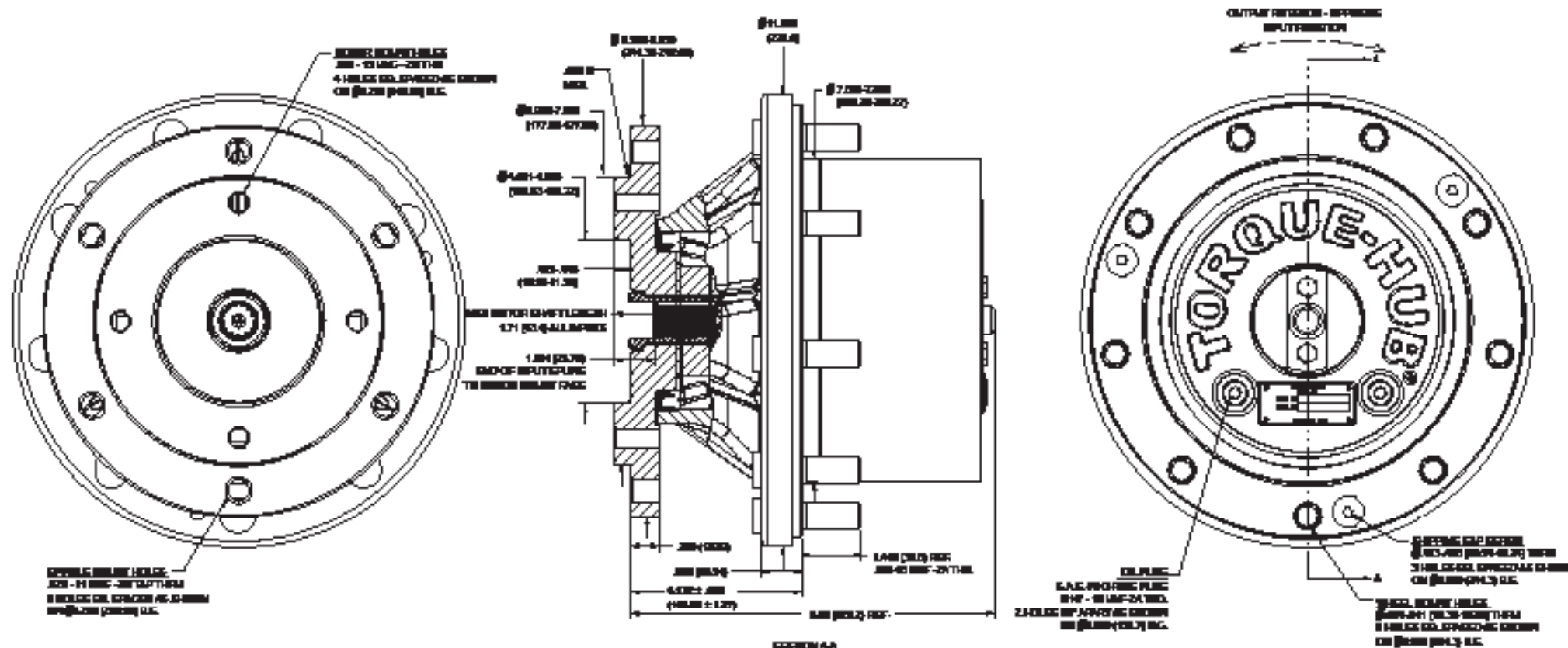
This warranty does not apply to any product which has been repaired or altered by a source other than Fairfield Manufacturing Company, Inc., in such a way, that in our judgement, affects the products stability or proper operational characteristics. In addition, this warranty does not apply to products, found by Fairfield, to be have been subjected to misuse, negligence, or accidental damages. In addition, this warranty does not apply to the application of products manufactured by Fairfield Manufacturing Co., Inc.

FLUID POWER FORMULAS

Torque Required for Grade (per wheel) (Grade in %)		=	$\frac{GVW \text{ (lbs)} \times \text{Rolling Radius (in)} \times [(\sin(\text{atan}(G/100)))+((\cos(\text{atan}(G/100))) \times \text{Crr})]}{\text{Drive Wheels}}$	
Torque Required for Tractive Effort (in-lbs) (per wheel)		=	$\frac{\text{Tractive Effort Required (lbs)} \times \text{Rolling Radius (in)}}{\text{Drive Wheels}}$	
Torque to Slip (in-lbs)		=	Weight over Wheel (lbs) x Coefficient of Traction x Rolling Radius (in)	
Pump Flow (gpm)		=	$\frac{\text{Displacement Pump (in}^3\text{)} \times \text{Pump Input Speed (rpm)} \times \text{Pump Volumetric Efficiency}}{231}$	
Motor Speed (rpm)		=	$\frac{\text{Pump Flow (gpm)} \times \text{Motor Volumetric Efficiency} \times 231}{\text{Number of Motors} \times \text{Motor Displacement (in}^3\text{)}}$	
Motor Torque (in-lbs)		=	$\frac{\text{Motor Displacement (in}^3\text{)} \times \text{Available Pressure (psi)} \times \text{Motor Mechanical Efficiency}}{6.28}$	
Torque-Hub Output Torque (in-lbs)		=	Motor Torque (lb-in) x Final Drive Ratio x Final Drive Efficiency	
Torque-Hub Output Speed (rpm)		=	$\frac{\text{Motor Output Speed (rpm)}}{\text{Final Drive Ratio}}$	
Dynamic Braking (per wheel) (in-lbs)		=	$\frac{\text{Motor Displacement (in}^3\text{)} \times \text{Available Pressure (psi)} \times \text{Final Drive Ratio}}{6.28 \times \text{Motor Mechanical Efficiency} \times \text{Final Drive Efficiency}}$	
Max Vehicle Speed (mph)		=	$\frac{\text{Torque-Hub Output Speed (rpm)} \times \text{Rolling Radius (in)}}{168}$	
Available Tractive Effort (lbs)		=	$\frac{\text{Torque-Hub Output Torque (lb-in)} \times \text{Number of Drive Wheel}}{\text{Tire Rolling Radius (in)}}$	
Available Grade (%)		=	100 x tan(asin(Available Tractive Effort/GVW) - Coefficient of Rolling Resistance)	
Motor Overspeed (rpm)		=	$\frac{\text{Pump Input Speed (rpm)} \times 1.15 \times \text{Displacement Pump (in}^3\text{)}}{((0.95)^2) \times \text{Displacement Motor (in}^3\text{)}}$	
Stopping Distance (feet)		=	$\frac{GVW \text{ (lbs)} \times (\text{Vehicle Speed}^2(\text{mph})) \times \text{Rolling Radius (in)}}{\text{Dynamic Braking Torque (lb-in)} \times \text{Number of Drive Wheels} \times 29.93}$	
Acceleration Time (sec)		=	$\frac{\text{Max Vehicle Speed(mph)} \times GVW \text{ (lbs)}}{\text{Tractive Effort (lbs)} \times 22}$	
HP Required (hp)		=	$\frac{\text{Tractive Effort (lbs)} \times \text{Max Speed (mph)}}{375}$	
HP (out)		=	$\frac{\text{Torque (lb-in)} \times \text{RPM}}{63025}$	

FORMULA	WORD FORMULA		LETTER FORMULA
CROSS SECTIONAL CYLINDER AREA <i>In Square Inches</i>	AREA	= $\pi \times \text{RADIUS}^2 \text{ (inches)}$	$A = \pi r^2$
		= $\frac{\pi \times \text{DIAMETER}^2 \text{ (inches)}}{4}$	$A = \frac{\pi D^2}{4}$ or $A = .785D^2$
PUMP FLOW OUT <i>In Gallons/Minute</i>	FLOW	= $\frac{\text{RPM} \times \text{PUMP DISPLACEMENT (Cu. In./Rev.)}}{231}$	$Q = \frac{nd}{231}$
PUMP/ POWER (INPUT) <i>In Horsepower Required</i>	HORSEPOWER INPUT	= $\frac{\text{FLOW RATE OUTPUT (GPM)} \times \text{PRESSURE (psi)}}{1714 \times \text{EFFICIENCY (Overall)}}$	$HP_{in} = \frac{QP}{1714Eff}$ or $\frac{GPM \times psi}{1714Eff}$

TORQUE-HUB®
Planetary Final Drives



oerlikon
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Catalog prints are representative of the units.

Before final design request a certified print from Fairfield.

NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

7HB0

Performance Data

Continuous	Intermittent	Peak
30,975 in-lbs	61,950 in-lbs	Contact Fairfield
2,581 ft-lbs	5,163 ft-lbs	
3,500 N-m	7,000 N-m	
357 kg-m	714 kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 4,000 RPM Maximum Intermittent

Weight

Approximately 89 lbs (40 kg)

Note: Specific models will change weights.

7HB0 Model Formula

7 – 7000 Series Torque-Hub®

Output
H – Hub

Motor Input
A – SAE "A" motor mount
B – SAE "B" motor mount

Spindle Brake
0 – None

Stud
0 – None
F – 5/8-18 by 2.437 in.
N – 1/2-20 by 2.437 in.

Reduction
019 – 18.78:1
024 – 24.40:1
029 – 29.24:1
036 – 35.91:1
048 – 47.60:1
057 – 57.49:1

Options
0 – None
Z – Seal Boot
C – Cartridge seal
B – Cartridge sea & seal boot

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Oil

Fill to half full with EP-90 oil on most applications.

Approximate Volume 25 oz. (739 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

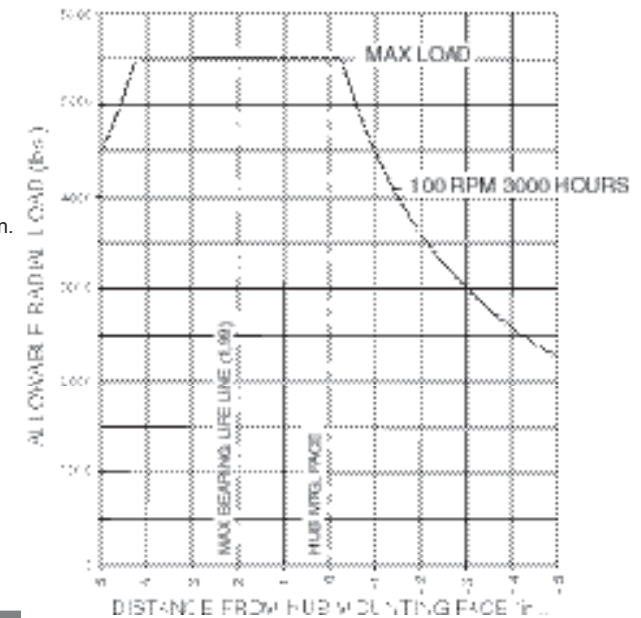
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{\frac{10}{3}}$$

Bearing Curve



7 H B 0 01 0 0B3 0 048

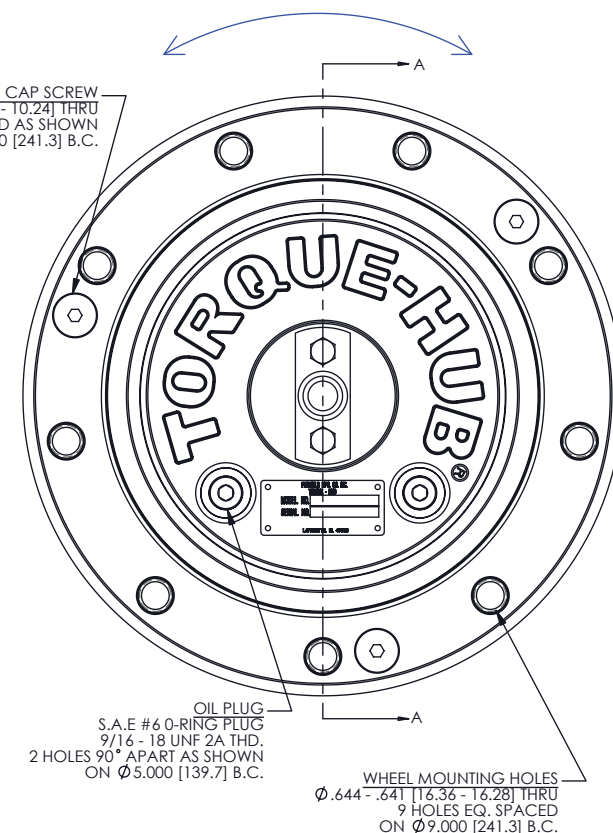
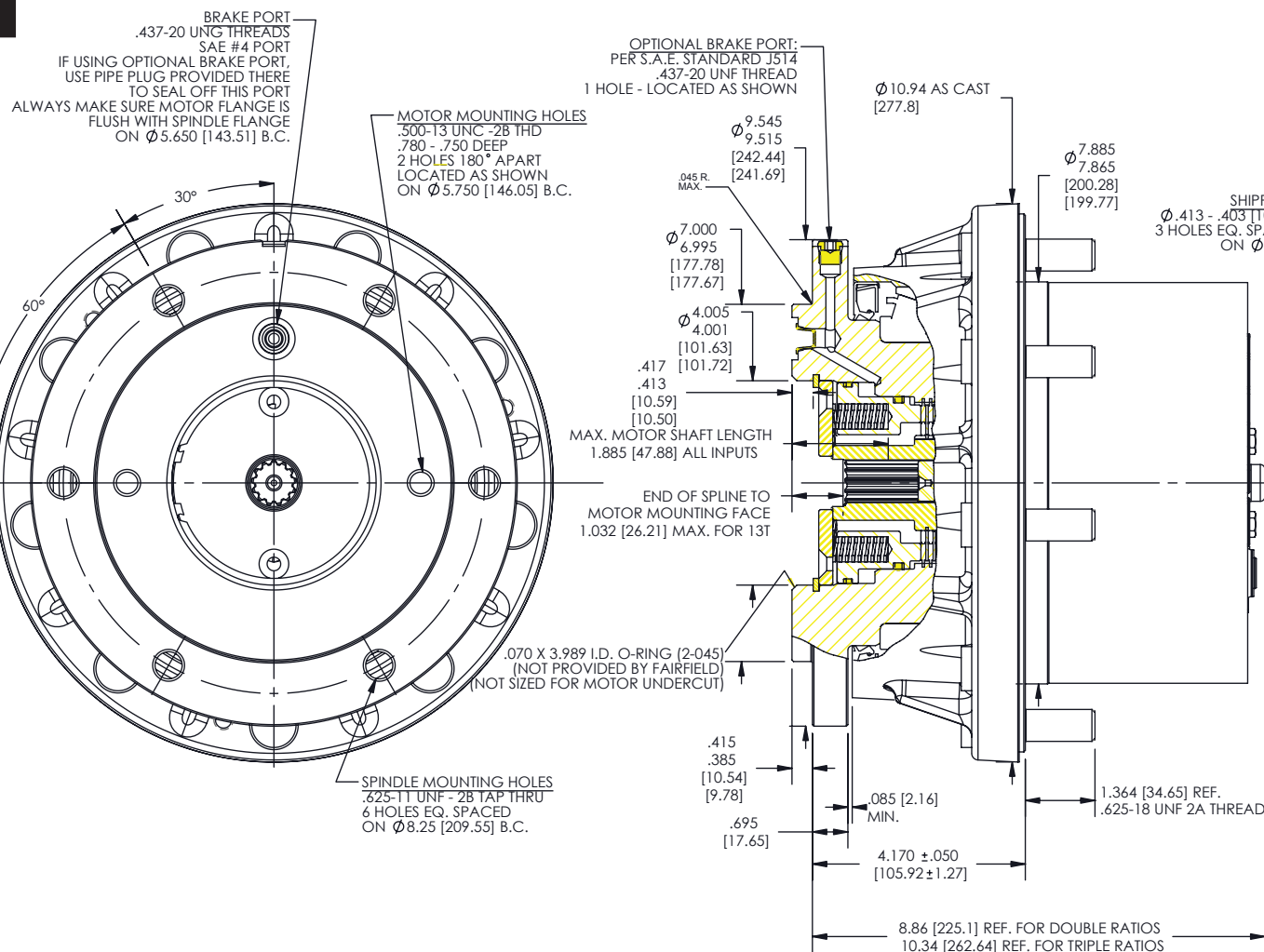
Motor Model Code

0A3 – SAE A pilot w/13T input
0B3 – SAE B pilot w/13T input

	Spindle		Hub	
	Flange Mounting Dia.	B.C. (6) 5/8 - 11 UNC 2B on 8.250 B.C.	Mounting Dia.	B.C. (9) .644/.641 on 9.500 B.C.
01	<u>7.000</u> 6.995		<u>7.885</u> 7.865	

03 03 is same as 01 with (2) 9/16-20 spindle side oil holes

7000 Series

7HBA**Application Sheet****TORQUE-HUB®**
Planetary Final Drives**oerlikon**
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Before final design request a certified print from Fairfield.

NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODELOTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

7HBA

Performance Data

Continuous	Intermittent	Peak
30,975 in-lbs	61,950 in-lbs	Contact Fairfield
2,581 ft-lbs	5,163 ft-lbs	
3,500 N-m	7,000 N-m	
357 kg-m	714 kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 5,000 RPM Maximum Intermittent

Weight

Approximately 110 lbs (50 kg)

Note: Specific models will change weights.

7HBA Model Formula

7 – 7000 Series Torque-Hub®

Output

H – Hub

Motor Input

A – SAE "A" motor mount

B – SAE "B" motor mount

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Spindle Brake

A – Integral 2200 lb-in

B – Integral 1900 lb-in

C – Integral 1600 lb-in

D – Integral 1400 lb-in

E – Integral 1250 lb-in

X – Brake Spindle: no brake included

Oil

Fill to half full with EP-90 oil on most applications.

Approximate Volume 23 oz. (680 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

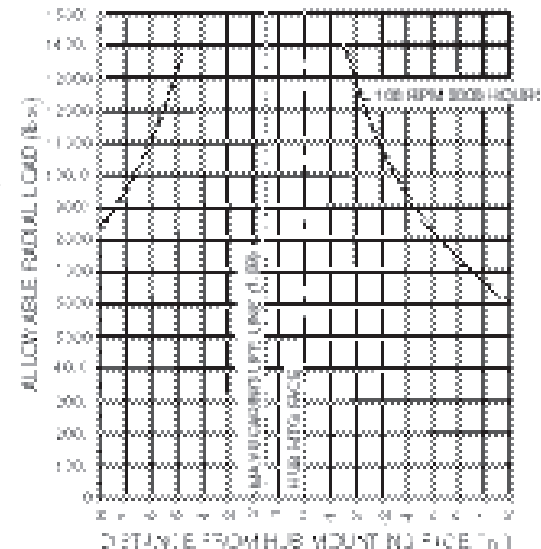
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{\left(\frac{10}{3} \right)}$$

Bearing Curve



7 H B A 01 0 0B3 0 048

Motor Model Code

0A3 – SAE A pilot w/13T input

0B3 – SAE B pilot w/13T input

Stud

0 – None

F – 5/8-18 by 2.437 in.

N – 1/2-20 by 2.437 in.

Reduction

019 – 18.78:1

024 – 24.40:1

029 – 29.24:1

036 – 35.91:1

048 – 47.60:1

057 – 57.49:1

Options

0 – None

Z – Seal Boot

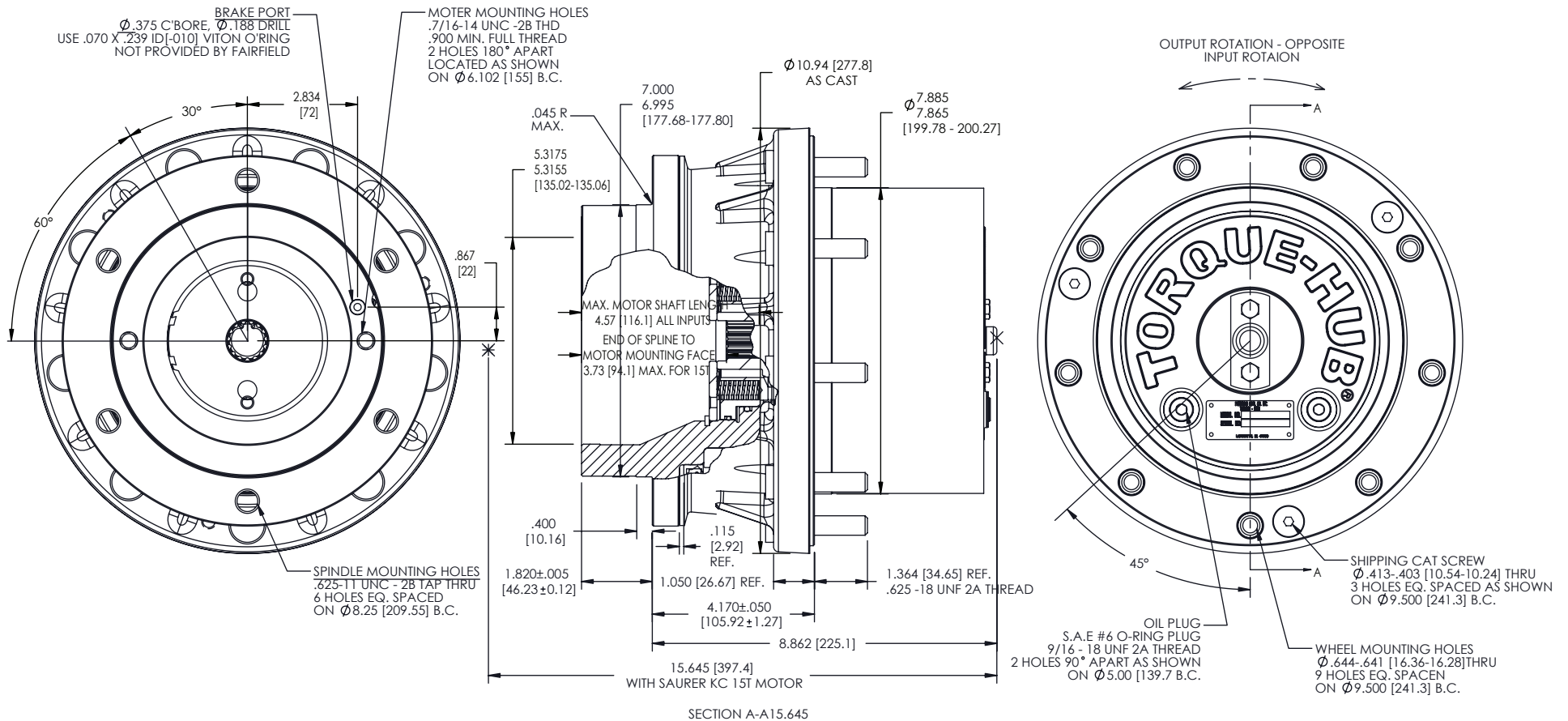
C – Cartridge Seal

B – Cartridge Seal & Seal Boot

	Spindle		Hub	
	Flange Mounting Dia.	B.C.	Mounting Dia.	B.C.
01	7.000 6.995	(6) 5/8 - 11 UNC 2B on 8.250 B.C.	7.885 7.865	(9) .644/.641 on 9.500 B.C.
04	Same as 01 with (2) spindle side #6 SAE o-ring plugs			

TORQUE-HUB[®]

Planetary Final Drives



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NOTE: MM SHOWN IN ()
 MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

7HPA

Performance Data

Continuous	Intermittent	Peak
30,975 in-lbs	61,950 in-lbs	Contact Fairfield
2,581 ft-lbs	5,163 ft-lbs	
3,500 N-m	7,000 N-m	
357 kg-m	714 kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 5,000 RPM Maximum Intermittent

Weight

Approximately 110 lbs (50 kg)

Note: Specific models will change weights.

Model Formula

7 – 7000 Series Torque-Hub®

Output

H – Hub

Motor Input

P – Cartridge Motor

Spindle Brake

A – Integral 2200 lb-in (KC Motor Only)
 F – Integral 1350 lb-in
 G – Integral 1100 lb-in
 X – Brake Spindle: no brake included

Stud

0 – None
 F – 5/8-18 by 2.437 in.
 N – 1/2-20 by 2.437 in.

Options

0 – None
 Z – Seal Boot
 C – Cartridge Seal
 B – Cartridge Seal w/Seal Boot

Oil

Fill to half full with EP-90 oil on most applications.

Approximate Volume 23 oz. (680 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

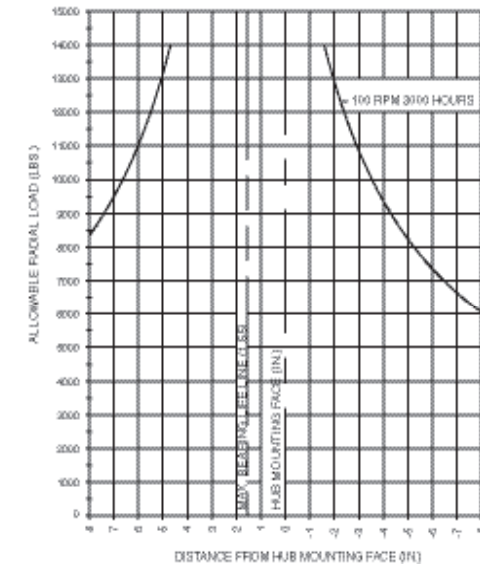
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{\frac{10}{3}}$$

Bearing Curve



7 H P F 01 0 ZZ3 0 057

With Motor:
Contact Fairfield Application Engineering.

ZZ3 – no motor, 13T, 01 spindle

ZZ8 – no motor, 15T, 02 spindle

Reduction

019 – 18.78:1
 024 – 24.40:1
 029 – 29.24:1
 036 – 35.91:1 (LC motor only)
 048 – 47.60:1 (LC motor only)
 057 – 57.49:1 (LC motor only)

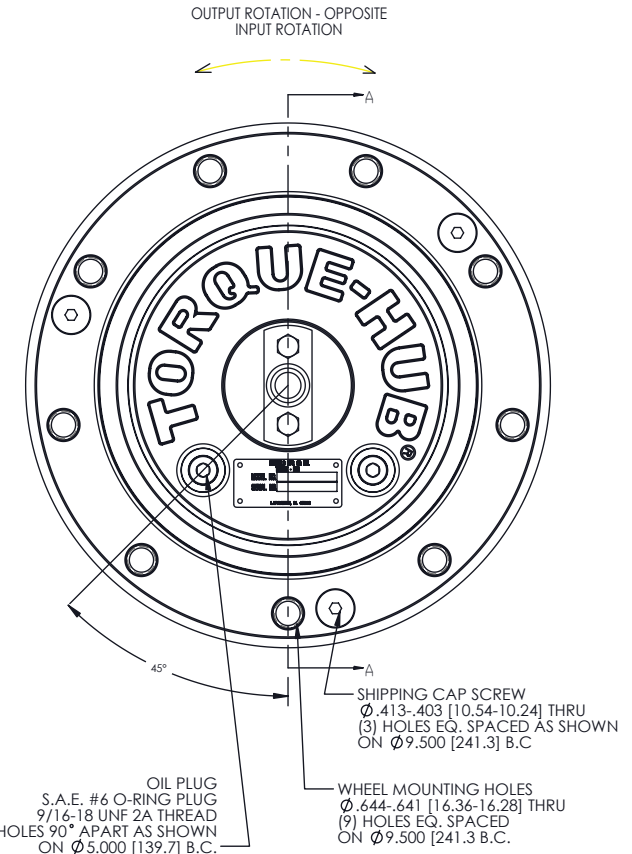
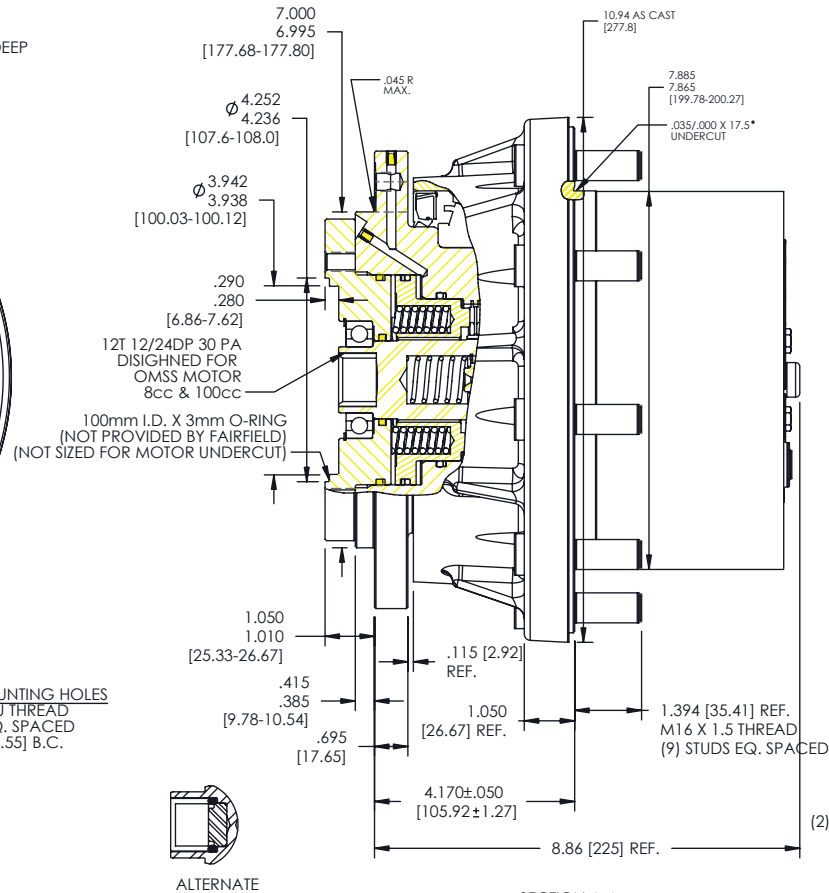
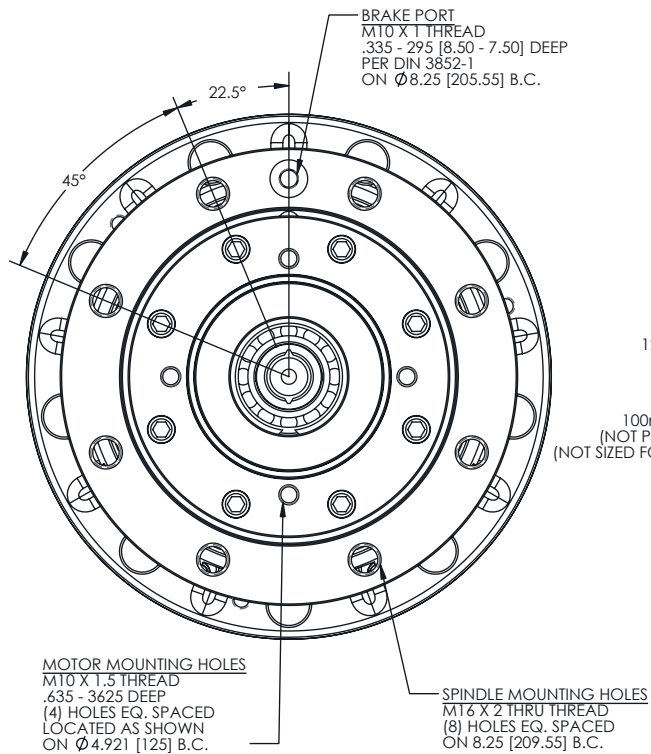
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	Spindle		Hub	
	Flange Mtg. Dia.	B.C.	Mounting Dia.	B.C.
01	<u>7.000</u> <u>177.78</u> 6.995 177.67	(6) 5/8 - 11 UNC 2B on 8.250 [209.55] B.C.	<u>7.885</u> <u>200.27</u> 7.865 199.78	(9) .644-.641 [16.36-16.28] on 9.500 [241.3] B.C.
02	Sauer LC Motor 13T Sauer KC Motor 15T input (mounting same as 01) 19:1, 24:1, and 29:1 ratios only			

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Planetary Final Drives**oerlikon**
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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODELOTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

7HLH

Performance Data

Continuous	Intermittent	Peak
30,975 in-lbs	61,950 in-lbs	Contact Fairfield
2,581 ft-lbs	5,163 ft-lbs	
3,500 N-m	7,000 N-m	
357 kg-m	714 kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 4,000 RPM Maximum Intermittent

Weight

Approximately 117lbs (53kg)

Note: Specific models will change weights.

7 HLH Model Formula

7 - 7000 Series

H - Hub Output

Motor Input

L - OMSS80 & OMSS100 Motor

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

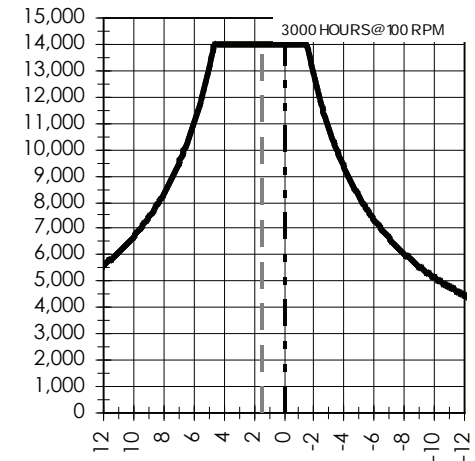
Life = 3,000 hours B10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{\left(\frac{10}{3} \right)}$$

Bearing Curve



DISTANCE FROM HUB MOUNTING FACE

7 H L H 02 Y ZZZ 0 048

Motor Model Code

ZZZ - 12T, 12/24 Spline

Options

0 - None
Z - Seal Boot
C - Cartridge Seal
B - Cartridge Seal
with Seal Boot

Reduction

019 - 18.78
024 - 24.40
029 - 29.24
036 - 35.91
048 - 47.60
057 - 57.49

Stud

0 - None
F - 5/18 - 18 x 2.437
N - 1/2 - 20 x 2.437
Y - M16 x 1.5

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Spindle			Hub	
Flange Mounting Dia.	B.C.		Mounting Diameter	B.C.
02	7.000/6.995	(8) M16 x 2 on 8.25 B.C.	7.885/7.865	(9) .644/.641 on 9.50 B.C.

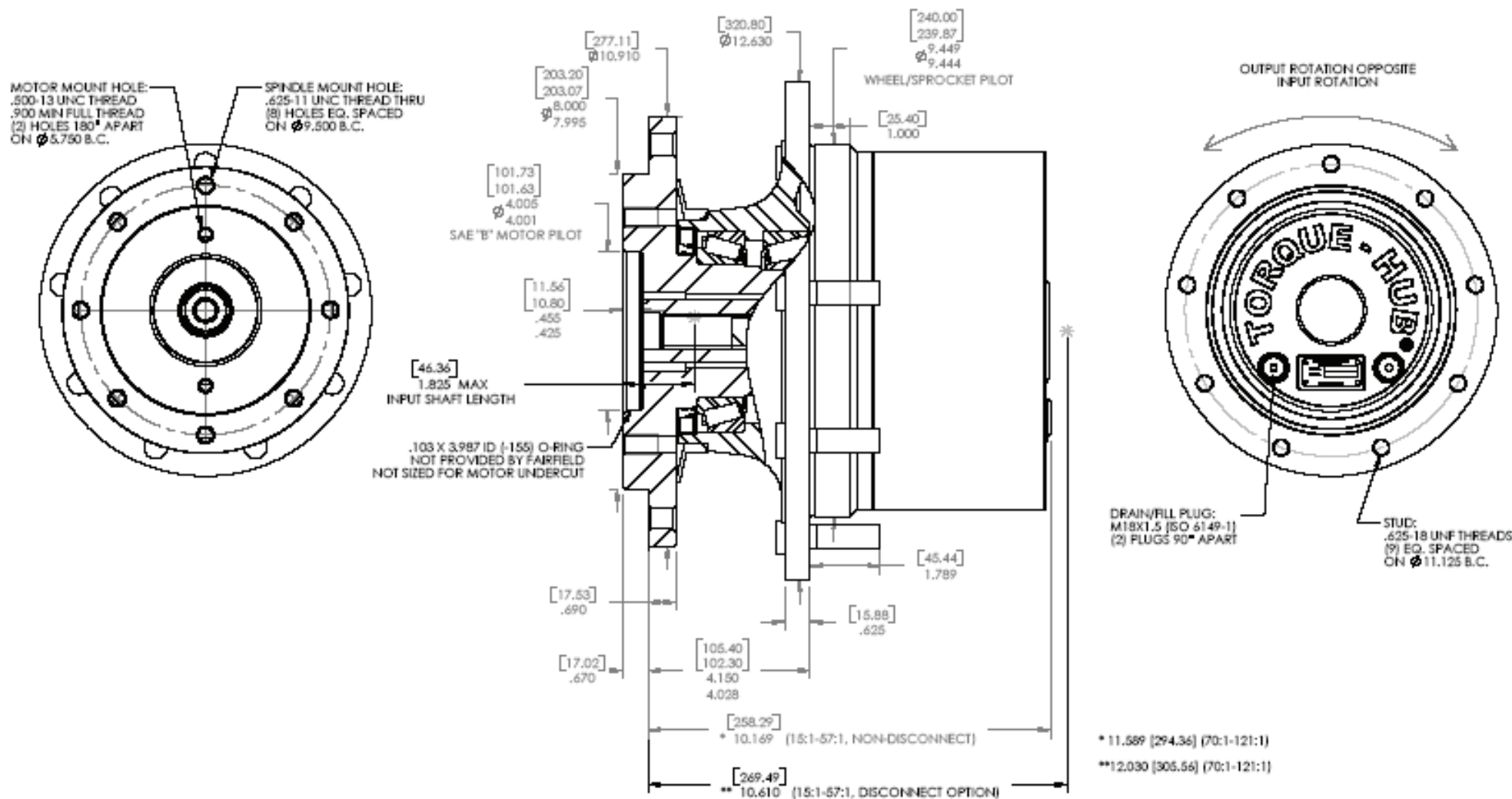
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11000 Series

11HB0

Application Sheet

TORQUE-HUB®
Planetary Final Drives



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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

11HBO

Performance Data

Continuous	Intermittent	Peak
5,500 Nm	11,000 Nm	Contact Fairfield
48,675 lb-in	97,350 lb-in	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 5,000 RPM Maximum Intermittent

Weight

Approximately: 142 lbs (64 kg)

Note: Specific models will change weights.

11HB0 Model Formula

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 30.5 (902 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

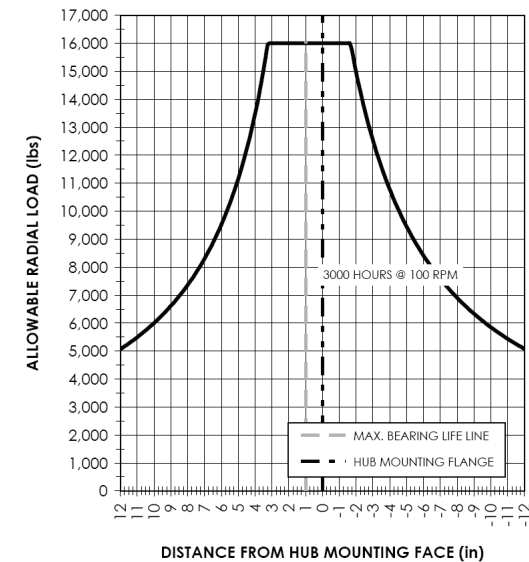
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{\left(\frac{10}{3} \right)}$$

Bearing Curve



11 – 11000 Series Torque Hub

Output

H – Hub

Motor Input

B – SAE "B" motor mount

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Spindle Brake

0 – No Brake Cavity

Studs

0 – None
F – 5/8-18 by 2.437"

Disengage

0 – None
G – Disengage

Special Option

0 – None

Input Splines

3 – 13T 16/32
8 – 15T 16/32

Reduction

015 – 14.88:1
018 – 17.97:1
021 – 21.14:1
026 – 26.02:1
030 – 29.62:1
036 – 35.92:1
041 – 40.84:1
048 – 47.60:1
057 – 57.49:1

Options

0 – None
Z – Seal Boot

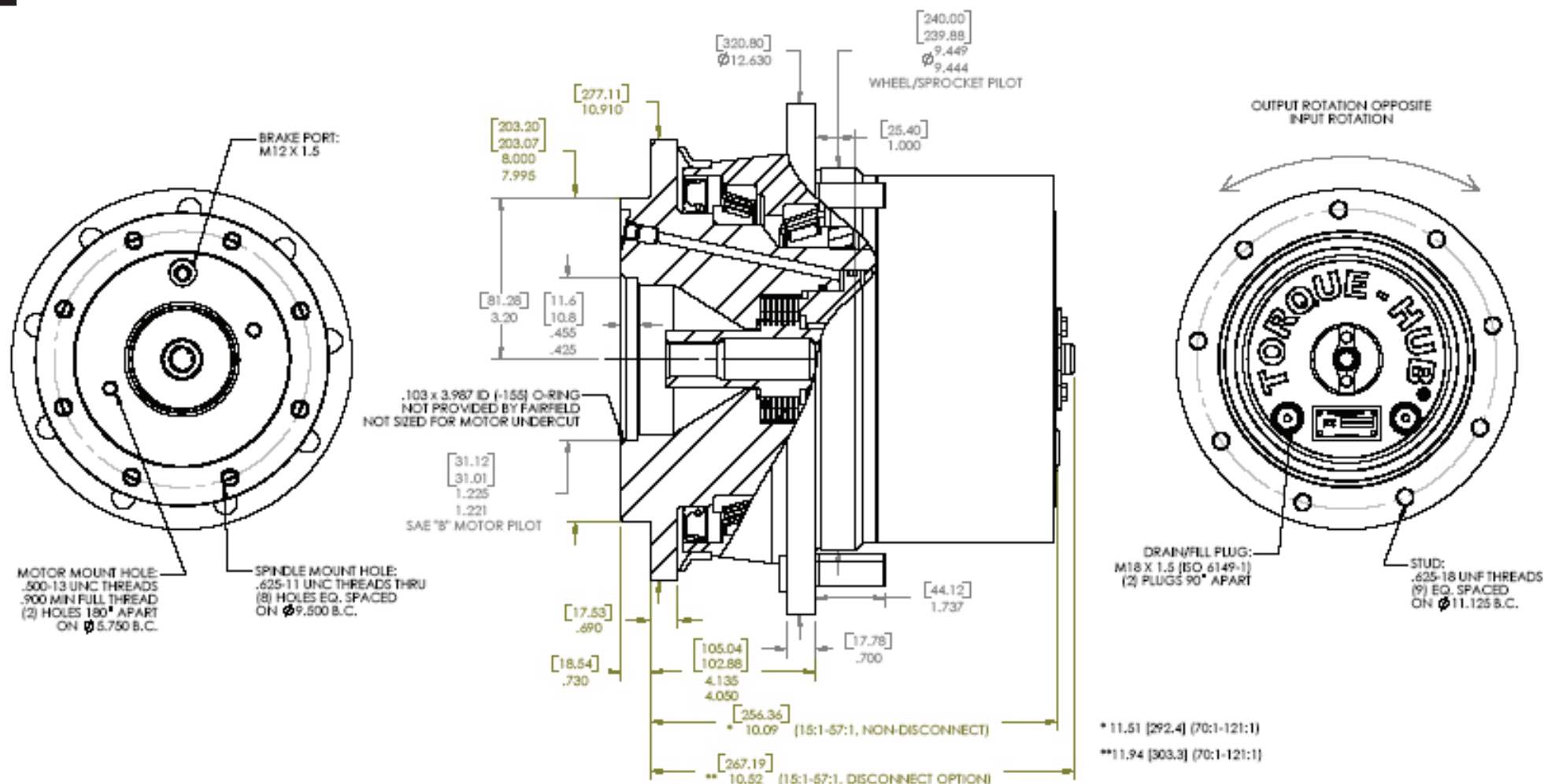
Spindle		Hub	
Flange Mtg. Dia.	B.C.	Mounting Dia.	B.C.
03 <u>8.000</u> [203.20] 7.995 [203.07]	(8) .625-11 UNC 2B on 9.500 [241.3] B.C.	9.449 [240.00] 9.444 [239.88]	(9) .642/.639 [16.31-16.23] holes on 11.125 [282.58] B.C.
04	Same as 03 with (2) spindle side oil plugs		

11000 Series

11HBA

Application Sheet

TORQUE-HUB.
Planetary Final Drives



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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

11HBA

Performance Data

Continuous	Intermittent	Peak
5,500 Nm 48,675 lb-in	11,000 Nm 97,350 lb-in	Contact Fairfield

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 5,000 RPM Maximum Intermittent

Weight

Approximately: 170 lbs (77 kg)

Note: Specific models will change weights.

Model Formula

Oil

Fill to half full with EP-90 oil on most applications.

Approximate Volume: 30.5 oz. (902 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

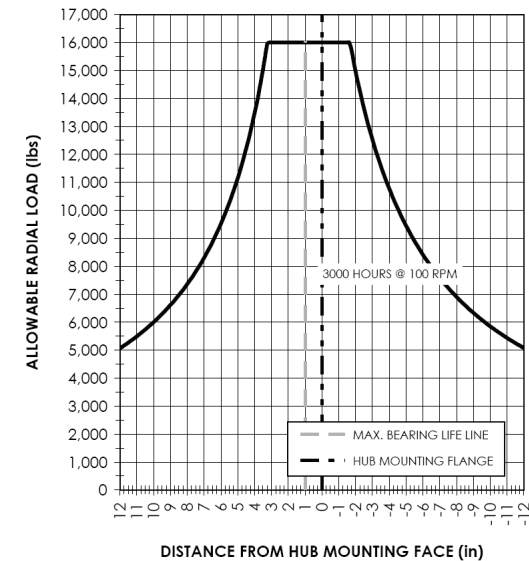
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{\left(\frac{10}{3} \right)}$$

Bearing Curve



11 – 11000 Series Torque Hub

Output

H – Hub

Motor Input

B – SAE "B" motor mount

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Spindle Brake

- A – Integral 2500 lb-in [283 N.m]
- B – Integral 2000 lb-in [226 N.m]
- C – Integral 1500 lb-in [170 N.m]
- D – Integral 1000 lb-in [113 N.m]
- X – Empty Brake Cavity

Disengage

0 – None

G – Disengage

Special Option

0 – None

Input Splines

3 – 13T 16/32

8 – 15T 16/32

Studs

0 – None

F – 5/8-18 by 2.437"

Reduction

015 – 14.88:1

018 – 17.97:1

021 – 21.14:1

026 – 26.02:1

030 – 29.62:1

036 – 35.92:1

041 – 40.84:1

048 – 47.60:1

057 – 57.49:1

Options

0 – None

Z – Seal Boot

C – Cartridge Seal

B – Cartridge Seal with Boot

Spindle		Hub	
Flange Mtg. Dia.	B.C.	Mounting Dia.	B.C.
02 8.000 [203.20] 7.995 [203.07]	(8) .625-11 UNC 2B on 9.500 [241.3] B.C.	9.449 [240.00] 9.444 [239.88]	(9) .642/.639 [16.31-16.23] holes on 11.125 [282.58] B.C.

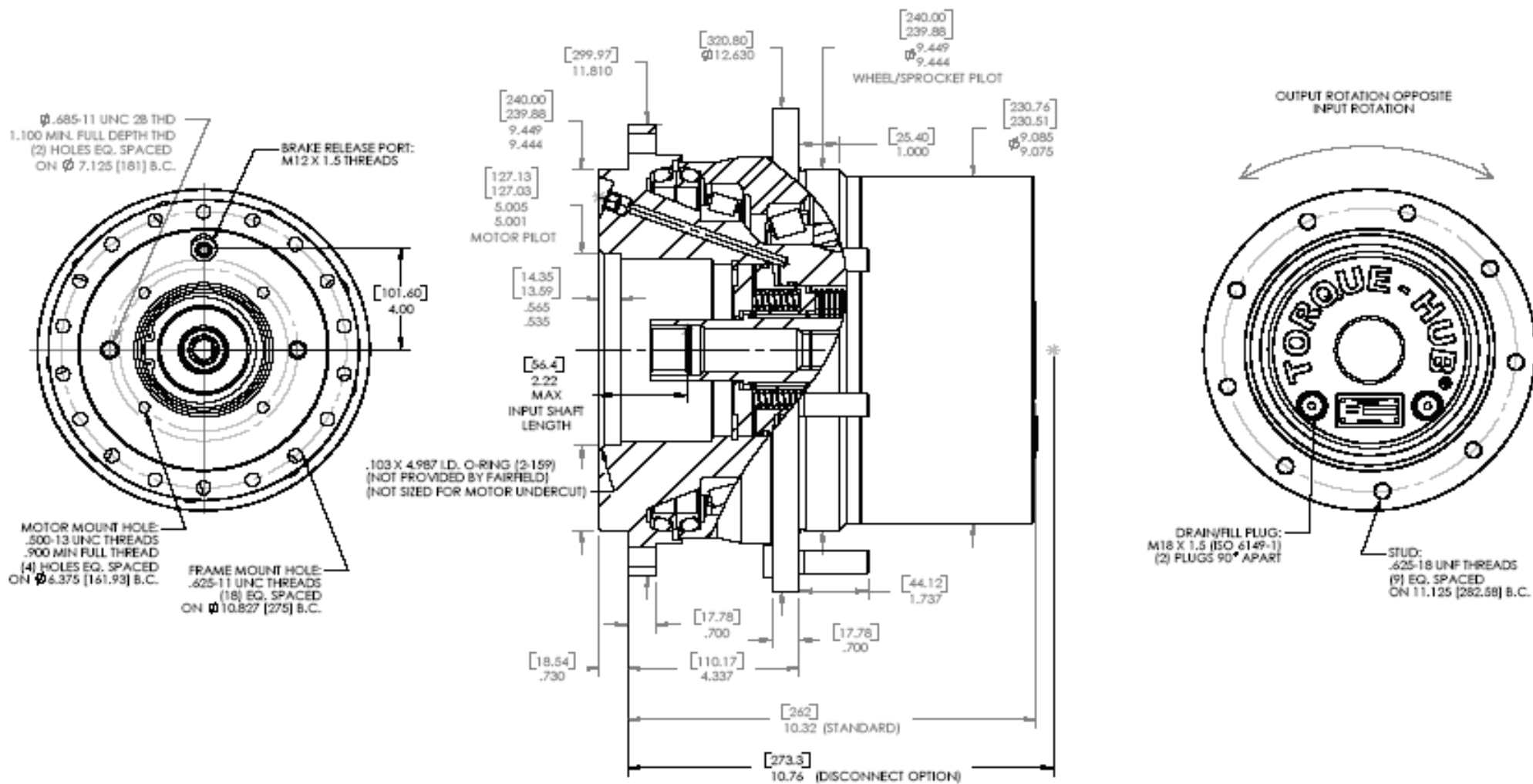
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11000 Series

11HCE

Application Sheet

TORQUE-HUB.
Planetary Final Drives



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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

11HCE

Performance Data

Continuous	Intermittent	Peak
5,500 Nm 48,675 lb-in	11,000 Nm 97,350 lb-in	Contact Fairfield

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 5,000 RPM Maximum Intermittent

Weight

Approximately: 172 lbs (77 kg)

Note: Specific models will change weights.

Model Formula

11 – 11000 Series Torque Hub

Output

H – Hub

Motor Input

C – SAE "C" motor mount

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Oil

Fill to half full with EP-90 oil on most applications.

Approximate Volume: 30.5 oz. (902 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

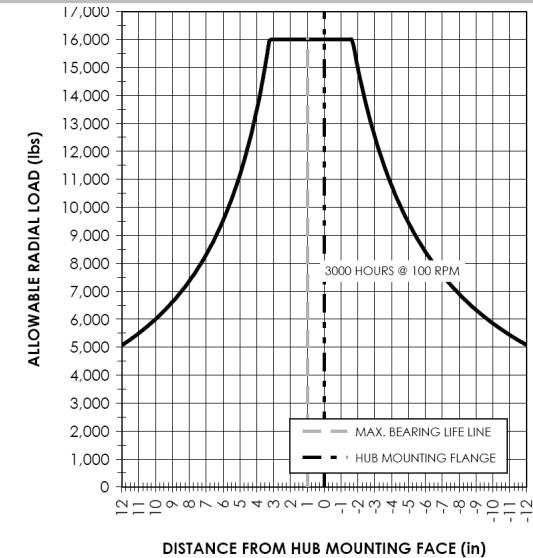
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{\left(\frac{10}{3} \right)}$$

Bearing Curve



11 H C E 01 0 4 0 0 0 015

Reduction

015 – 14.88:1
018 – 17.97:1
021 – 21.14:1
026 – 26.02:1
030 – 29.62:1

Disengage

0 – None
G – Disengage

Special Option

0 – None

Input Splines

4 – 14T 12/24

Studs

0 – None
F – 5/8-18 by 2.437"

Options

0 – None

Spindle Brake

E – Integral 3200 lb-in [362 Nm]
F – Integral 2560 lb-in [280 Nm]
G – Integral 1925 lb-in [218 Nm]
H – Integral 1280 lb-in [145 Nm]
X – Empty Brake Cavity

	Spindle		Hub	
	Flange Mtg. Dia.	B.C.	Mounting Dia.	B.C.
01	9.449 [240.00] 9.444 [239.88]	(18) .625-11 UNC 2B on 10.827 [275] B.C.	9.449 [240.00] 9.444 [239.88]	(9) .642-.639 [16.31-16.23] on 11.125 [282.58] B.C.

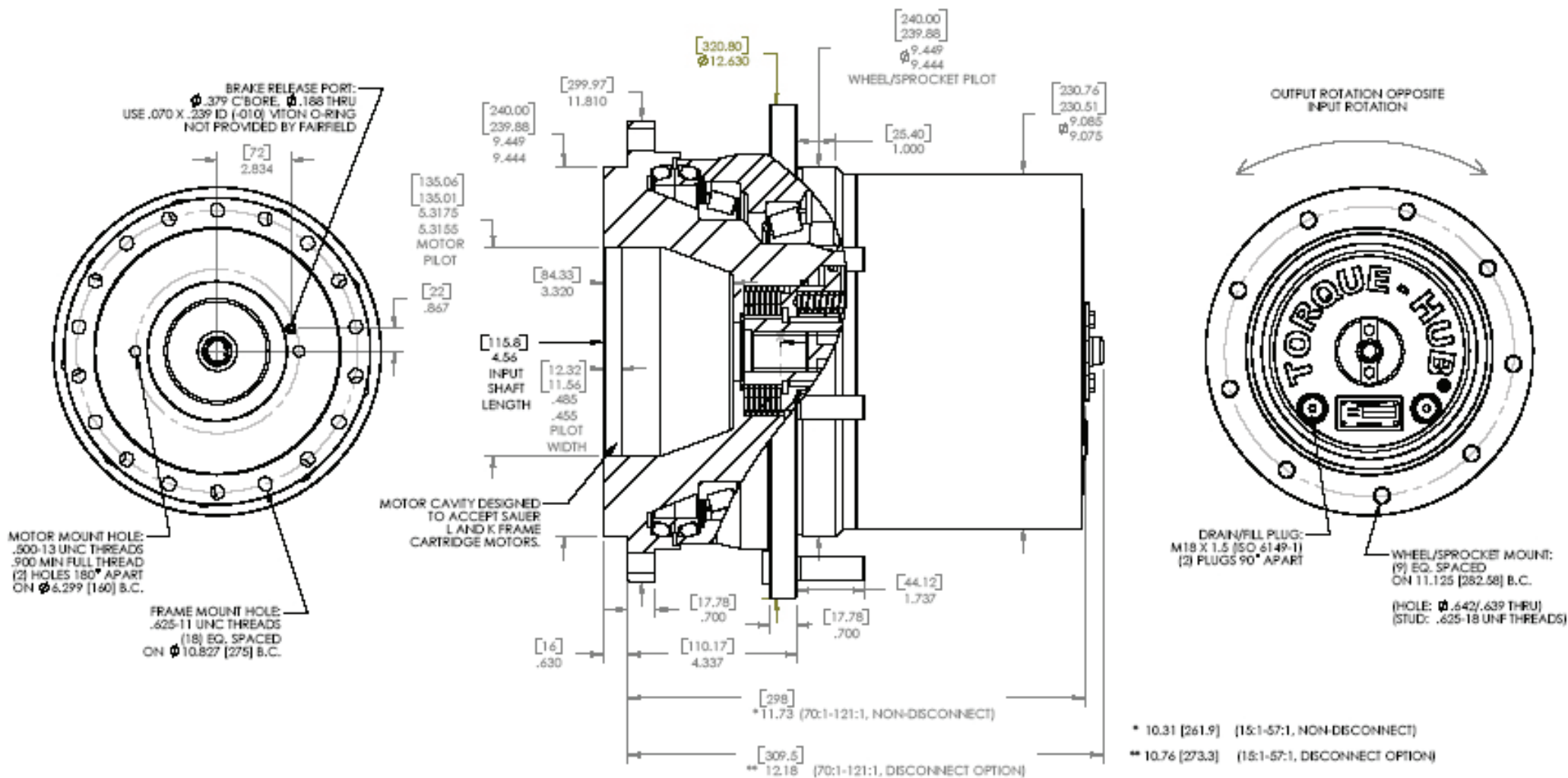
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11000 Series

11HPA

Application Sheet

TORQUE-HUB.
Planetary Final Drives



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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

11HPA

Performance Data

Continuous	Intermittent	Peak
5,500 Nm	11,000 Nm	Contact Fairfield
48,675 lb-in	97,350 lb-in	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 5,000 RPM Maximum Intermittent

Weight

Approximately: 188 lbs (85 kg)

Oil

Fill to half full with EP-90 oil on most applications.

Approximate Volume: 30.5 oz. (902 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

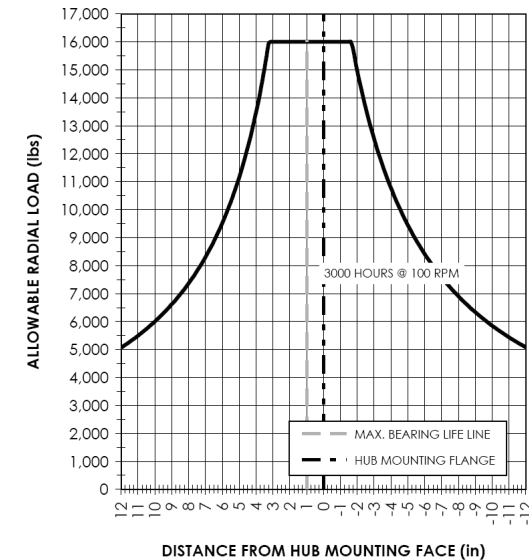
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{\left(\frac{10}{3} \right)}$$

Bearing Curve



11HPA Model Formula

11 H P A 11 0 8 0 G 0 015

11 – 11000 Series Torque Hub

Output

H – Hub

Motor Input

P – Cartridge Motor

Spindle Brake

Sauer LC and KC Motor Cavity

A – Integral 2500 lb-in [283 N.m]

B – Integral 2000 lb-in [226 N.m]

C – Integral 1500 lb-in [170 N.m]

D – Integral 1000 lb-in [113 N.m]

X – Empty Brake Cavity

Disengage

0 – None

G – Disengage

Special Option

0 – None

Input Splines

3 – 13T 16/32

8 – 15T 16/32

Studs

0 – None

F – 5/8-18 by 2.437" (11HPA11 only)

1 – 3/4 - 16 by 2.53" (11HPA13 only)

Reduction

015 – 14.88:1

018 – 17.97:1

021 – 21.14:1

026 – 26.02:1

030 – 29.62:1

036 – 35.92:1

041 – 40.84:1

048 – 47.60:1

057 – 57.49:1

070 – 70.48:1

084 – 84.38:1

099 – 98.61:1

121 – 120.60:1

Options

0 – None

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	Spindle		Hub	
	Flange Mtg. Dia.	B.C.	Mounting Dia.	B.C.
11	9.449 [240.00] 9.444 [239.88]	(18) .625-11 UNC 2B on 10.827 [275] B.C.	9.449 [240.00] 9.444 [239.88]	(9) .642/.639 THRU on 11.125 [275] B.C.
13	8.000 [203.20] 7.995 [203.07]	(8) .625 -11 UNC on 9.5000 B.C.	11.020 [279.91] 11.000 [279.40]	(10) .861/.857 THRU on 13.187 B.C.
14	8.000 [203.20] 7.995 [203.07]	(8) .625-11 UNC on 9.5000 B.C.	9.449 [240.00] 9.444 [239.88]	(12) .625 - UNC on 10.73 B.C.

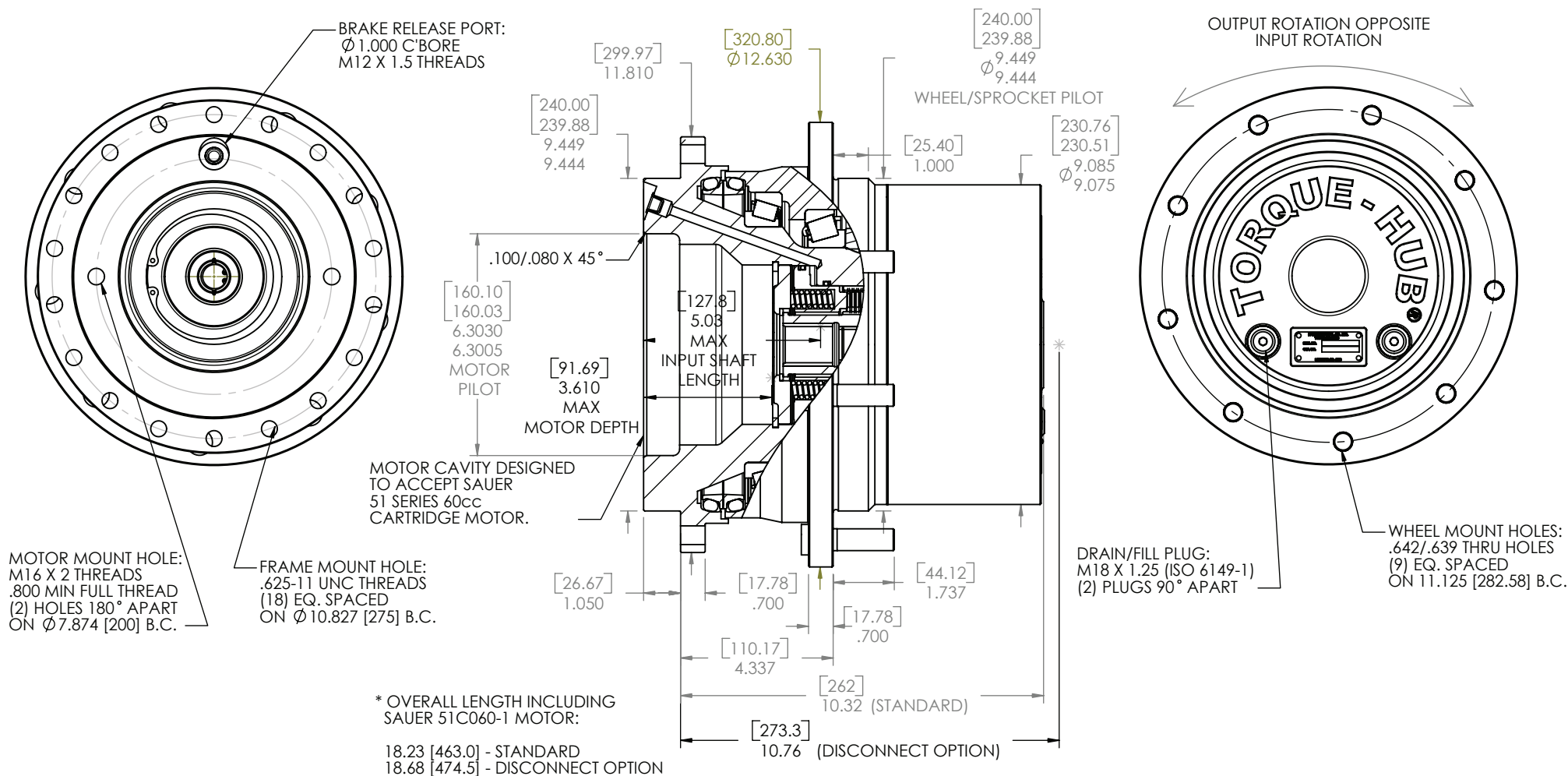
Torque-Hub is a registered trademark of Fairfield.
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11000 Series

11HPE

Application Sheet

TORQUE-HUB®
Planetary Final Drives



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Catalog prints are representative of the units.

Before final design request a certified print from Fairfield.

NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

11HPE

Performance Data

Continuous	Intermittent	Peak
5,500 Nm	11,000 Nm	Contact Fairfield
48,675 lb-in	97,350 lb-in	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 5,000 RPM Maximum Intermittent

Weight

Approximately: 172 lbs (77 kg)

Note: Specific models will change weights.

Model Formula

11 – 11000 Series Torque Hub

Output

H – Hub

Motor Input

P – Cartridge Motor

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Oil

Fill to half full with EP-90 oil on most applications.

Approximate Volume: 30.5 oz. (902 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

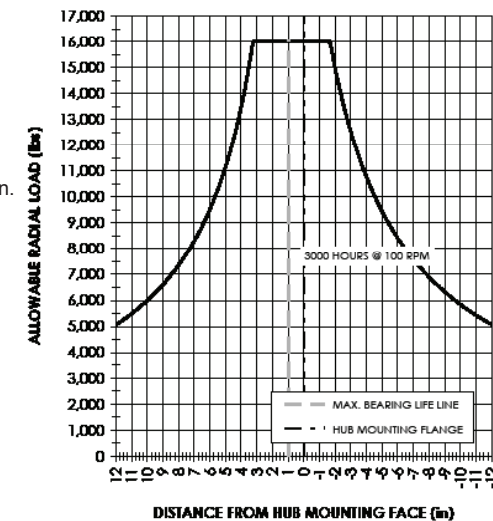
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{\left(\frac{10}{3} \right)}$$

Bearing Curve



11 H P E 21 0 4 0 G 0 015

Disengage

0 – None

G – Disengage

Special Option

0 – None

Input Splines

4 – 14T 12/24

Z – W30x2x14x9g DIN 5480

Studs

0 – None

F – 5/8-18 by 2.437"

Reduction

015 – 14.88:1

018 – 17.97:1

021 – 21.14:1

026 – 26.02:1

030 – 29.62:1

Options

0 – None

Spindle Brake

Sauer 51 Series 60cc Motor Cavity

E - Integral 3200 lb-in [362 N.m]

F - Integral 2560 lb-in [280 N.m]

G - Integral 1925 lb-in [218 N.m]

H - Integral 1280 lb-in [145 N.m]

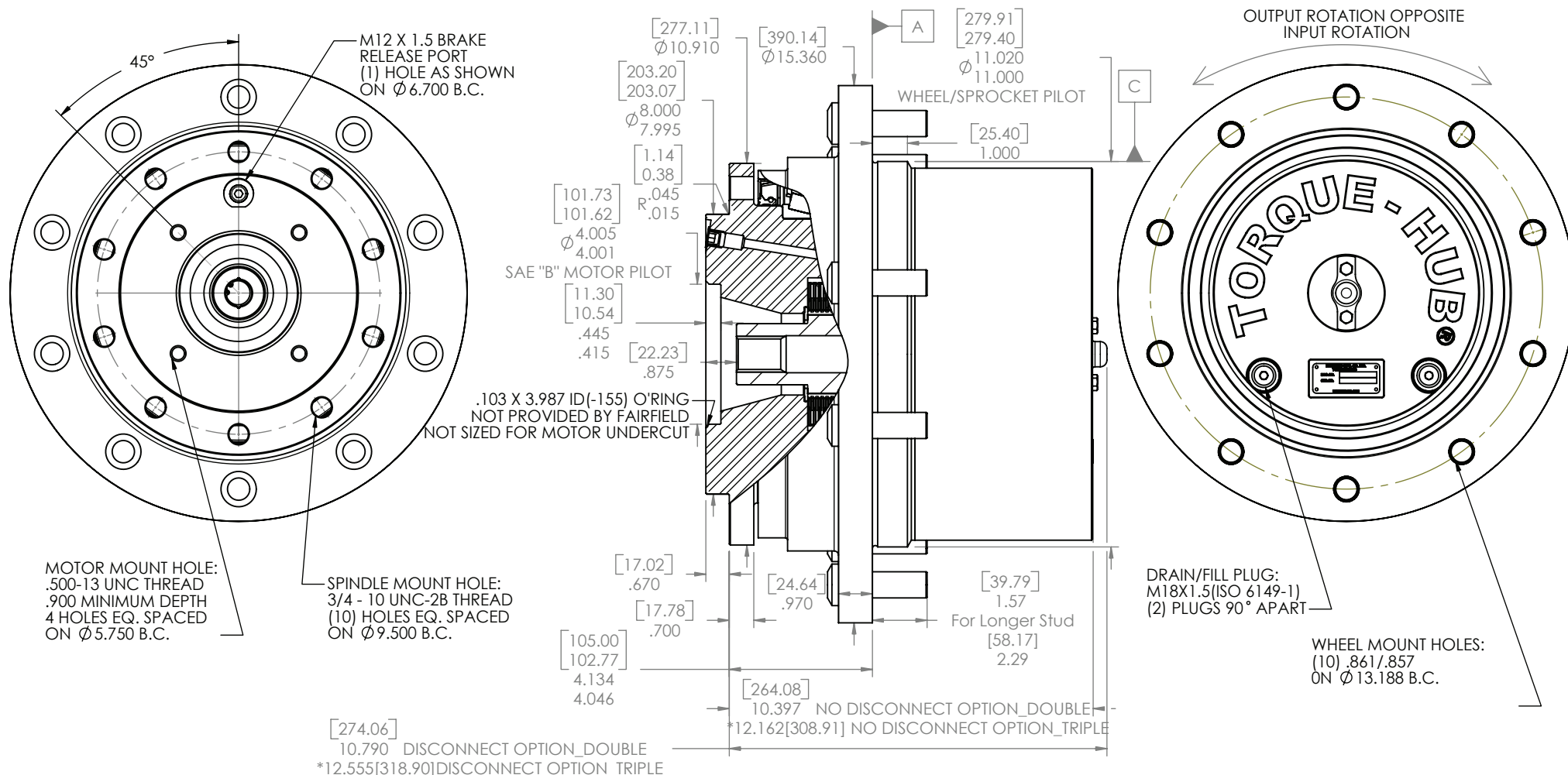
X - Empty Brake Cavity

	Spindle		Hub	
	Flange	B.C.	Mounting	B.C.
	Mtg. Dia.		Dia.	
21	9.449 [240.00]	(18) .625-11 UNC 2B	9.449 [240.00]	(9) .642-.639 [16.31-16.23]
	9.444 [239.88]	on 10.827 [275] B.C.	9.444 [239.88]	on 11.125 [282.58] B.C.

18000 Series

18HBA Application Sheet

TORQUE-HUB®
Planetary Final Drives



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Catalog prints are representative of the units.

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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

18HBA

Performance Data

Continuous	Intermittent	Peak
9,000 Nm	18,000 Nm	Contact Fairfield
79,650 lb-in	159,300 lb-in	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 5,000 RPM Maximum Intermittent

Weight

Approximately: 225 lbs (102 kg)

Note: Specific models will change weights.

Model Formula

18 – 18000 Series Torque Hub

Output

H – Hub

Motor Input

B – SAE "B" motor mount

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Oil

Fill to half full with EP-90 oil on most applications.

Approximate Volume: 50 oz. (1,479 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

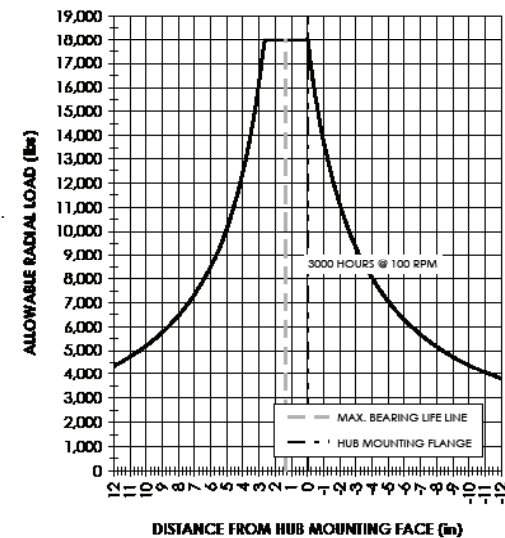
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{\left(\frac{10}{3} \right)}$$

Bearing Curve



18 H B A 02 0 8 0 G 0 048

Reduction

015	– 14.88:1
018	– 17.97:1
021	– 21.14:1
025	– 24.92:1
029	– 29.24:1
036	– 35.92:1
041	– 40.84:1
048	– 47.60:1
057	– 57.49:1
079	– 78.99:1 (T)
099	– 98.61:1 (T)
121	– 120.60:1 (T)

Options

0	– None
Z	– Seal Boot

Disengage

0 – None

G – Disengage

Special Option

0 – None

Input Splines

3 – 13T 16/32

8 – 15T 16/32

Studs

0 – None

1 – .750-16 UNC by 2.53"

8 – .750-16 UNC by 3.25"

Spindle Brake

A – Integral 5000 lb-in [565 Nm]

B – Integral 4250 lb-in [480 Nm]

C – Integral 3400 lb-in [385 Nm]

D – Integral 2940 lb-in [352 Nm]

X – Empty Brake Cavity

	Spindle		Hub	
	Flange Mtg. Dia.	B.C.	Mounting Dia.	B.C.
02	8.000 [203.20] 7.995 [203.07]	(10) .750-16 UNC-2A on 9.500 [241.3] B.C.	11.020 [279.91] 11.000 [279.40]	(10) .861/.857 THRU on 13.188 [335] B.C.

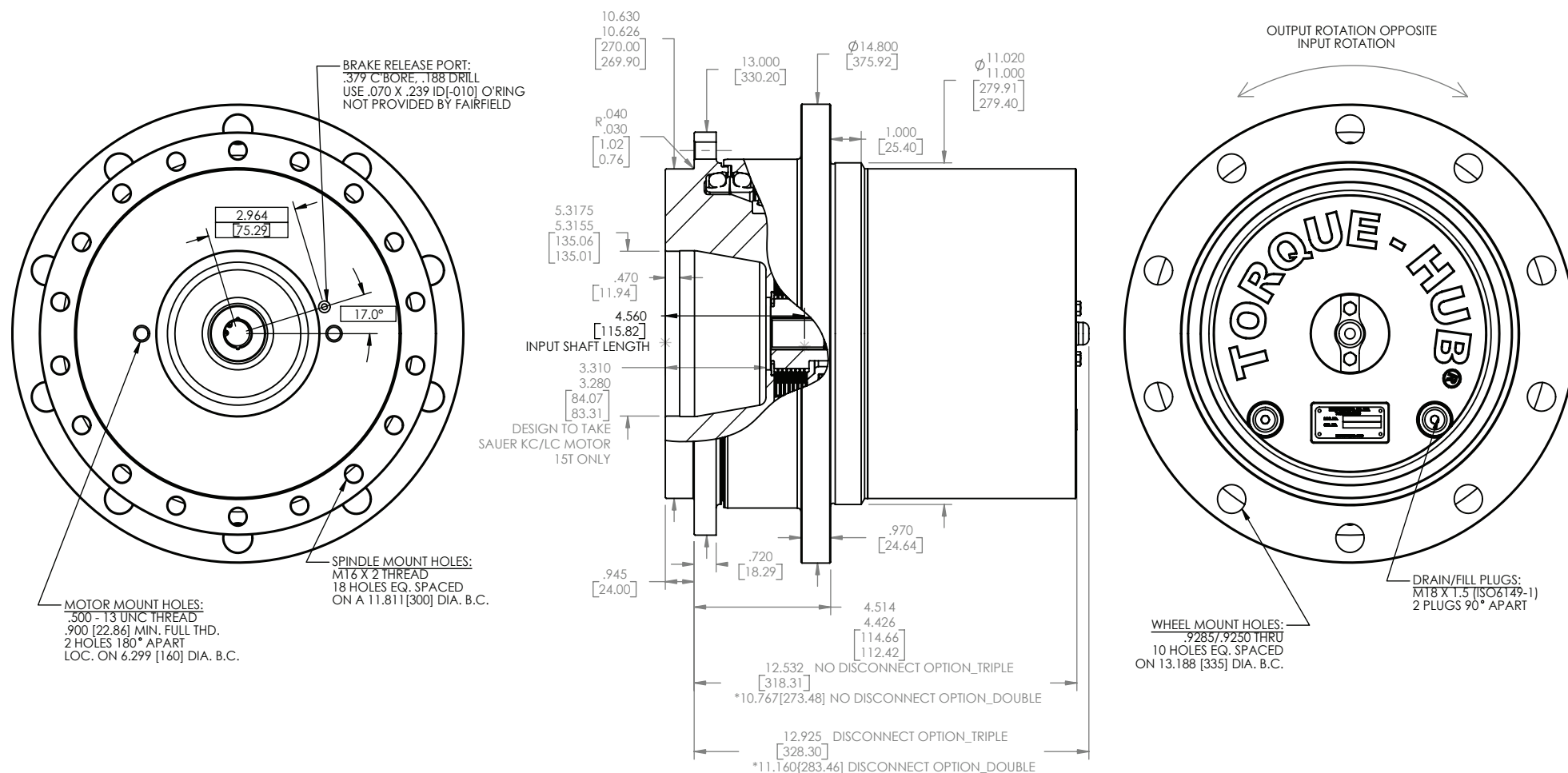
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18000 Series

18HPA1

Application Sheet

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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

18HPA1

Performance Data		
Continuous	Intermittent	Peak
9,000 Nm	18,000 Nm	Contact Fairfield
79,650 lb-in	159,300 lb-in	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations
Input Speed: 5,000 RPM Maximum Intermittent

Weight
Approximately: 272 lbs (123 kg)

Note: Specific models will change weights.

18HPA Model Formula

18 – 18000 Series Torque Hub

Output

H – Hub

Motor Input

P – Cartridge Motor



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Oil
Fill to half full with EP-90 oil on most applications.
Approximate Volume: 50 oz. (1,479 cm ³)

Note: Oil level and type will vary with specific model and application.

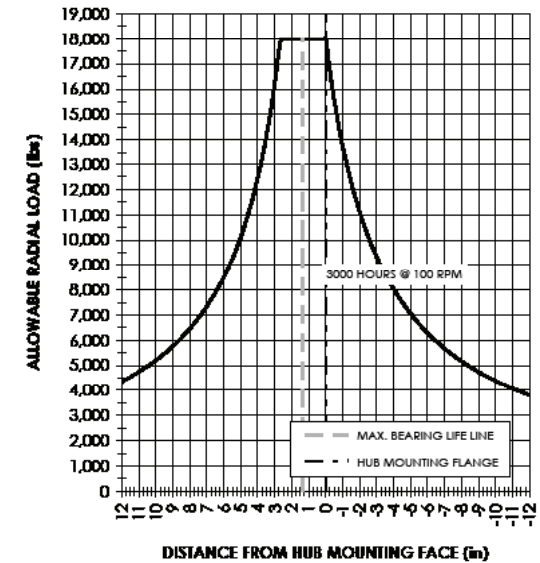
Conditions of Bearing Curve

Life = 3,000 hours B-10
Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

Adjusted Life (hrs) = 3,000 $\left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$

Bearing Curve



18 H P A 1 1 0 8 0 G 0 048

Reduction	
015	– 14.88:1
018	– 17.97:1
021	– 21.14:1
025	– 24.92:1
029	– 29.24:1
036	– 35.92:1
041	– 40.84:1
048	– 47.60:1
057	– 57.49:1

Disengage
0 – None
G – Disengage

Special Option
0 – None

Input Splines
3 - 13T 16/32
8 - 15T 16/32

Studs
0 – None
H – M22 x 1.5 – 6g by 80.5mm

Options
0 – None
Z – Seal Boot

Spindle Brake
A – Integral 5000 lb-in [565 Nm]
B – Integral 4250 lb-in [480 Nm]
C – Integral 3400 lb-in [385 Nm]
D – Integral 2940 lb-in [332 Nm]
X – Empty Brake Cavity

Motor Cavity
1 - Saurer LC and KC

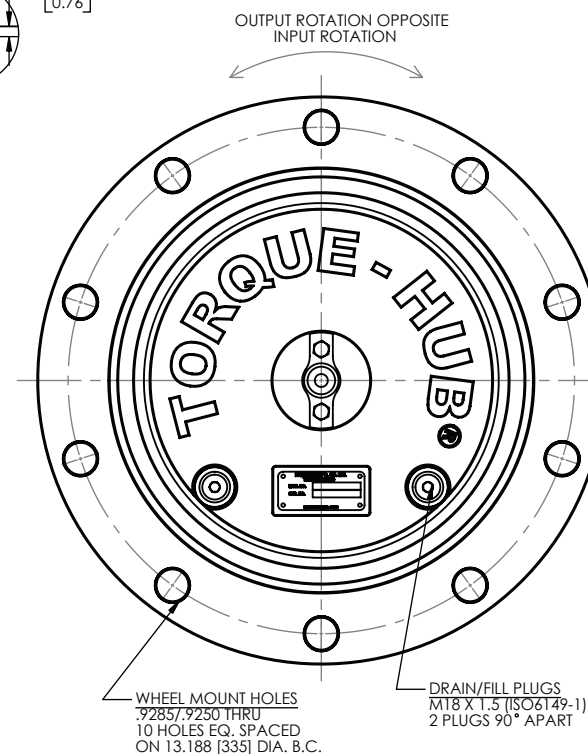
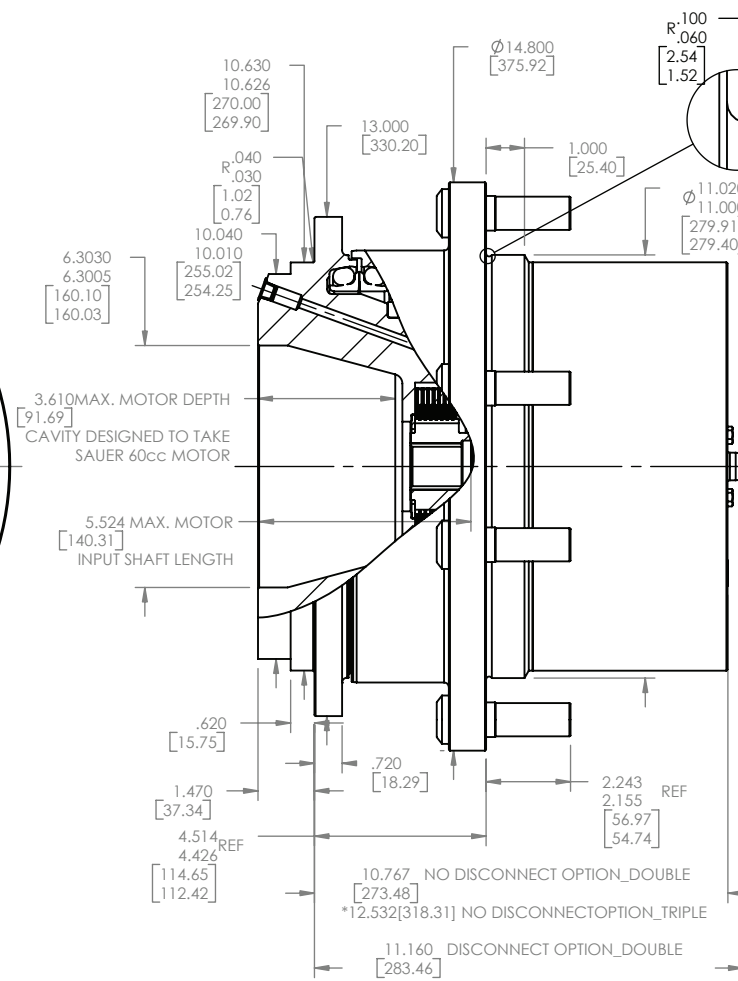
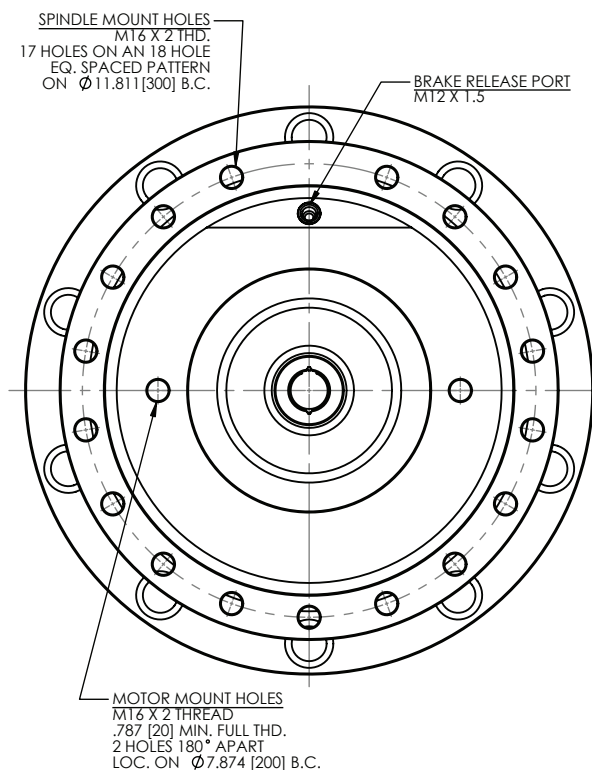
Spindle		Hub	
Flange	B.C.	Mounting	B.C.
Mtg. Dia.		Dia.	
10.630 270.00	(17 on 18 hole pattern)	11.020 279.91	(10) .929/.925 THRU
10.626 269.90	M16 x 2 Thread	11.000 279.40	on 13.187 [335] B.C.
	on 11.811 [300] B.C.		

Series

18HPA2

Application Sheet

TORQUE-HUB®
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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

18HPA2

Performance Data

Continuous	Intermittent	Peak
9,000 Nm	18,000 Nm	Contact Fairfield
79,650 lb-in	159,300 lb-in	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 5,000 RPM Maximum Intermittent

Weight

Approximately: 255 lbs (116 kg)

Oil

Fill to half full with EP-90 oil on most applications.

Approximate Volume: 50 oz. (1,479 cm³)

Note: Oil level and type will vary with specific model and application.

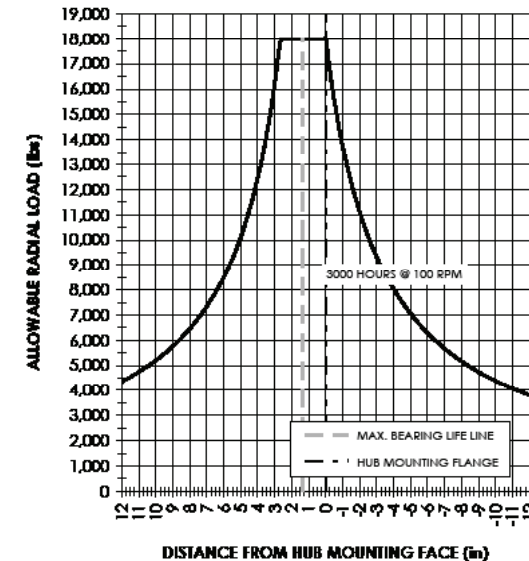
Conditions of Bearing Curve

Life = 3,000 hours B-10
Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{\frac{10}{3}}$$

Bearing Curve



Model Formula

18 H P A 2 1 0 A 0 G 0 048

18 – 18000 Series Torque Hub

Output

H – Hub

Motor Input

P – Cartridge Motor

Spindle Brake

A – Integral 5000 lb-in [565 Nm]
B – Integral 4250 lb-in [480 Nm]
C – Integral 3400 lb-in [385 Nm]
D – Integral 2940 lb-in [332 Nm]
X – Empty Brake Cavity

Motor Cavity

2 – Saurer 51 Series 60cc

Disengage

0 – None

G – Disengage

Special Option

0 – None

Input Splines

A – W30 x 2 x 14x 9g

Studs

0 – None

H – M22 x 1.5 – 6g by 80.5mm

Reduction

015 – 14.88:1

018 – 17.97:1

021 – 21.14:1

025 – 24.92:1

029 – 29.24:1

036 – 35.92:1

041 – 40.84:1

048 – 47.60:1

057 – 57.49:1

079 – 78.99:1 (T)

099 – 98.61:1 (T)

121-120.60:1 (T)

Options

0 – None

Z – Seal Boot

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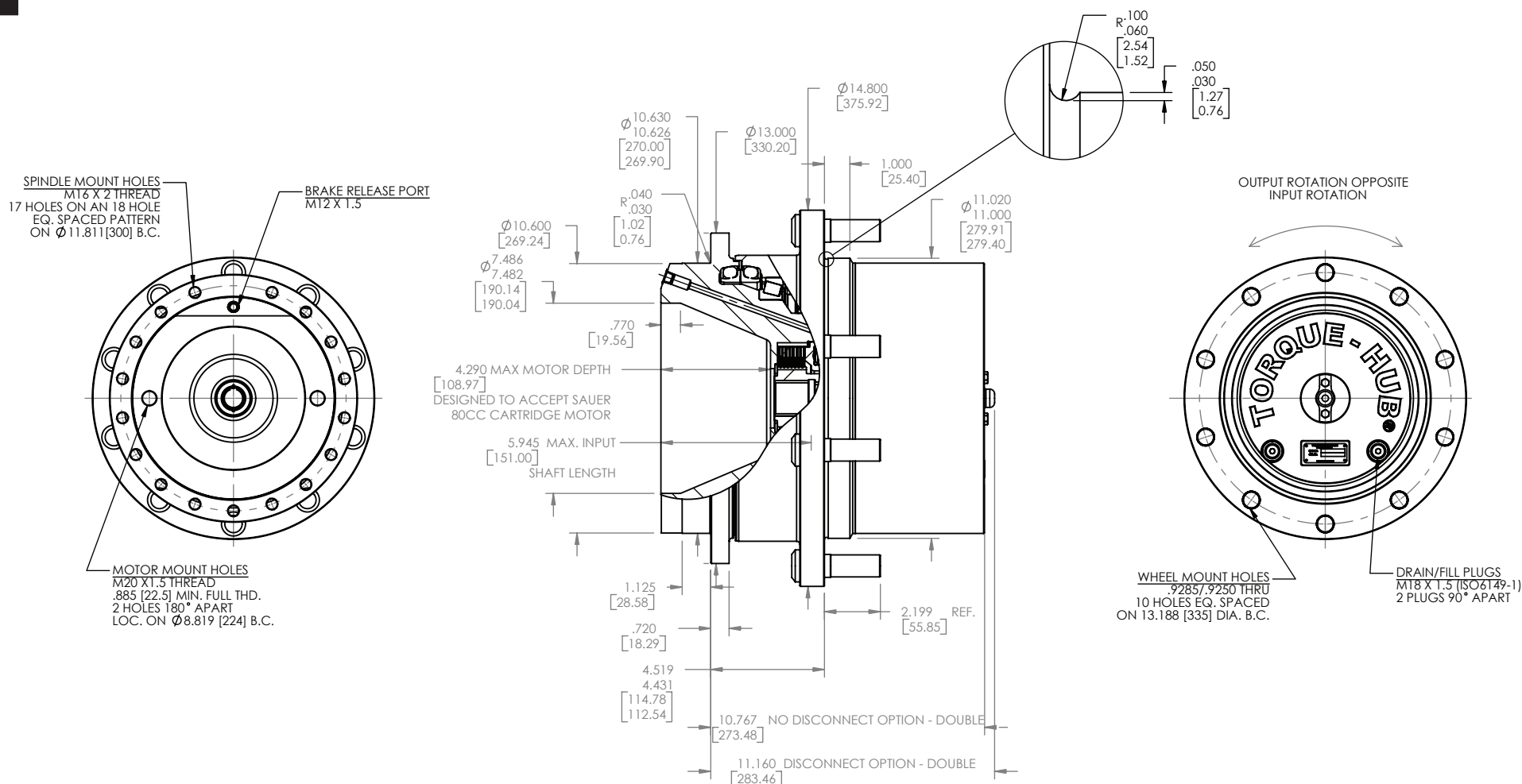
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Flange	B.C.	Mounting	B.C.
Mtg. Dia.		Dia.	
10.630 270.00	(17 on 18 hole pattern)	11.020 279.91	(10) .929/.925 THRU
10.626 269.90	M16 x 2 Thread	11.000 279.40	on 13.187 [335] B.C.
	on 11.811 [300] B.C.		

18000 Series

18HPA4 Application Sheet

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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

18HPA4

Performance Data

Continuous	Intermittent	Peak
9,000 Nm	18,000 Nm	Contact Fairfield
79,650 lb-in	159,300 lb-in	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 5,000 RPM Maximum Intermittent

Weight

Approximately: 258 lbs (117 kg)

Oil

Fill to half full with EP-90 oil on most applications.

Approximate Volume: 50 oz. (1,479 cm³)

Note: Oil level and type will vary with specific model and application.

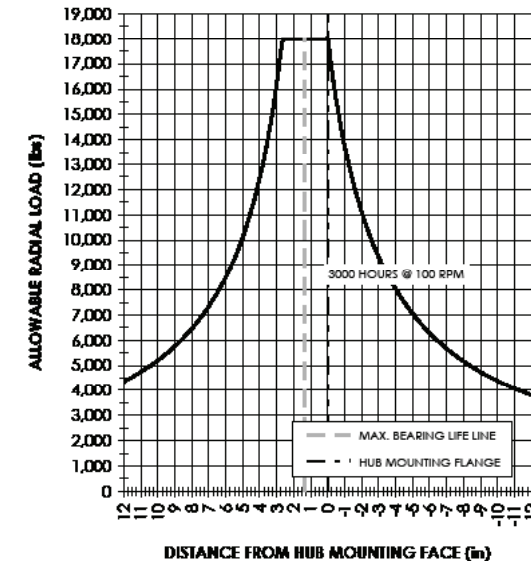
Conditions of Bearing Curve

Life = 3,000 hours B-10
Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{\frac{10}{3}}$$

Bearing Curve



Model Formula

18 H P A 4 1 0 B 0 G 0 048

18 – 18000 Series Torque Hub

Output

H – Hub

Motor Input

P – Cartridge Motor

Spindle Brake

A – Integral 5000 lb-in [565 Nm]
B – Integral 4250 lb-in [480 Nm]
C – Integral 3400 lb-in [385 Nm]
D – Integral 2940 lb-in [332 Nm]
X – Empty Brake Cavity

Motor Cavity

4 – Saurer 51 Series 80cc

Disengage

0 – None

G – Disengage

Special Option

0 – None

Input Splines

B – W35 x 2x14x9g

Studs

0 – None

H – M22 x 1.5 – 6g by 80.5mm

Reduction

015 – 14.88:1
018 – 17.97:1
021 – 21.14:1
025 – 24.92:1
029 – 29.24:1
036 – 35.92:1
041 – 40.84:1
048 – 47.60:1
057 – 57.49:1

Options

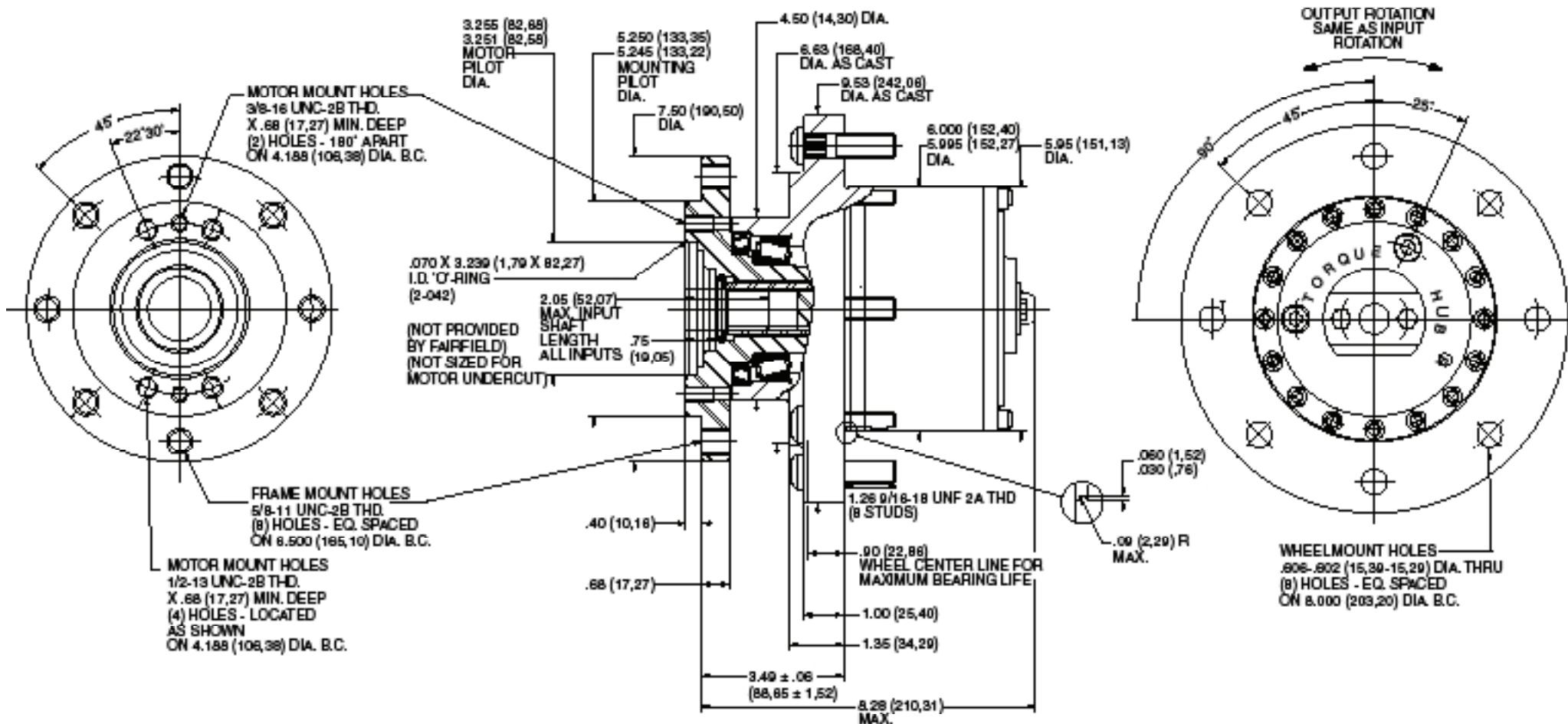
0 – None
Z – Seal Boot

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Flange	B.C.	Mounting	B.C.
Mtg. Dia.		Dia.	
10.630 270.00	(17 on 18 hole pattern)	11.020 279.91	(10) .929/.925 THRU
10.626 269.90	M16 x 2 Thread	11.000 279.40	on 13.187 [335] B.C.
	on 11.811 [300] B.C.		

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NOTE: MM SHOWN IN ()
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FAIRFIELD BRAKE AVAILABLE

W07A

Performance Data

Continuous	Intermittent	Peak
7,500 lb-in	15,000 lb-in	20,000 lb-in
625 lb-ft	1,250 lb-ft	1,666.7 lb-ft
845 Nm	1,690 Nm	2,260 Nm
86 kg-m	172 kg-m	230 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 1500 RPM Maximum Intermittent

Weight

Approximately 55 lbs (25 kg)

Note: Specific models will change weights.

W07A Model Formula

W – Torque-Hub® Wheel Drive

07 – Series

Spindle				Hub	
Motor Mount	Flange Mounting Dia.	Motor B.C.	Frame B.C.	Mounting Dia.	Flange B.C.
A3	SAE "A"	5.250 5.240	(4) 1/2-13 4.188 B.C.	(8) 5/8-11 6.500 B.C.	6.000 5.995 (8) .606/.602 8.00 B.C.

S.A.E. "B" Pilot also available. Please contact Fairfield.

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Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 10 oz. (296 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

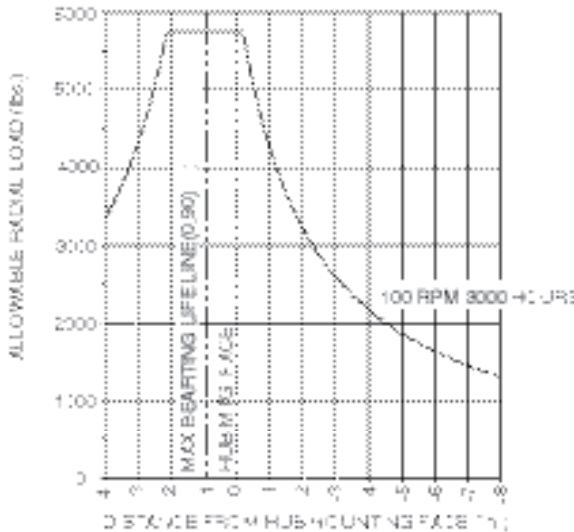
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

Adjusted Life (hrs) = 3,000 $\left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{\frac{10}{3}}$

Bearing Curve



W 07 A3 G O 6 4 -

Special Features
O – Not Included

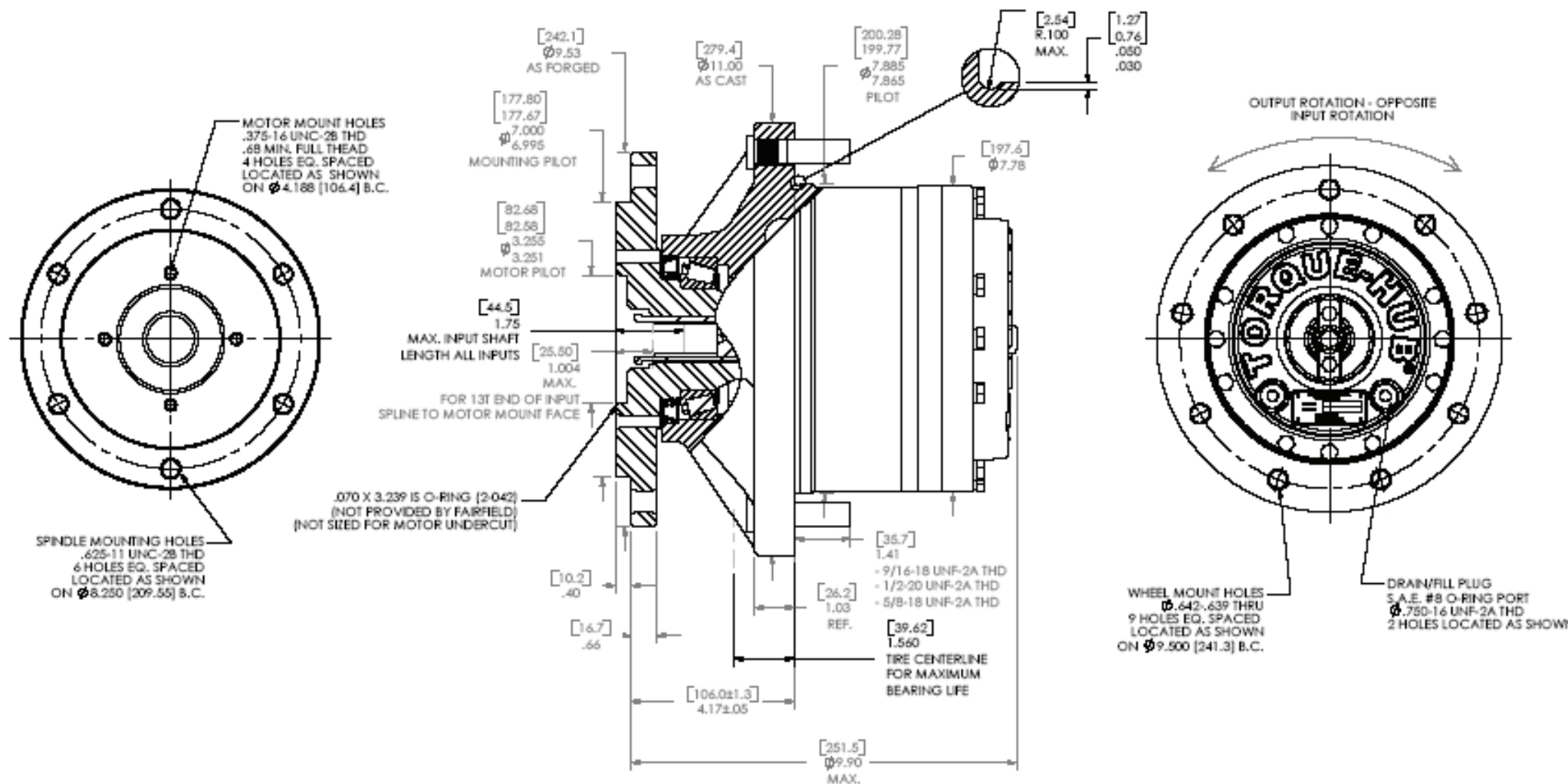
Wheel Stud Configuration
O – Not Included
G – 9/16 – 18 x 2.27 long
(use with .606/.602 flange
hole for cast iron hub)

Input Spline
6 – 6B Parallel Side Spline
(major dia. = 1.00 in.)
3 – 13T, 16/32 Spline
8 – 15T, 16/32 Spline

Ratio
4 – 4.105:1

Special Features

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MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

W1A

Performance Data

Continuous	Intermittent	Peak
15,000 lb-in	30,000 lb-in	40,000 lb-in
1,250 lb-ft	2,500 lb-ft	3,333 lb-ft
1,690 Nm	3,381 Nm	4,508 Nm
172 kg-m	345 kg-m	460 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 4,000 RPM Maximum Intermittent

Weight

Approximately 90 lbs (41 kg)

Note: Specific models will change weights.

W1A Model Formula

W – Torque-Hub® Wheel Drive

1 – Series

	Spindle				Hub	
	Motor Mount	Flange Mounting Dia.	Motor B.C.	Frame B.C.	Mounting Dia.	Flange B.C.
A4	SAE "A"	<u>5.250</u> 5.245	(2) 3/8-16 4.188 B.C.	(8) 5/8-11 6.500 B.C.	<u>7.885</u> 7.665	(9) .642/.639 9.500 B.C.

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Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 17 oz.(503 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

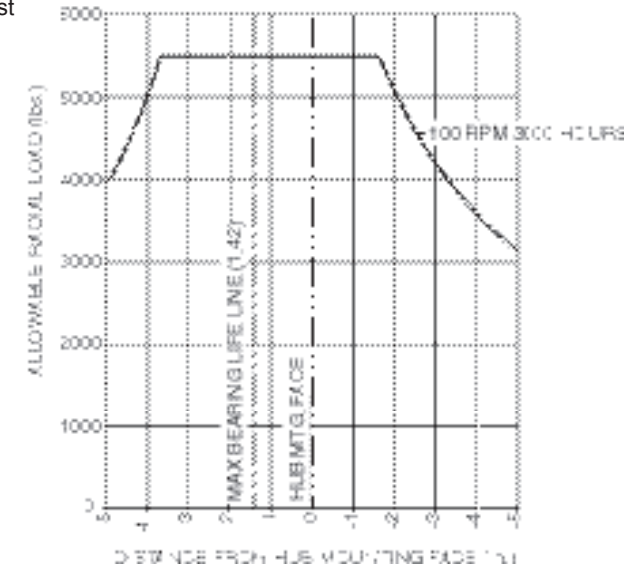
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{\left(\frac{10}{3} \right)}$$

Bearing Curve



W 1 A4 0 0 3 35

Options

O – None
Z – Seal Boot

Ratios

18 – 18.25:1
24 – 24.85:1
30 – 30.05:1
35 – 35.13:1
40 – 40.25:1
47 – 47.33:1
49 – 49.29:1
58 – 57.89:1
68 – 68.00:1

Wheel Studs

0 – Not Included
4 – 1/2-20 x 1.875 long

Input Options

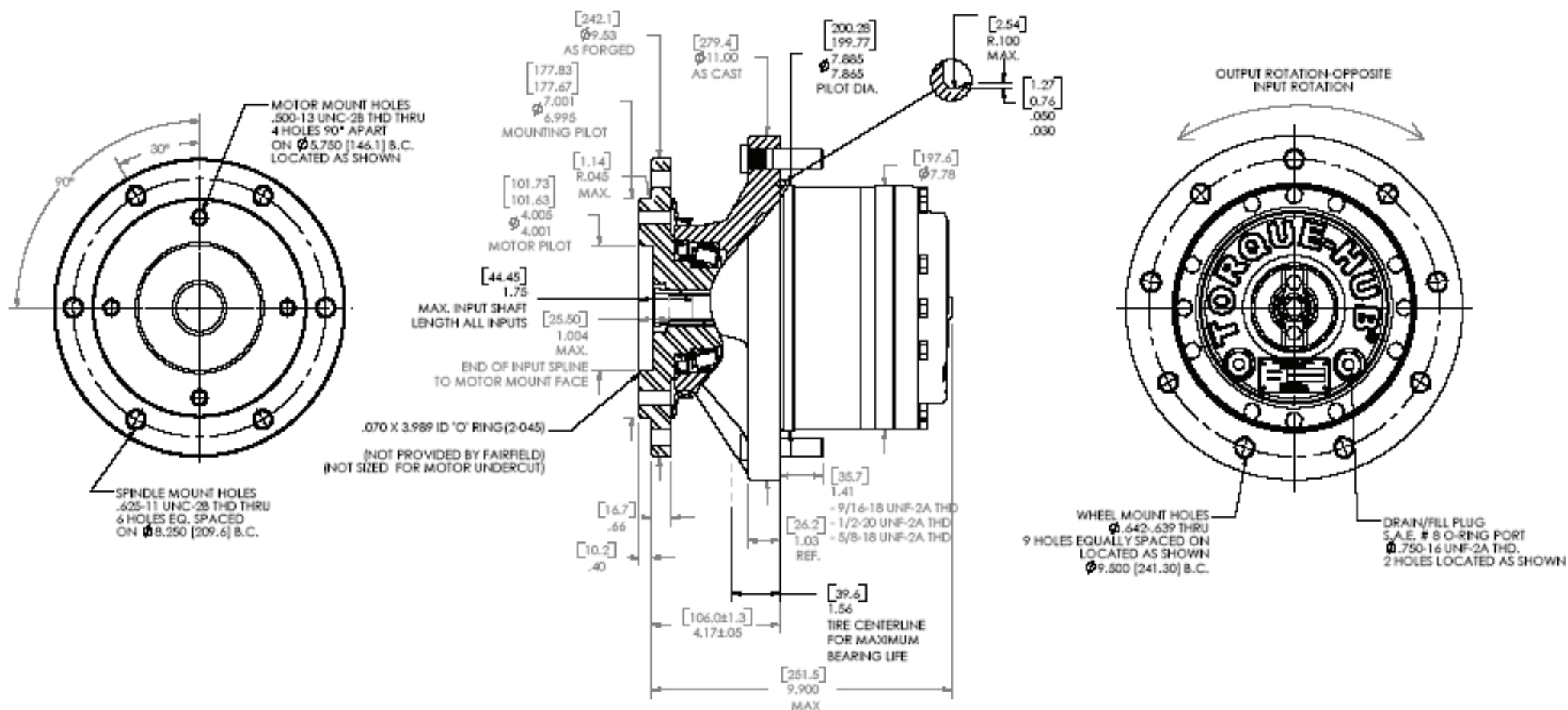
1 – 24T, 32/64 Spline
3 – 13T, 16/32 Spline

1 Series

W1BF

Application Sheet

TORQUE-HUB.
Planetary Final Drives



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Catalog prints are representative of the units.

Before final design request a certified print from Fairfield.

NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

Performance Data

Continuous	Intermittent	Peak
15,000 lb-in	30,000 lb-in	40,000 lb-in
1,250 lb-ft	2,500 lb-ft	3,333 lb-ft
1,690 Nm	3,381 Nm	4,508 Nm
172 kg-m	345 kg-m	460 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 4,000 RPM Maximum Intermittent
Horsepower: Contact Fairfield

Weight

Approximately 90 lbs (41 kg)

Note: Specific models will change weights.

W1BF Model Formula

W – Torque-Hub® Wheel Drive

1 – Series

Oil

Fill to half full with EP-90 oil on most applications.

Approximate Volume 17 oz. (503 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

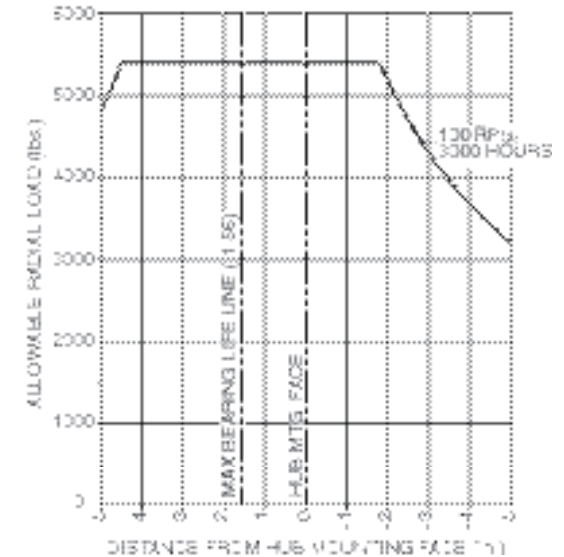
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right)^x \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



W 1 BF F 0 3 24 X

Stud

0 – Not Included

F – 5/8-18 by 2.437 in.

N – 1/2-20 by 2.437 in.

Input

3 – 13T, 16/32 Spline

Seal Boot

0 – Blank

Z – Included

Special Features

X – Antidisengage (spacer placed in coupling)

Reduction

18 – 18.25:1

24 – 24.85:1

30 – 30.05:1

35 – 35.13:1

40 – 40.25:1

49 – 49.29:1

60 – 59.50:1

68 – 68.00:1

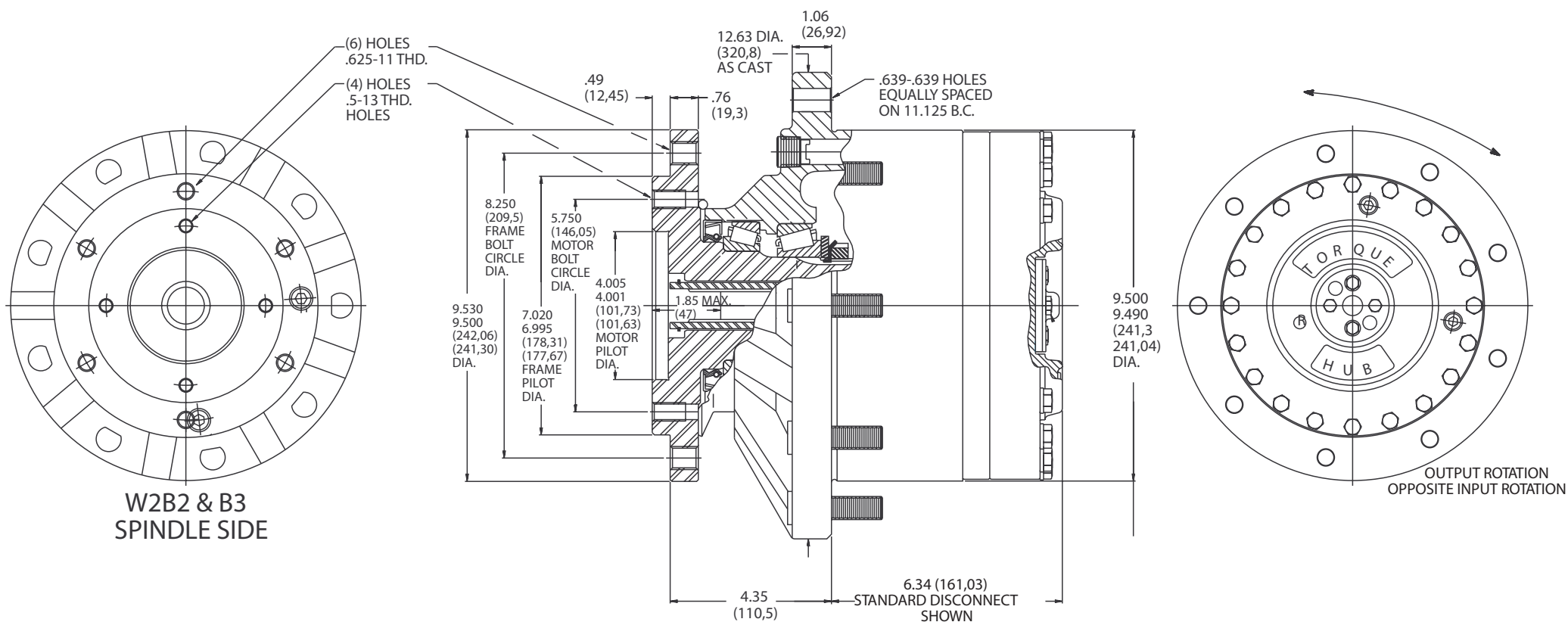
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	Spindle				Hub	
	Motor Mount	Flange Mounting Dia.	Motor B.C.	Frame B.C.	Mounting Dia.	Flange B.C.
BF	SAE "B"	<u>7.000</u> 6.995	(4) 1/2-13 5.750 B.C.	(6) 5/8-11 8.250 B.C.	<u>7.885</u> 7.865	(9) .642/.639 thru 9.500 B.C.
BD	SAE "B"	<u>7.000</u> 6.995	(4) 1/2-13 5.750 B.C.	(6) .671/.653 8.250 B.C.	<u>7.885</u> 7.865	(9) .642/.639 thru 9.500 B.C.

TORQUE-HUB®
Planetary Final Drives



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Before final design request a certified print from Fairfield.

NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

W2B2

Performance Data

Continuous	Intermittent	Peak
25,000 lb-in	50,000 lb-in	60,000 lb-in
2,087 lb-ft	4,167 lb-ft	5,000 lb-ft
2,817 Nm	5,633 Nm	6,790 Nm
287 kg-m	573 kg-m	688 kg-m

For ultimate horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 4,000 RPM Maximum Intermittent
Horsepower: Contact Fairfield

Weight

Approximately 149 lbs (68 kg)

Note: Specific models will change weights.

W2B2 Model Formula

Oil

Fill to half full with EP-90 oil on most applications.

Approximate Volume 40 oz. (1,184 cm³)

Note: Oil level and type will vary with specific model and application.

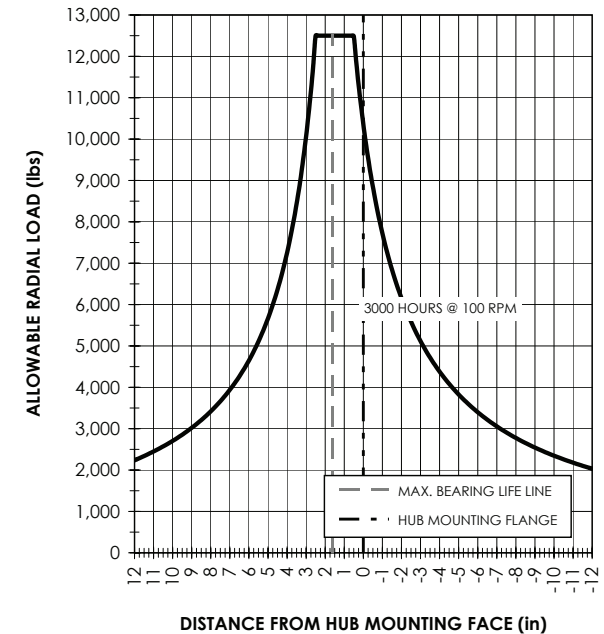
Conditions of Bearing Curve

Life = 3,000 hours B-10
Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



W – Torque-Hub® Wheel Drive

2 – Series

Stud

0 – Not included
F – 5/8-18 by 2.438 in.

Input

3 – 13T, 16/32 Spline
8 – 15T, 16/32 Spline

Special Features

N – Special antisengage for Nichols 110 motor only (spacer placed in coupling)

X – Antisengage (spacer placed in coupling)

Brake

0 – Not Included
Z – Seal Boot

Reduction

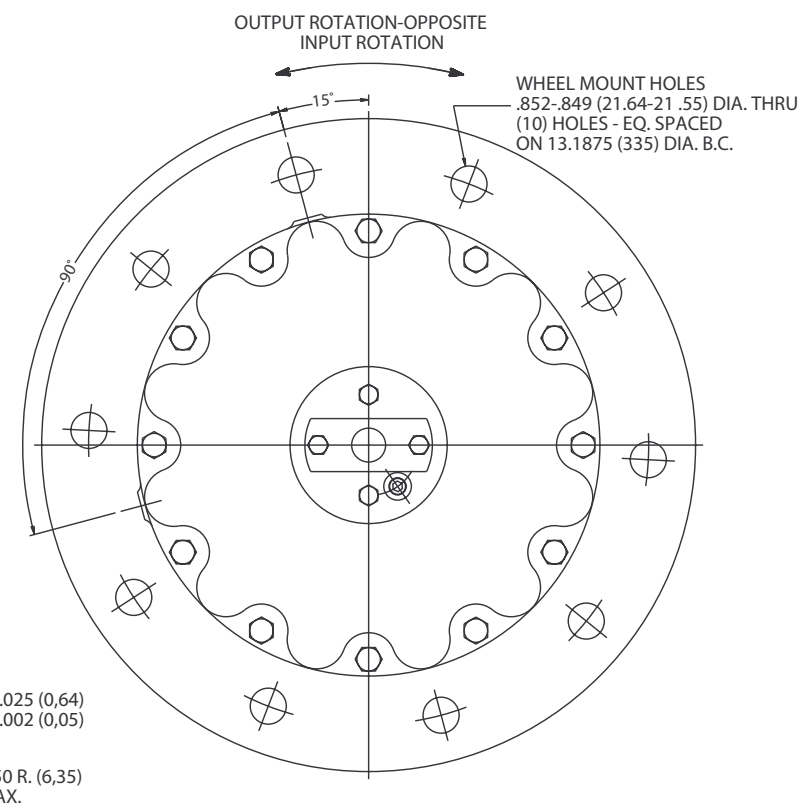
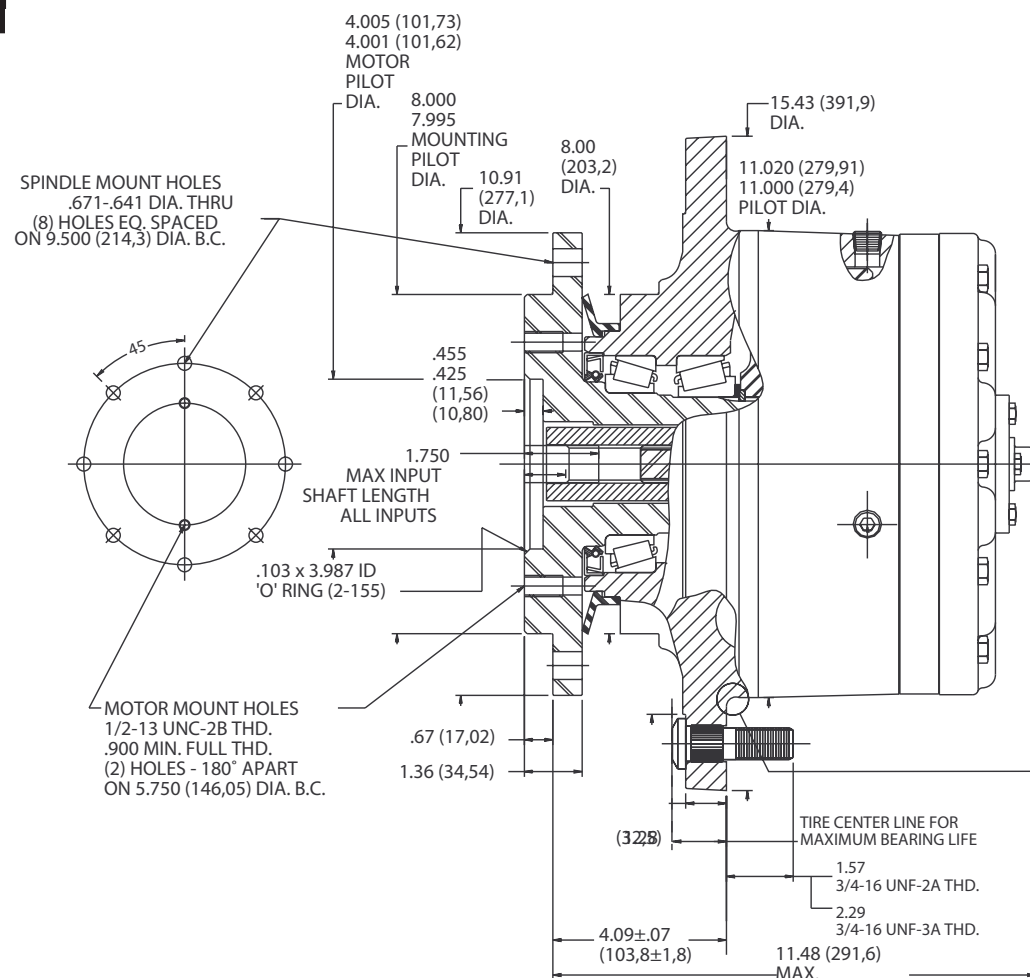
13 – 13.30:1
20 – 19.86:1
25 – 24.82:1
28 – 28.22:1
34 – 33.83:1
37 – 36.64:1
43 – 42.65:1
49 – 49.03:1
55 – 54.86:1
68 – 68.00:1

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Spindle				Hub		
Motor Mount	Flange Mounting Dia.	Motor B.C.	Frame B.C.	Mounting Dia.	Flange B.C.	
B2	SAE "B"	(4) 1/2-13 5.750 B.C.	(6) 5/8-11 8.250 B.C.	<u>9.500</u> 9.490	(9) .642/.639 thru 11.125 B.C.	
B3	SAE "B"	(4) 1/2-13 5.750 B.C.	(6) .656 thru 8.250 B.C.	<u>9.500</u> 9.490	(9) .642/.639 thru 11.125 B.C.	
		<u>7.000</u> 6.995				

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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

W3B1

Performance Data

Continuous	Intermittent	Peak
37,500 lb-in	75,000 lb-in	100,000 lb-in
3,125 lb-ft	6,250 lb-ft	8,333 lb-ft
4,234 Nm	8,468 Nm	11,290 Nm
432 kg-m	864 kg-m	1,152 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 4,000 RPM Maximum
Horsepower: Contact Fairfield

Weight

Approximately 205 lbs (94Kg)

Note: Specific models will change weights.
 Gear kit available for this assembly.
 Consult Fairfield for details.

W3B1 Model Formula

W – Torque-Hub® Wheel Drive

3 – Series

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 44 oz. (1,301 cm³)

Note: Oil level and type will vary depending on specific model and application.

Conditions of Bearing Curve

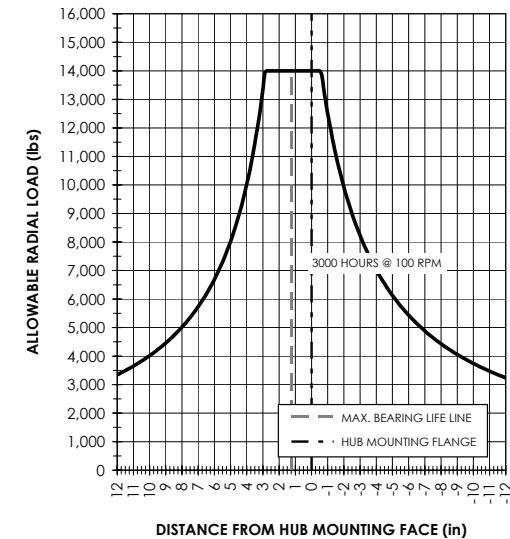
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



W 3 B1 1 0 3 43 ZB

Special Features

ZB – Standard Disconnect
XB – Coupling Subassembly
 with Antidisengage Spacer

Special Options

0 – Blank
Z – Seal Boot

Reduction

18 – 18.75:1
24 – 24.43:1
30 – 30.04:1
35 – 34.49:1
43 – 42.50:1
54 – 53.58:1
73 – 72.68:1

Input

3 – 13T, 16/32 Spline
8 – 15T, 16/32 Spline

Studs in Wheel Flange

0 – Not Included
1 – 3/4-16 thread by 2-17/32 in.
 (use with cast iron hub)
5 – 3/4-16 thread by 2-5/8 in.
 (use with steel hub; not available
 with BL and BN hubs)
8 – 3/4-16 thread by 3-1/4 in.
 (use with cast iron hub)

		Spindle			Hub	
		Motor Mount Flange Mounting Dia.	Motor B.C. (2) 1/2-13 5.750 B.C.	Frame B.C. (8) 21/32 9.500 B.C.	Mounting Dia.	Flange B.C. (10) .852-.849(21.64-21.55) 13.1875 B.C.
B1	SAE "B"	$\frac{8.000}{7.995}$	(2) 1/2-13 5.750 B.C.	(8) 5/8-11 9.500 B.C.	$\frac{11.020}{11.000}$	(10) .852-.849(21.64-21.55) 13.1875 B.C.
B2	SAE "B"	$\frac{8.000}{7.995}$	(2) 1/2-13 5.750 B.C.	(8) 5/8-11 9.500 B.C.	$\frac{11.020}{11.000}$	(10) .852-.849(21.64-21.55) 13.1875 B.C.
BR	SAE "B"	$\frac{8.000}{7.995}$	(2) 1/2-13 5.750 B.C.	(10) .875/.873 9.500 B.C.	$\frac{11.020}{11.000}$	(10) .875/.873 13.1875 B.C.

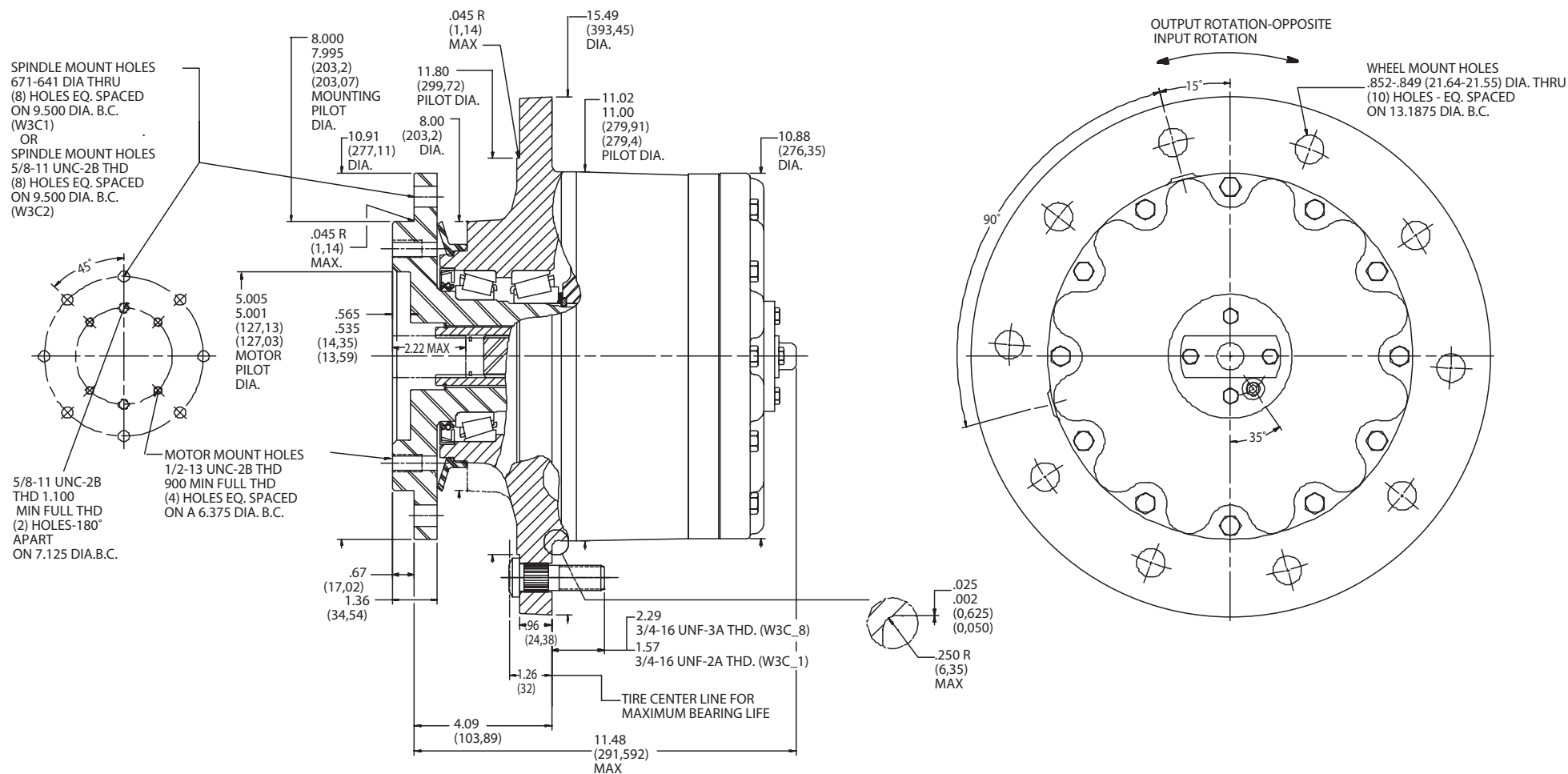
S.A.E. "C" model also available. Please contact Fairfield.

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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

W3C

Performance Data

Continuous	Intermittent	Peak
37,500 lb-in	75,000 lb-in	100,000 lb-in
3,125 lb-ft	6,250 lb-ft	8,300 lb-ft
4,234 Nm	8,468 Nm	11,300 Nm
432 kg-m	864 kg-m	1,150 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 4,000 RPM Maximum
Horsepower: Contact Fairfield

Weight

Approximately 205 lbs (94Kg)

Note: Specific models will change weights.
 Gear kit available for this assembly.
 Consult Fairfield for details.

W3CN Model Formula

W – Torque-Hub® Wheel Drive

3 – Series

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 44 oz. (1,301 cm³)

Note: Oil level and type will vary depending on specific model and application.

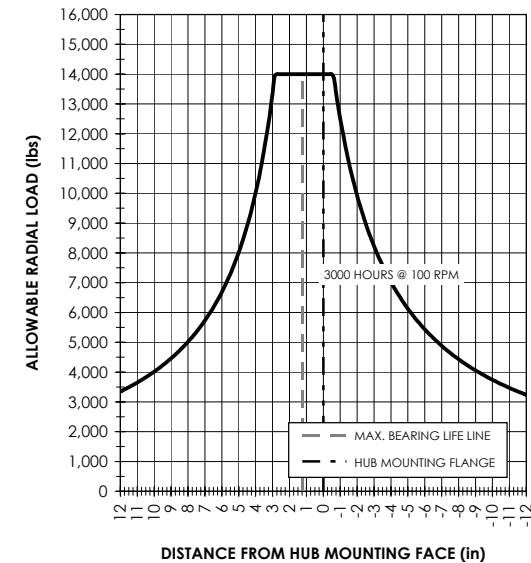
Conditions of Bearing Curve

Life = 3,000 hours B-10
Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



W 3 CN 1 0 3 43 ZB

Special Options

0 - Blank
Z - Seal Boot

Special Features

ZB – Standard Disconnect
XB – Coupling Subassembly
 with Antidisengage Spacer

Reduction

18 – 18.75:1
24 – 24.43:1
30 – 30.04:1
35 – 34.49:1
43 – 42.50:1
54 – 53.58:1
73 – 72.68:1

Input

3 – 13T, 16/32 Spline
4 – 14T, 16/32 Spline
8 – 15T, 16/32 Spline

Studs in Wheel Flange

0 – Not Included
1 – 3/4-16 thread by 2-17/32 in. (use with cast iron hub)
5 – 3/4-16 thread by 2-5/8 in. (use with steel hub; not available with BL and BN hubs)
8 – 3/4-16 thread by 3-1/4 in. (use with cast iron hub)

	Spindle			Hub	
	Motor Mount	Flange Mounting Dia.	Motor B.C.	Mounting Dia.	Flange B.C.
CN	SAE "C"	8.000 7.995	(4) 1/2-13 6.375 B.C.	(8) .671-.641 9.500 B.C.	(10) .852-.849 13.1875 B.C.
C2	SAE "C"	8.000 7.995	(4) 1/2-13 6.375 B.C.	(8) 5/8-11 9.500 B.C.	(10) .852-.849 13.1875 B.C.
C6	SAE "C"	8.000 7.995	(4) 1/2-13 6.375 B.C.	(8) 5/8-11 9.500 B.C.	(10) .875-.873 13.187 B.C.

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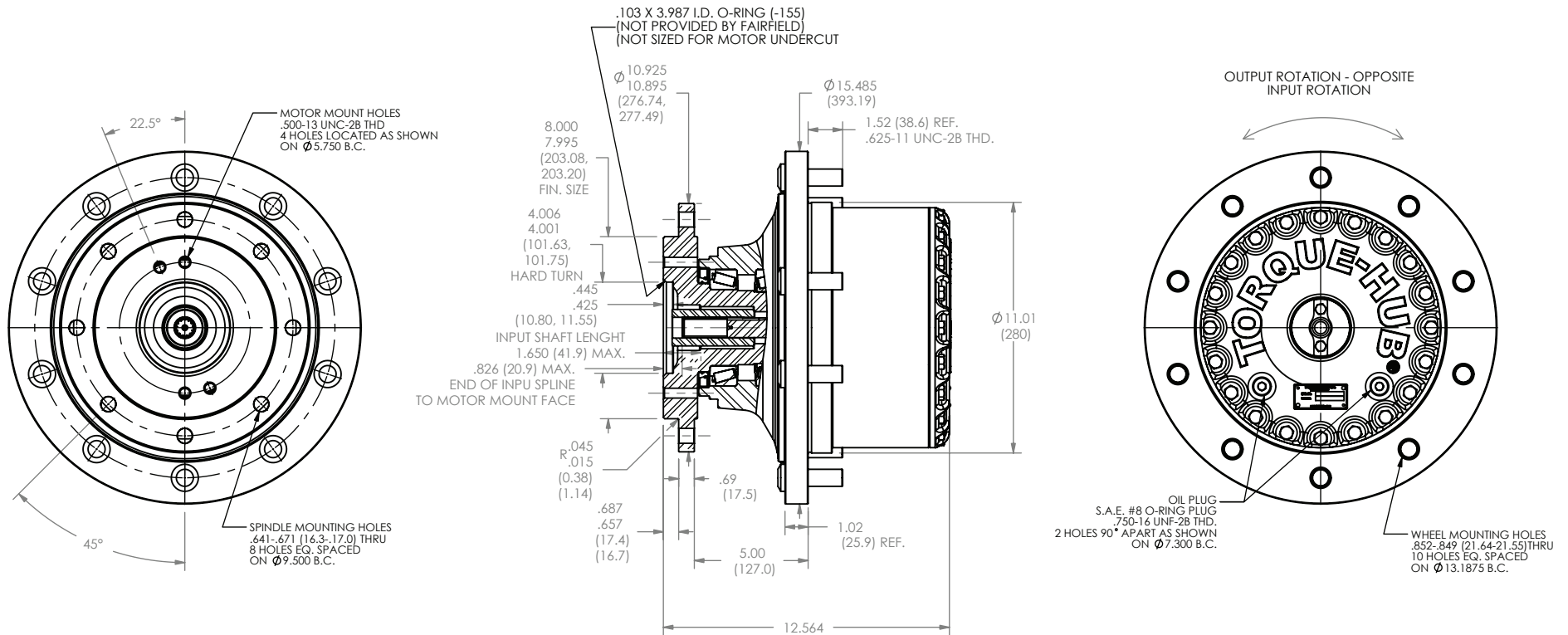
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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

W5

Performance Data

Continuous	Intermittent	Peak
50,000 lb-in	100,000 lb-in	125,000 lb-in
4,167 lb-ft	8,333 lb-ft	10,650 lb-ft
5,650 Nm	11,300 Nm	14,125 Nm
575 kg-m	1,150 kg-m	1,438 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 4,000 RPM Maximum Intermittent

Weight

Approximately 178 lbs (80.74 kg)

Note: Specific models will change weights.

W5 Model Formula

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 50oz. (1,479 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

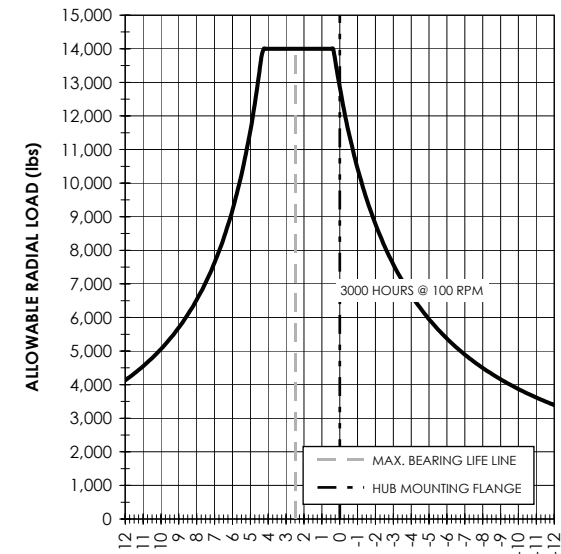
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



W – Torque-Hub® Wheel Drive

5 – Series

Spindle				Hub	
Motor Mount	Flange Mounting Dia.	Motor B.C.	Frame B.C.	Mounting Dia.	Flange B.C.
B1 SAE "B"	<u>7.995</u> 8.000	(2) 1/2-13 5.750 B.C.	(8) .654-.666 9.500 B.C.	<u>10.640</u> 10.620	(8) .642-.639 12.375 B.C.
B2 SAE "B"	<u>7.995</u> 8.000	(4) 1/2-13 5.750 B.C.	(8) .641-.671 9.500 B.C.	<u>11.020</u> 11.000	(10) .852-.849 13.188 B.C.

W 5 B2 F 0 3 49 Z

Brake
0 – Not Included

Input
3 – 13T, 16/32 Spline

Special Features

Z – Seal Boot

Reduction

15 – 14.50:1
17 – 17.17:1
22 – 22.48:1
25 – 25.31:1
29 – 29.14:1
35 – 34.60:1
42 – 41.63:1
49 – 49.37:1

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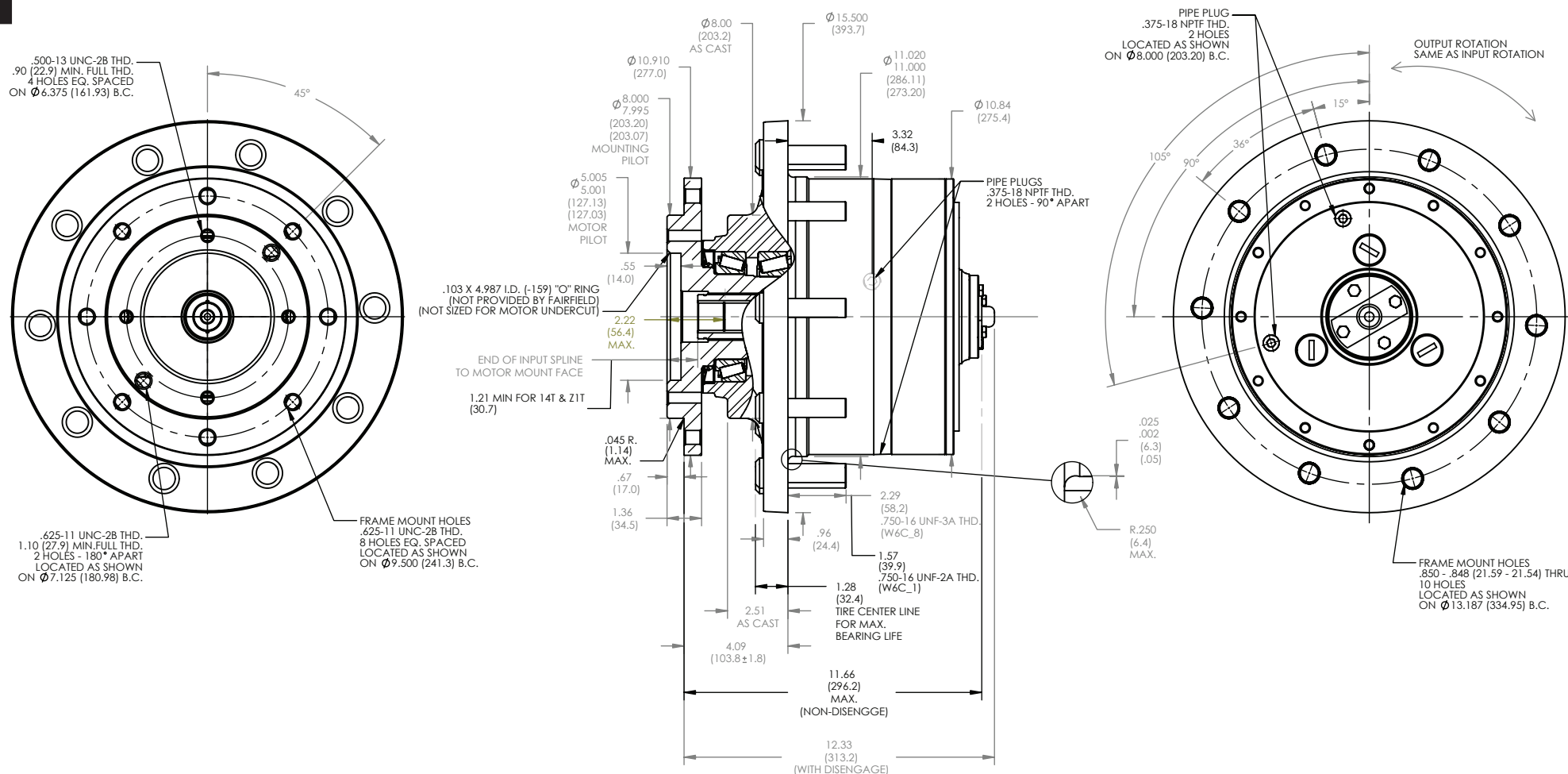
Stud

0 – Not Included

1 – 3/4-16 by 2.53" (Use with .852/.849 Flange Hole)

F – 5/8-18 by 2.437" (Use with .642/.639 Flange Hole)

6 Series

W6C1**Application Sheet****TORQUE-HUB®**
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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODELOTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

W6C1

Performance Data

Continuous	Intermittent	Peak
60,000 lb-in	120,000 lb-in	150,000 lb-in
5,000 lb-ft	10,000 lb-ft	12,500 lb-ft
6,779 Nm	13,558 Nm	16,950 Nm
691 kg-m	1,383 kg-m	1,725 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 5,000 RPM Maximum Intermittent

Weight

Approximately 265 lbs (119 kg)

Note: Specific models will change weights.

W6C1 Model Formula

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 50 oz. (1,479 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

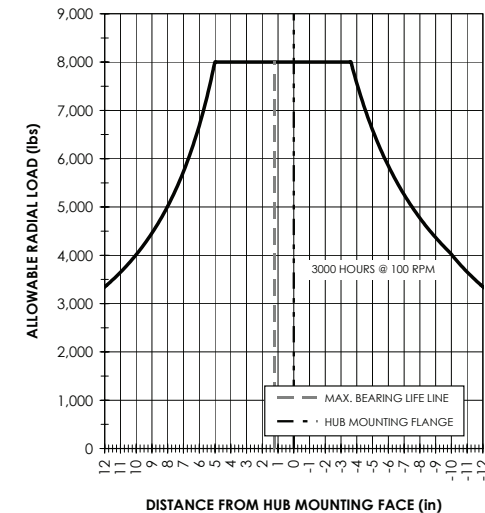
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



W – Torque-Hub® Wheel Drive

6 – Series

Spindle				Hub	
Motor Mount	Flange Mounting Dia.	Motor B.C.	Frame B.C.	Mounting Dia.	Flange B.C.
C1 SAE "C"	<u>8.000</u> 7.995	(4) 1/2-13 6.375 B.C.	(8) 5/8-11 9.500 B.C.	<u>11.020</u> 11.000	(10) .852/.849 13.187 B.C.

Stud

0 – Not Included

A – 3/4 - 16 by 3.03 in. (use with .875/.873 flange hole on steel hub)

1 – 3/4 - 16 by 2.53 in. (use with .852/.849 flange hole on cast iron hub)

5 – 3/4 - 16 Am. Nat. thd. by 2.63 in. (use with .875/.873 flange hole on steel hub)

7 – 5/8 - 18 by 2.43 in. (use with .642/.639 flange hole on steel hub)

8 – 3/4 - 16 by 3.25 in. (use with .852/.849 flange hole on cast iron hub)

9 – 5/8 - 18 by 2.94 in. (use with .642/.639 flange hole w/c bore on steel hub)

Input

C – 14T, 12/24 with Solid Cover Cap (has spring)

3 – 13T, 16/32 Spline

4 – 14T, 12/24 Spline

7 – 21T, 16/32 Spline (not available in 26:1 and 32:1)

8 – 15T, 16/32 Spline

Options

0 – Blank

Z – Seal Boot

Special Features

H – Heavy Duty Carrier

Special Features

B – For additional thrust washer and bearing see Application Engineer

Z – Blank

Reduction

13 – 13.07:1

15 – 15.30:1

19 – 19.04:1

26 – 25.96:1

32 – 32.31:1

***55** – 55.08:1

***93** – 93.46:1

***116** – 116.32:1

*uses G07 "gear head drive"

Special Features

Q – Quick Disconnect

X – Antisengage Spacer in Coupling

Z – Blank

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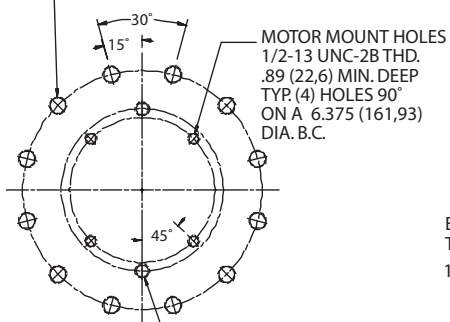
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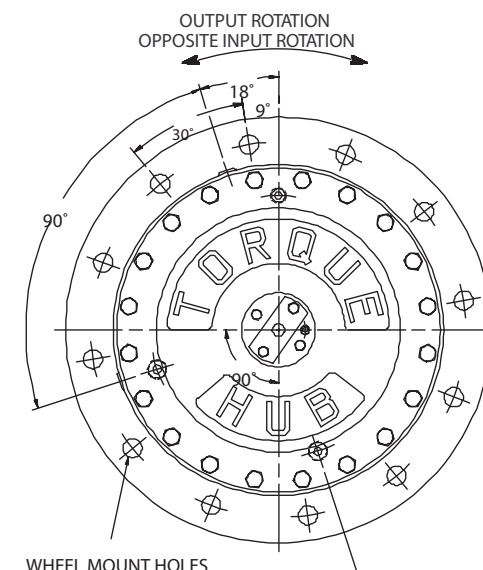
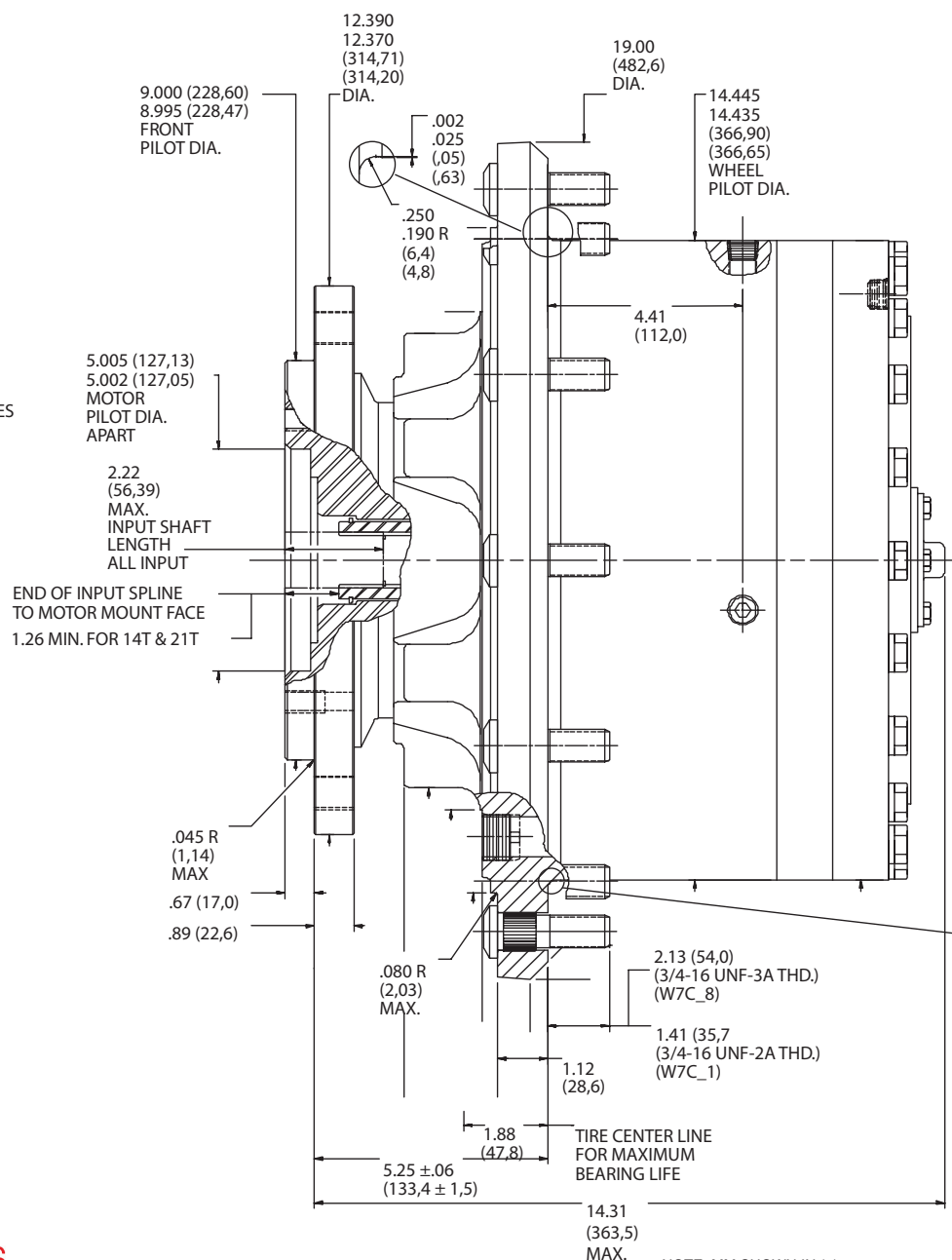
TORQUE-HUB[®]

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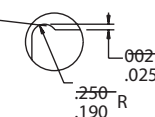
FRAME MOUNT HOLES
(W7CA) .795-.765 (20,19-43) THRU
TYP. (12) HOLE EQ. SPACED
ON 10.500 (266,70) DIA. B.C.
OR
(W7C1) 3/4-16 UNF-2B THREADED
HOLES (12) HOLE EQ. SPACED
ON 10.500 (266,70) DIA. B.C.



MOTOR MOUNT HOLES
5/8-11 UNC-2B THD.
1.10 (27,9) MIN. FULL THD.
TYP. (2) HOLES 180° APART
ON 7.125 (180,98) DIA. B.C.



WHEEL MOUNT HOLES
.852-.849 (21.64-21.55)
DIA. THRU
(12) HOLES EQ. SPACED
ON 16.750 (425,45)
DIA. B.C.



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NOTE: MM. SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

W7C

Performance Data

Continuous	Intermittent	Peak
75,000 lb-in	150,000 lb-in	200,000 lb-in
6,250 lb-ft	12,500 lb-ft	16,666.7 lb-ft
8,468 Nm	16,936 Nm	22,600 Nm
864 kg-m	1,728 kg-m	2,300 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 3,000 RPM Maximum Intermittent

Weight

Approximately 440 lbs (198 kg)

Note: Specific models will change weights.

W7C Model Formula

W – Torque-Hub® Wheel Drive

7 – Series

Spindle				Hub	
Motor Mount	Flange Mounting Dia.	Motor B.C.	Frame B.C.	Mounting Dia.	Flange B.C.
C1 SAE "C"	12.390 12.370	(4) 1/2-13 6.375 B.C.	(12) 3/4-16 10.500 B.C.	14.445 14.435	(12) .852/.849 16.750 B.C.

S.A.E. "B" Pilot also available. Please contact Fairfield.

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Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 90 oz. (2,663 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

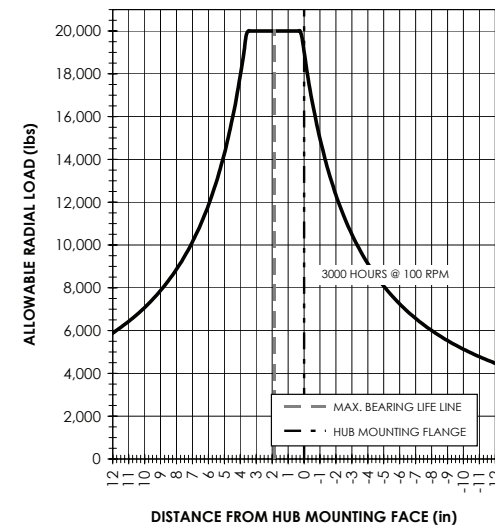
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



W 7 C1 8 Z 4 26 _

Special Features

A – Positive Engage
X – Anti-disengage
Z – Blank

Reduction

26 – 26.4:1
44 – 44.2:1
58 – 57.8:1
72 – 71.5:1
94 – 93.7:1

Input

3 – 13T, 16/32 Spline
4 – 14T, 12/24 Spline
7 – 21T, 16/32 Spline

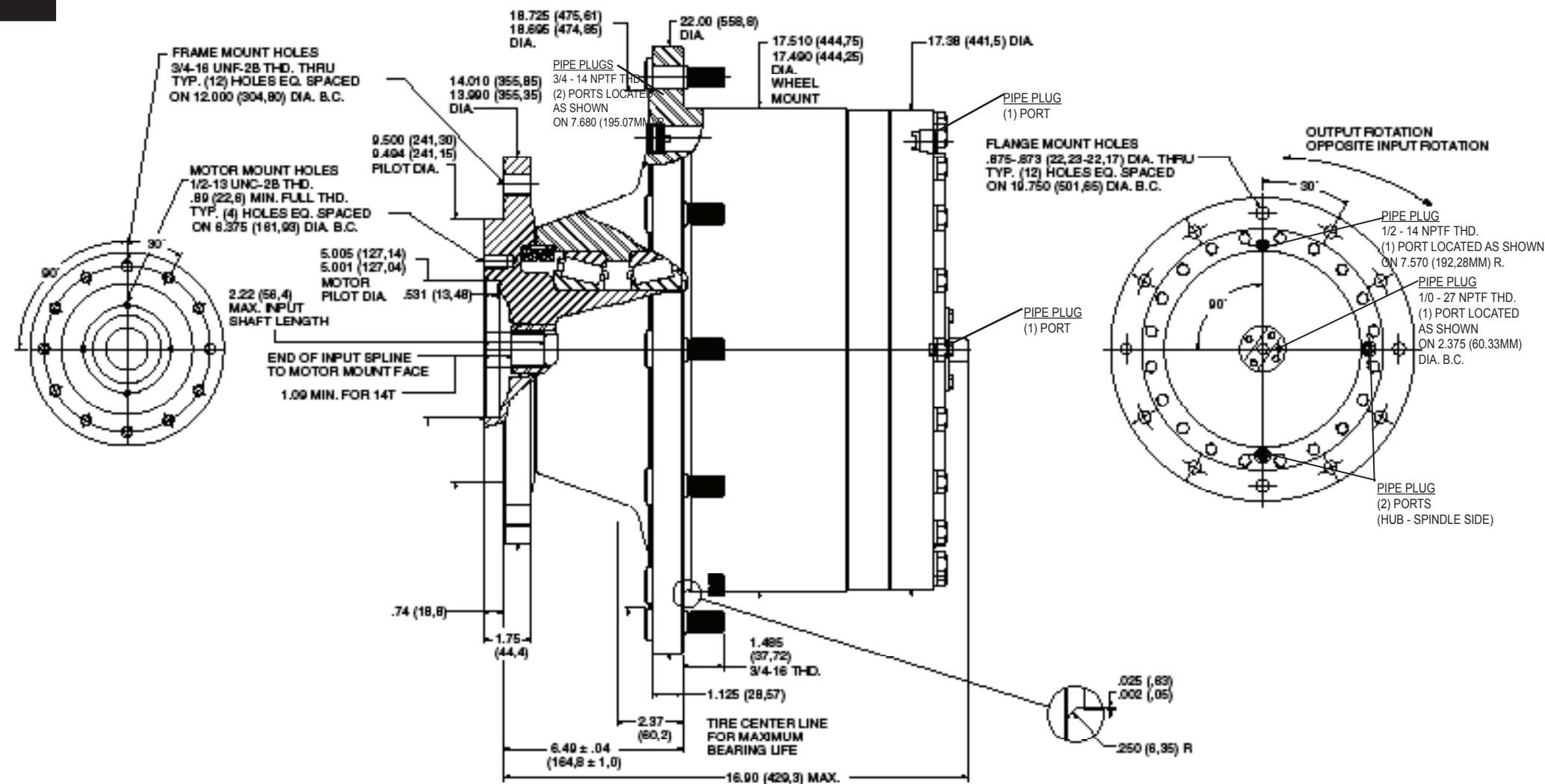
Options

0 – Blank
Z – Seal Boot

Studs

0 – Not Included
1 – 3/4 - 16 by 2.53 in. (use with .852/.849 flange hole on cast iron hub)
8 – 3/4 - 16 by 3.25 in. (use with .852/.849 flange hole on cast iron hub)

TORQUE-HUB®
Planetary Final Drives



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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

W10C2

Performance Data

Continuous	Intermittent	Peak
125,000 lb-in	250,000 lb-in	300,000 lb-in
10,417 lb-ft	20,833 lb-ft	25,000 lb-ft
14,113 Nm	28,227 Nm	33,900 Nm
1,440 kg-m	2,880 kg-m	3,450 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 1,500-1,800 RPM Maximum Intermittent

(Contact Fairfield for specific speed information.)

Weight

Approximately 715 lbs (322 kg)

Note: Specific models will change weights.

W10C2 Model Formula

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 180 oz.(5,325 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

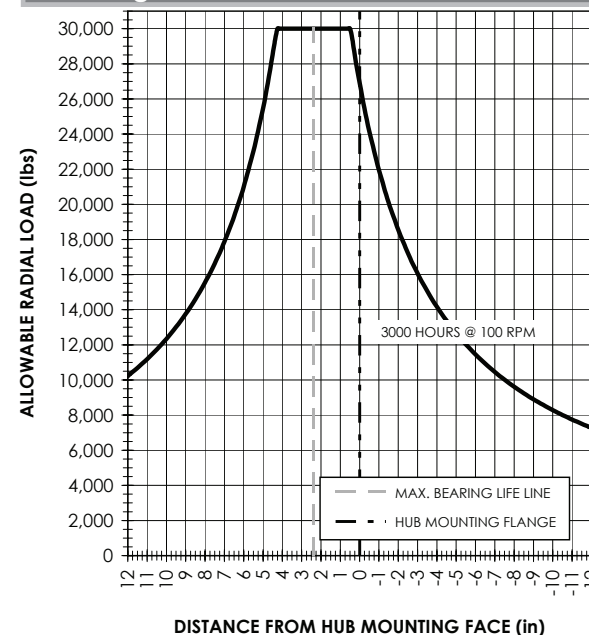
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



W – Torque-Hub® Wheel Drive

10 – Series

		Spindle			Hub	
Motor Mount		Flange Mounting Dia.	Motor B.C.	Frame B.C.	Mounting Dia.	Flange B.C.
C2	SAE "C"	$\frac{14.010}{13.990}$	(4) 1/2-13 6.375 B.C.	(12) 3/4-16 12.000 B.C.	$\frac{17.510}{17.490}$	(12) .875/.873 19.750 B.C.

SAE 'D' model also available. Please contact Fairfield.

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W 10 C2 5 0 4 98 X

Special Features

X – Coupling Subassembly with Antidisengage Spacer

Reduction

43 – 43.8:1
58 – 57.4:1*
69 – 69.7:1
80 – 80.3:1
98 – 98.0:1*
123 – 123.2:1

*Available in 14T Input only.

Input

4 – 14 T, 12/24 Spline
5 – 13 T, 8/16 Spline

Options

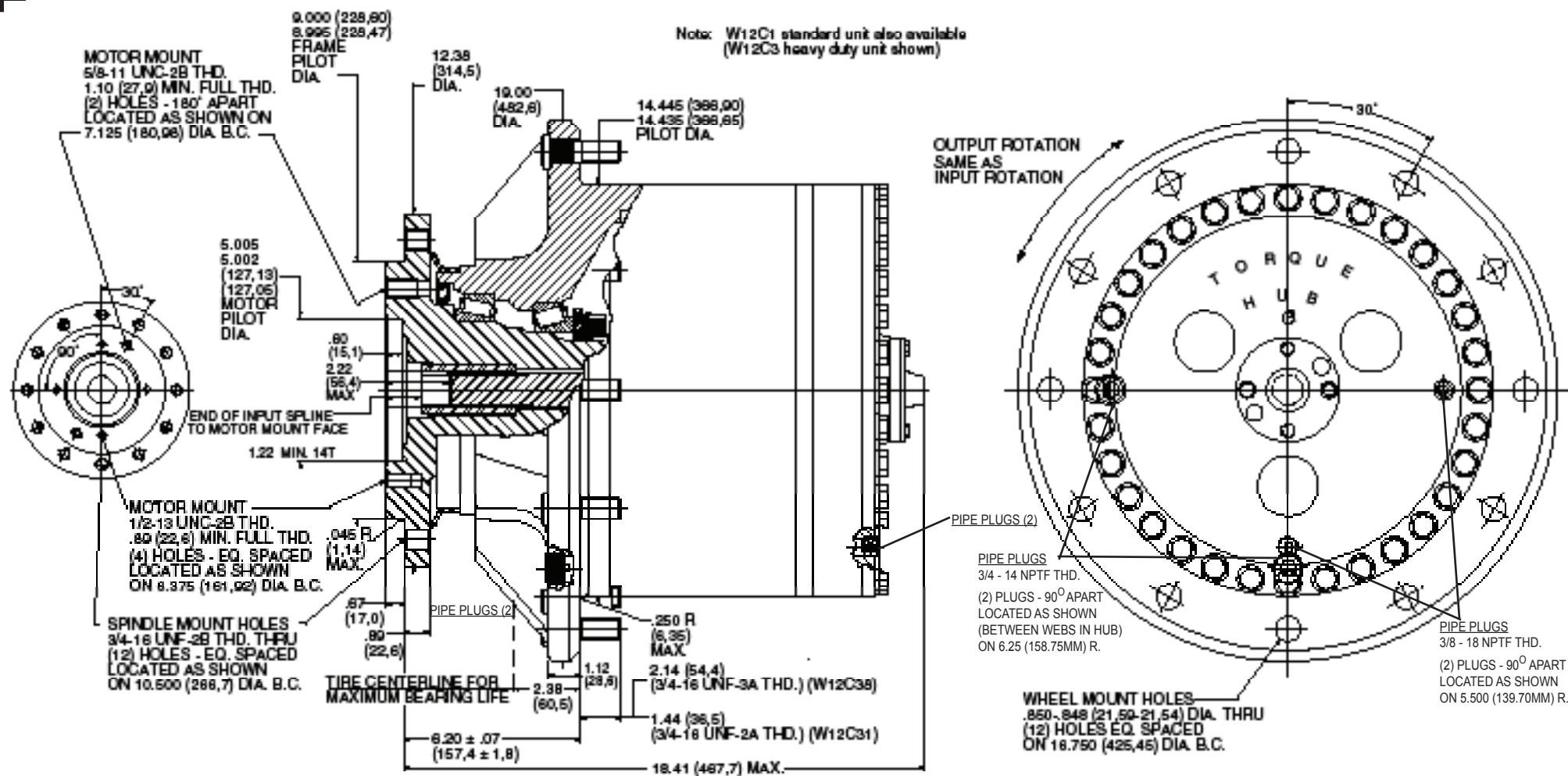
0 – Not Available

Studs in Wheel Flange

0 – Not Included
5 – 3/4 - 16 thd by 2.625 in

TORQUE-HUB.

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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODELOTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

W12C3

Performance Data

Continuous	Intermittent	Peak
125,000 lb-in	250,000 lb-in	300,000 lb-in
10,417 lb-ft	20,833 lb-ft	25,000 lb-ft
14,113 Nm	28,227 Nm	33,900 Nm
1,440 kg-m	2,880 kg-m	3,450 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 5,000 RPM Maximum Intermittent

Weight

Approximately 474 lbs (213 kg)

Note: Specific models will change weights.

W12C3 Model Formula

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 128 oz. (3,787 cm³)

Note: Oil level and type will vary with specific model and application.

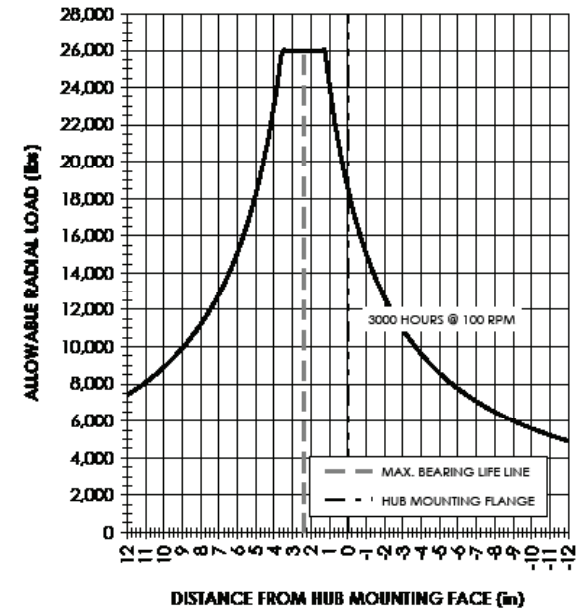
Conditions of Bearing Curve

Life = 3,000 hours B-10
Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



W – Torque-Hub® Wheel Drive

12 – Series

Spindle				Hub	
Motor Mount	Flange Mounting Dia.	Motor B.C.	Frame B.C.	Mounting Dia.	Flange B.C.
C3	SAE "C"	9.000 8.995	(2) 5/8-11 7.125 B.C.	(12) 3/4-16 10.500 B.C.	(12) .852/.849 16.750 B.C.

S.A.E. "D" model also available. See Page 60.

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W 12 C3 1 0 4 40

Studs in Wheel Flange

0 – Not Included
1 – 3/4-16 thd. by 2-17/32 in.
8 – 3/4-16 thd. by 3-1/4 in.

Options

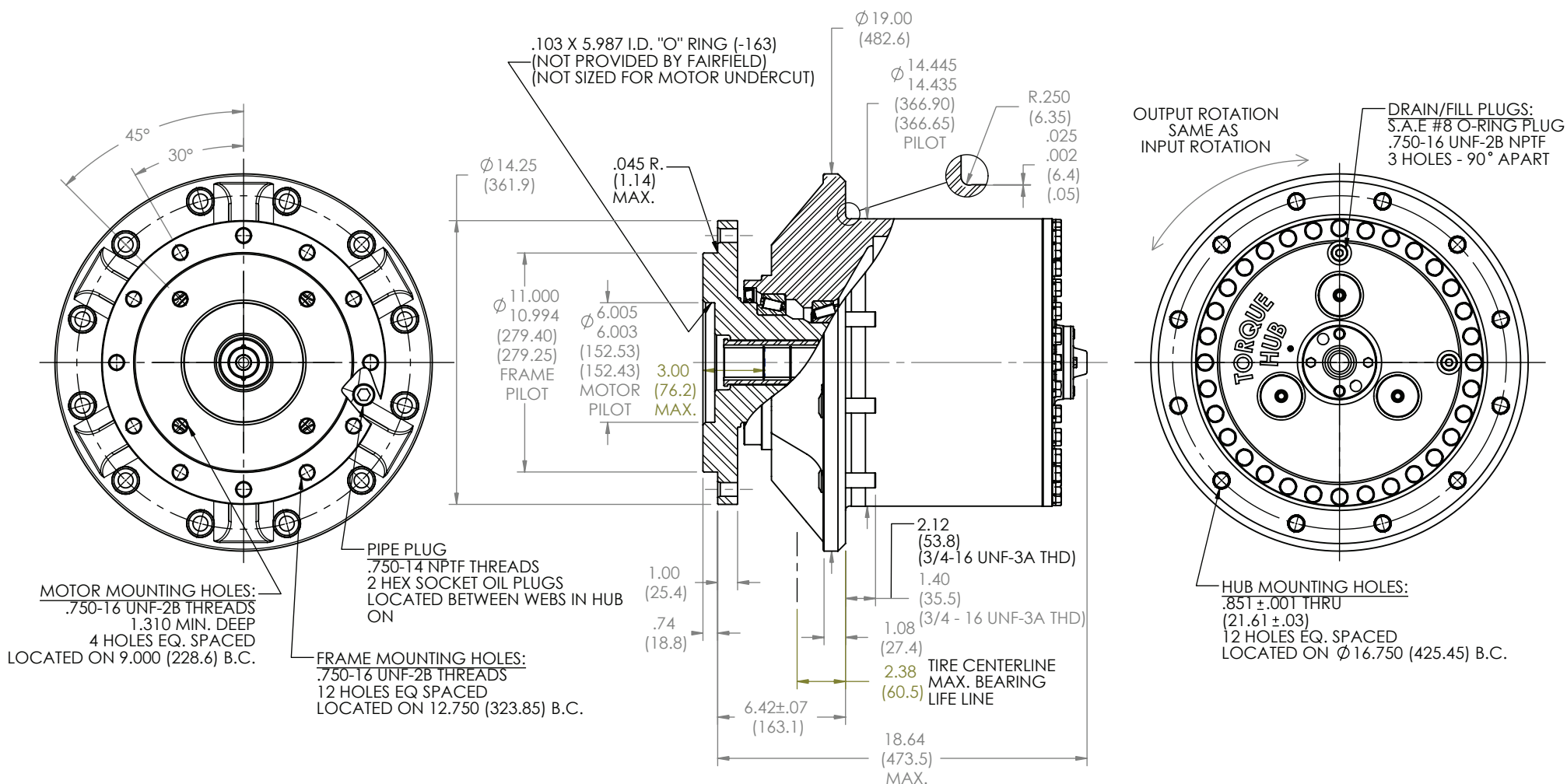
0 – Not Included
Z – Seal Boot

Reduction

20 – 20.3:1
29 – 29.2:1
40 – 39.4:1

Input

4 – 14T, 12/24 Spline
C – 14T, 12/24 with Solid Cover Cap (has spring)



W12D4

Performance Data

Continuous	Intermittent	Peak
125,000 lb-in	250,000 lb-in	300,000 lb-in
10,417 lb-ft	20,833 lb-ft	25,000 lb-ft
14,113 Nm	28,227 Nm	33,900 Nm
1,440 kg-m	2,880 kg-m	3,450 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 5,000 RPM Maximum Intermittent

Weight

Approximately 474 lbs (213 kg)

Note: Specific models will change weights.

W12D4 Model Formula

W – Torque-Hub® Wheel Drive

12 – Series

Spindle				Hub	
Motor Mount	Flange Mounting Dia.	Motor B.C.	Frame B.C.	Mounting Dia.	Flange B.C.
D4	SAE "D"	$\frac{11.000}{10.994}$	(4) 3/4-16 9.000 B.C.	(12) 3/4-16 12.750 B.C.	$\frac{14.44}{14.43}$ (12) .852/.849 16.750 B.C.

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 128 oz. (3,787 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

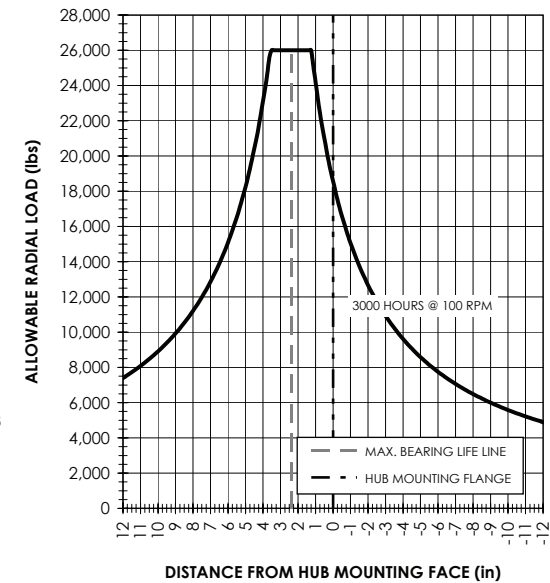
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



Reduction

20 –20.3:1

29 –29.2:1

40 –39.4:1

E – 27T, 16/32 Spline

D –13T, 8/16 Spline with Solid Cover Cap (has spring)

Studs in Wheel Flange

0 – Not Included

1 – 3/4-16 thd. by 2-17/32 in.

8 – 3/4-16 thd. by 3-1/4 in.

Options

0 – Not Included

Z – Seal Boot

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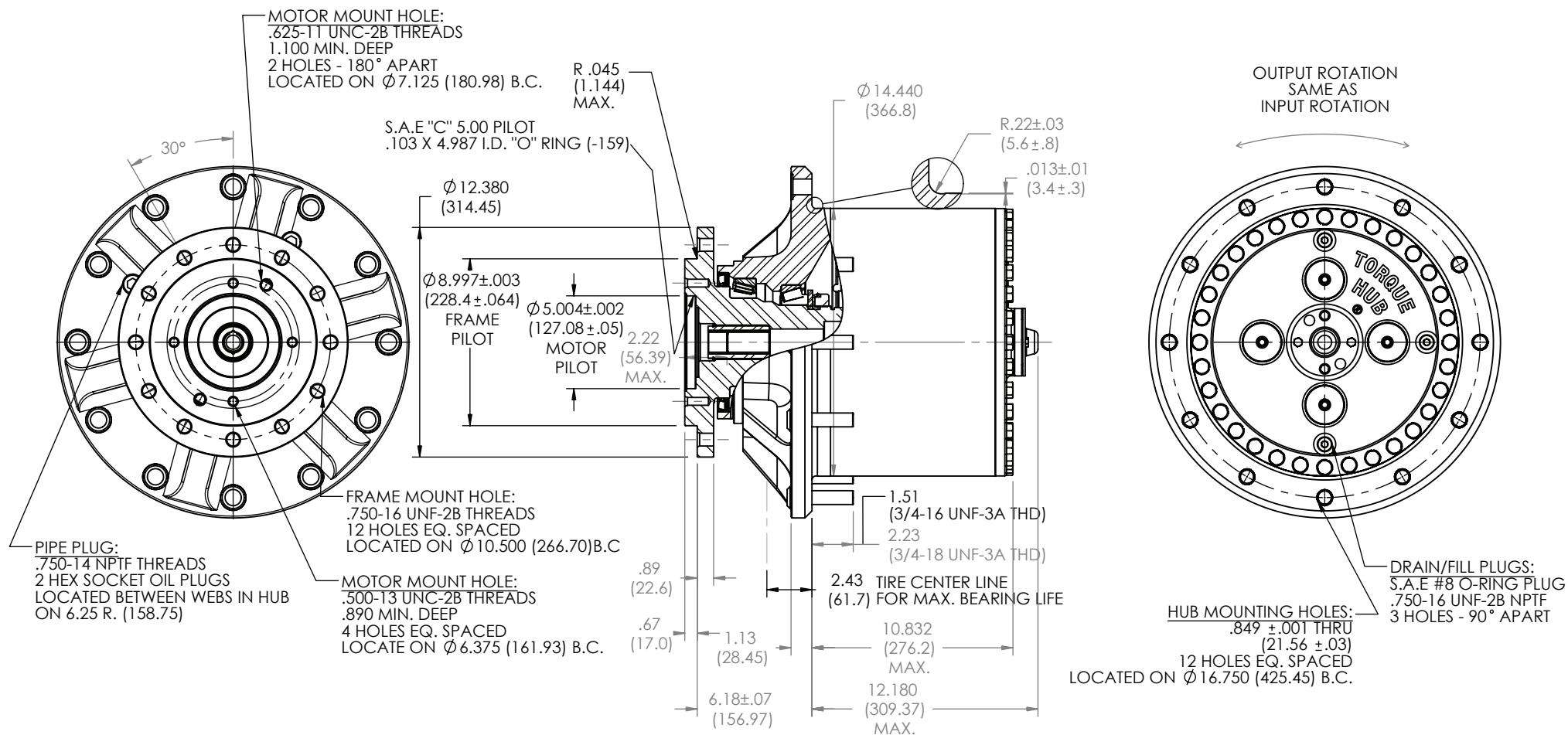
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W16C3

Application Sheet

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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

W16C3

Performance Data

Continuous	Intermittent	Peak
160,000 in-lbs	320,000 in-lbs	
13,333 ft-lbs	26,667 ft-lbs	Contact Fairfield
18,079 N-m	36,158 N-m	
1,843 kg-m	3,686 kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 4,000 RPM Maximum Intermittent

Weight

Approximately 500lbs (227kg)

Note: Specific models will change weights.

W16C3 Model Formula

W- Torque-Hub Wheel Drive

16 - Series

Spindle				Hub	
Motor Mount	Flange Mounting Dia.	Motor B.C.	Frame B.C.	Mounting Dia.	Flange B.C.
C3	SAE "C"	9.000/ 8.994	(2) 5/8-11 7.125 B.C.	(12) 3/4-16 10.500 14.44/14.43	(12) .852/.849 16.750 B.C.

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 128oz (3785cc)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

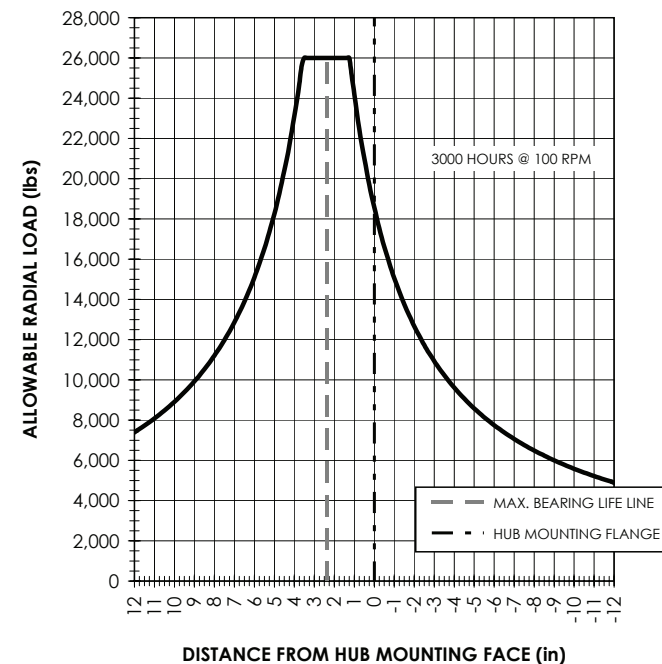
Life = 3,000 hours B10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{\left(\frac{10}{3} \right)}$$

Bearing Curve



W 16 C3 1 0 4 40 X

Options
0 - Not Included
Z - Seal Boot

Reduction
20 - 20.3
29 - 29.2
40 - 39.4

Disengage Option
X - Anti-disengage spacer

Studs in Wheel Flange
0 - Not Included
1 - 3/4 - 16 x 2 17/32
8 - 3/4 - 16 x 3 1/4

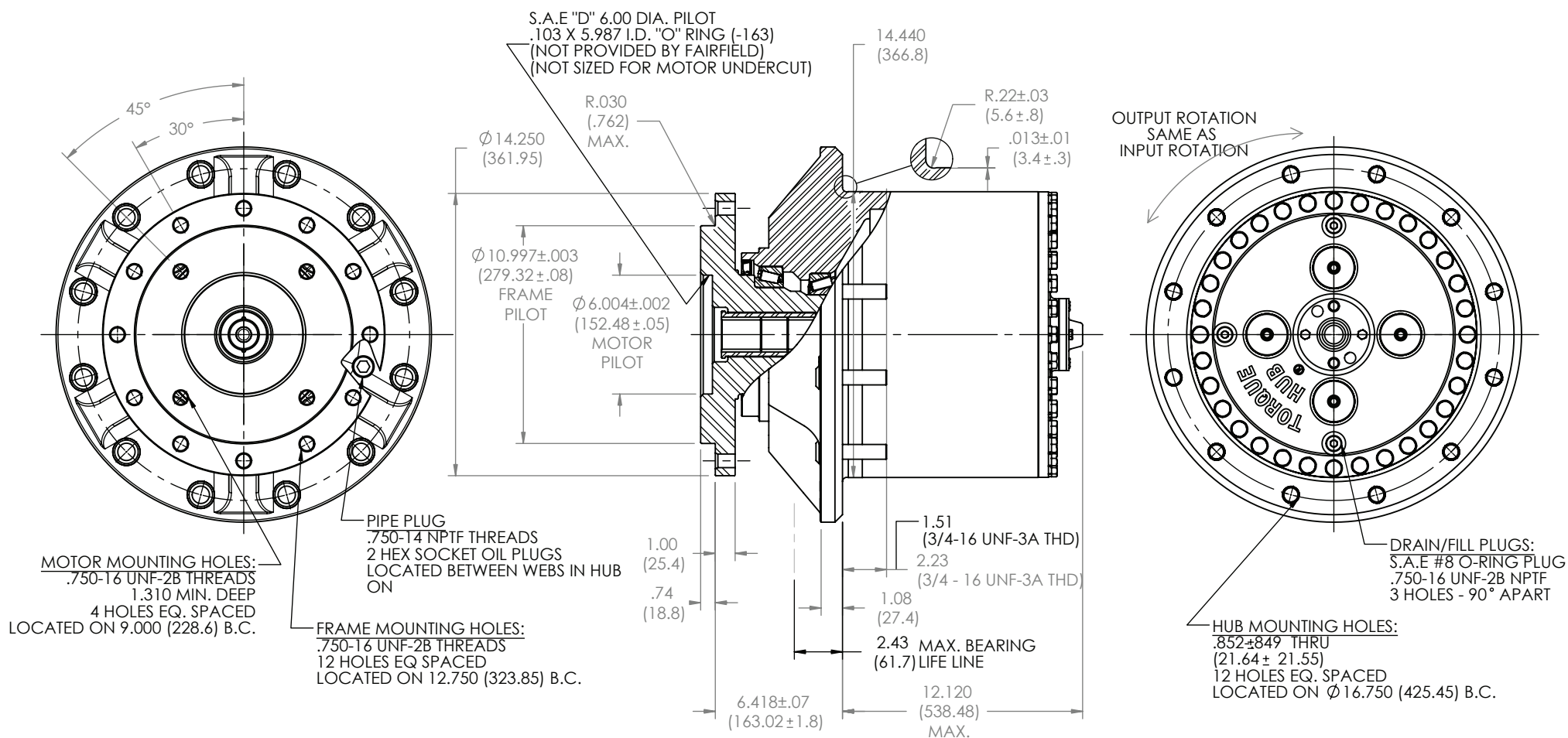
Input
4 - 14T, 12/24 Spline
7 - 21T, 16/32 Spline
C - 14T, 12/24 with Solid Cover Cap (has spring)
G - 23T, 16/32 Spline
5 - 13T, 8/16 Spline
E - 27T, 16/32 Spline

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MOTOR CAVITY DIMENSIONS VARY WITH MODELOTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

W16D1

Performance Data

Continuous	Intermittent	Peak
160,000 in-lbs	320,000 in-lbs	
13,333 ft-lbs	26,667 ft-lbs	Contact Fairfield
18,079 N-m	36,158 N-m	
1,843 kg-m	3,686 kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 4,000 RPM Maximum Intermittent

Weight

Approximately 500lbs (227kg)

Note: Specific models will change weights.

Model Formula

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

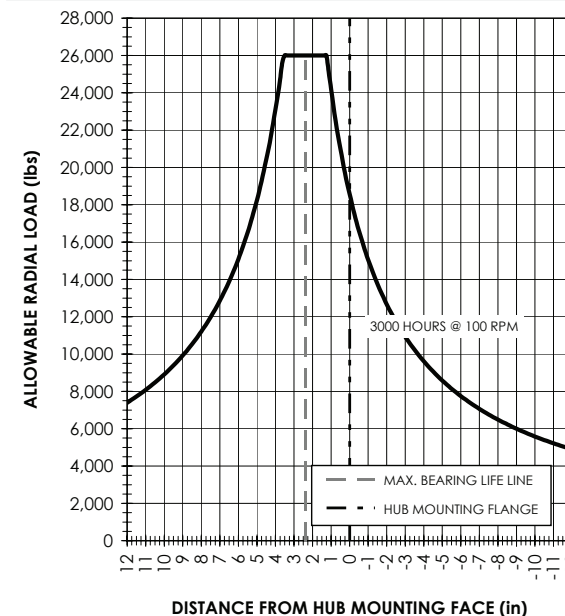
Life = 3,000 hours B10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{\left(\frac{10}{3} \right)}$$

Bearing Curve



W 16 D1 1 0 4 40 X

W - Torque-Hub Wheel Drive

16 - Series

Spindle				Hub	
Motor Mount	Flange Mounting Dia.	Motor B.C.	Frame B.C.	Mounting Dia.	Flange B.C.
D1	SAE "D"	11.000/10.994	(4) 3/4-16 9.000 B.C.	(12) 3/4-16 12.750 B.C.	14.44/14.43 (12) .852/.849 16.750 B.C.

Options
0 - Not Included
Z - Seal Boot

Reduction
20 - 20.3
29 - 29.2
40 - 39.4

Disengage Option
X - Anti-disengage spacer

Studs in Wheel Flange
0 - Not Included
1 - 3/4-16 x 2 17/32
8 - 3/4-16 x 3 1/4

Input
5 - 13T, 8/16 Spline

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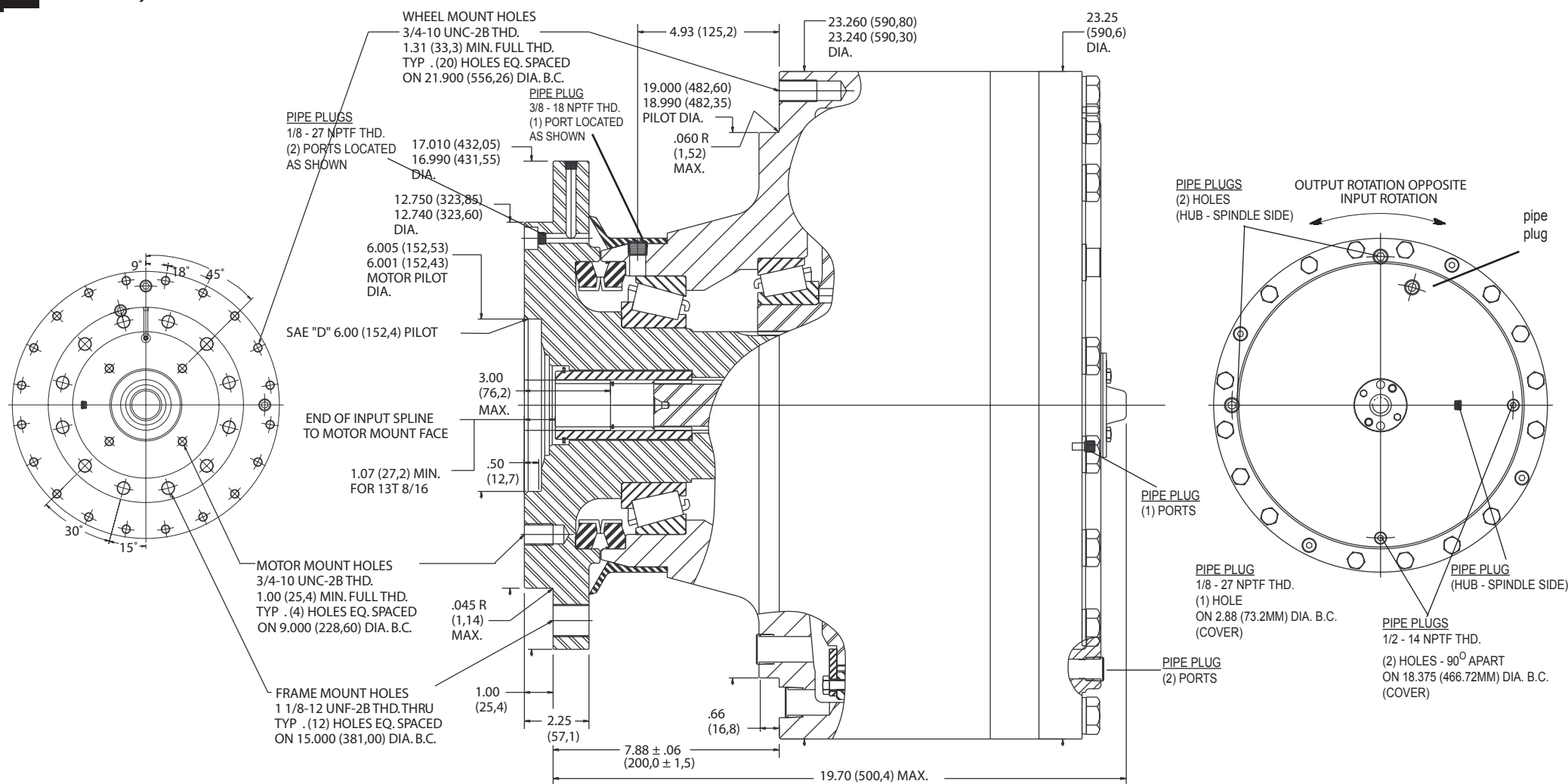
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MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

W20D1

Performance Data

Continuous	Intermittent	Peak
250,000 lb-in	500,000 lb-in	Contact Fairfield
20,833 lb-ft	41,667 lb-ft	
28,227 Nm	56,453 Nm	
2,880 kg-m	5,760 kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 1,500-1,800 RPM Maximum Intermittent

Weight

Approximately 1,250 lbs (563 kg)

Note: Specific models will change weights.

W20D1 Model Formula

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 256 oz. (7,573 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

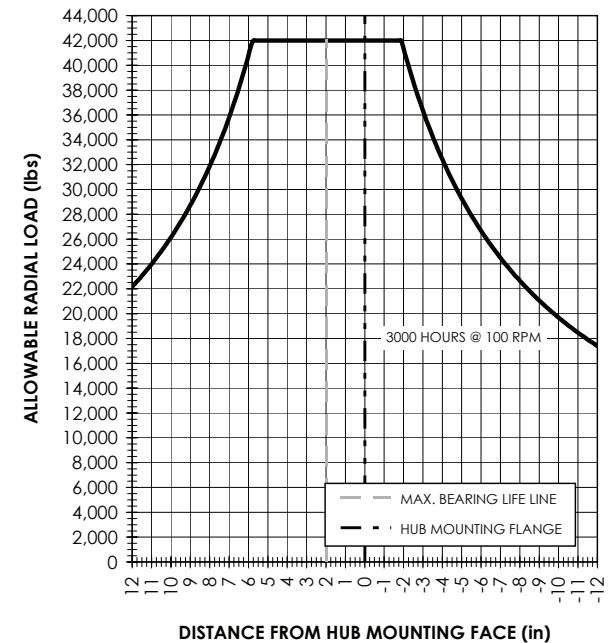
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



DISTANCE FROM HUB MOUNTING FACE (in)

Special Features

X – Coupling Subassembly with Antisengage Spacer

Reduction

26 – 26.2:1
36 – 36.6:1
53 – 53.1:1
61 – 61.2:1
85 – 85.3:1
115 – 115.3:1

Input

4 – 14T, 12/24 Spline
5 – 13T, 8/16 Spline

Internal Gear

4 – Reduction 26:1 & 53:1
5 – Reduction 36:1 & 61:1
9 – Reduction 85:1 & 115:1

Options

0 – Blank
Z – Seal Boot

W – Torque-Hub® Wheel Drive

20 – Series

Spindle				Hub	
Motor Mount	Flange Mounting Dia.	Motor B.C.	Frame B.C.	Mounting Dia.	Flange B.C.
D1 SAE "D"	<u>12.750</u> 12.740	(4) 3/4-10 9.000 B.C.	(12) 1 1/8-12 15.000 B.C.	<u>23.260</u> 23.240	(20) 3/4-10 21.900 B.C.

S.A.E. "C" model available. Please contact Fairfield.

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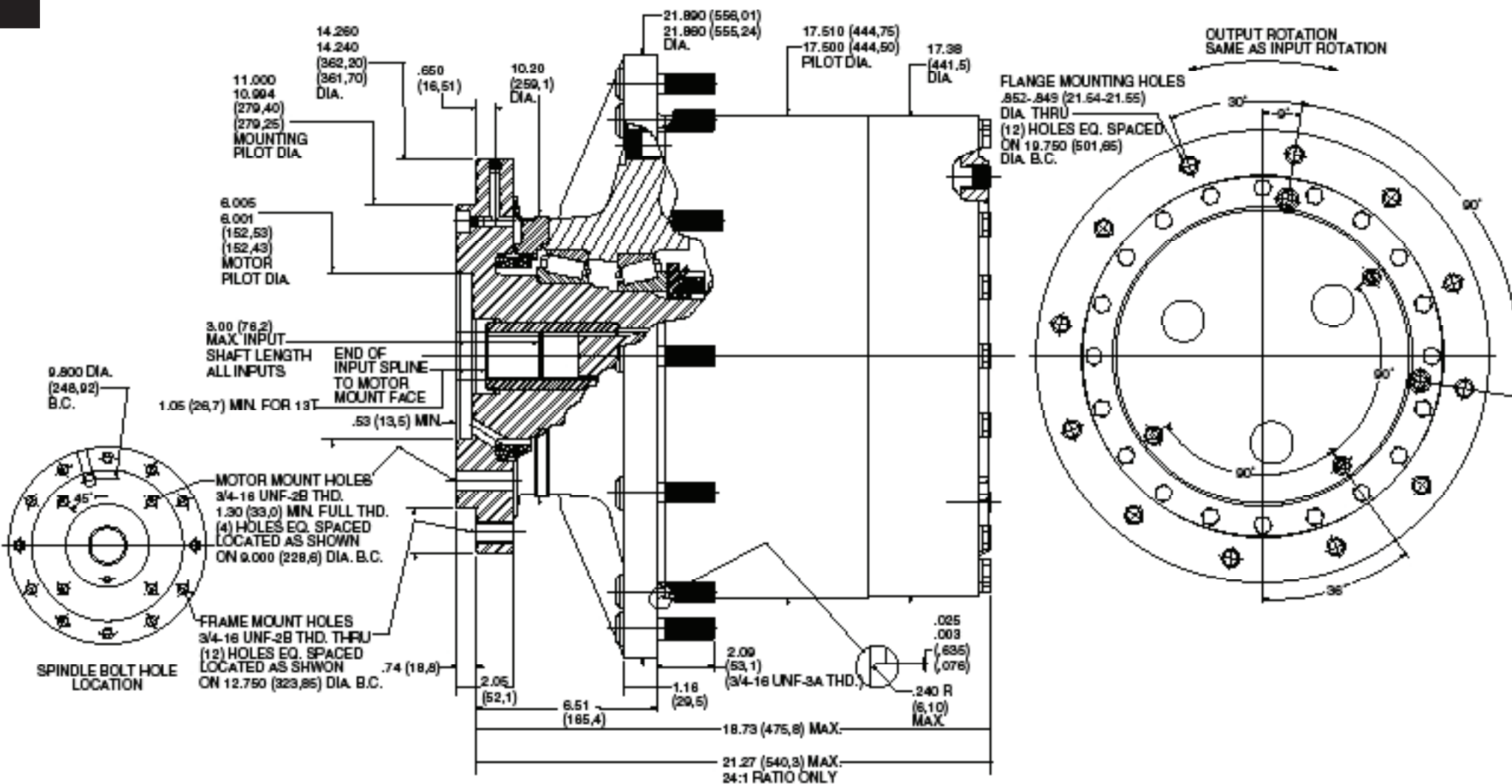
25 Series

W25D4

Application Sheet

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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

W25D4

Performance Data

Continuous	Intermittent	Peak
200,000 lb-in	400,000 lb-in	Contact Fairfield
16,667 lb-ft	33,333 lb-ft	
22,600 Nm	45,200 Nm	
2,300 kg-m	4,600 kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 3,000 RPM Maximum Intermittent

(Contact Fairfield for specific speed information)

Weight

Approximately 740 lbs (333 kg)

Note: Specific models will change weights.

W25D4 Model Formula

W – Torque-Hub® Wheel Drive

25 – Series

Spindle				Hub	
Motor Mount	Flange Mounting Dia.	Motor B.C.	Frame B.C.	Mounting Dia.	Flange B.C.
D4 SAE "D"	$\frac{11.000}{10.994}$	(4) 3/4-16 9.000 B.C.	(12) 3/4-16 12.750 B.C.	$\frac{17.510}{17.500}$	(12) .852/.849 19.750 B.C.

SAE "C" model available. Please contact Fairfield.

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Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 228 oz. (6,788 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

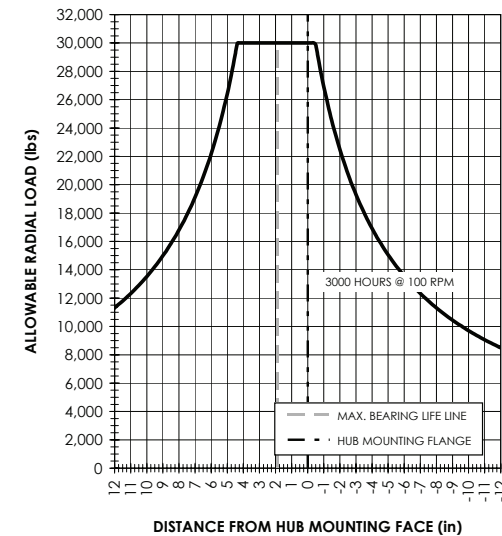
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



W 25 D4 0 Z 5 25

Input
5 – 13T, 8/16 Spline

Reduction

19 – 18.95:1
24 – 23.75:1
25 – 24.75:1
*67 – 67.37:1 - SAE"C"
INPUT
*88 – 88.05:1 - SAE"C"
INPUT

*used in conjunction with S1C gear package

Studs

0 – Not Included

5 – 3/4 - 16 Am. Nat. Thd. by 2.63 in.
(use with .875/.873 flange hole on steel hub)

8 – 3/4 - 16 by 3.25 in. (use with .852/.849 flange hole on cast iron hub)

Options

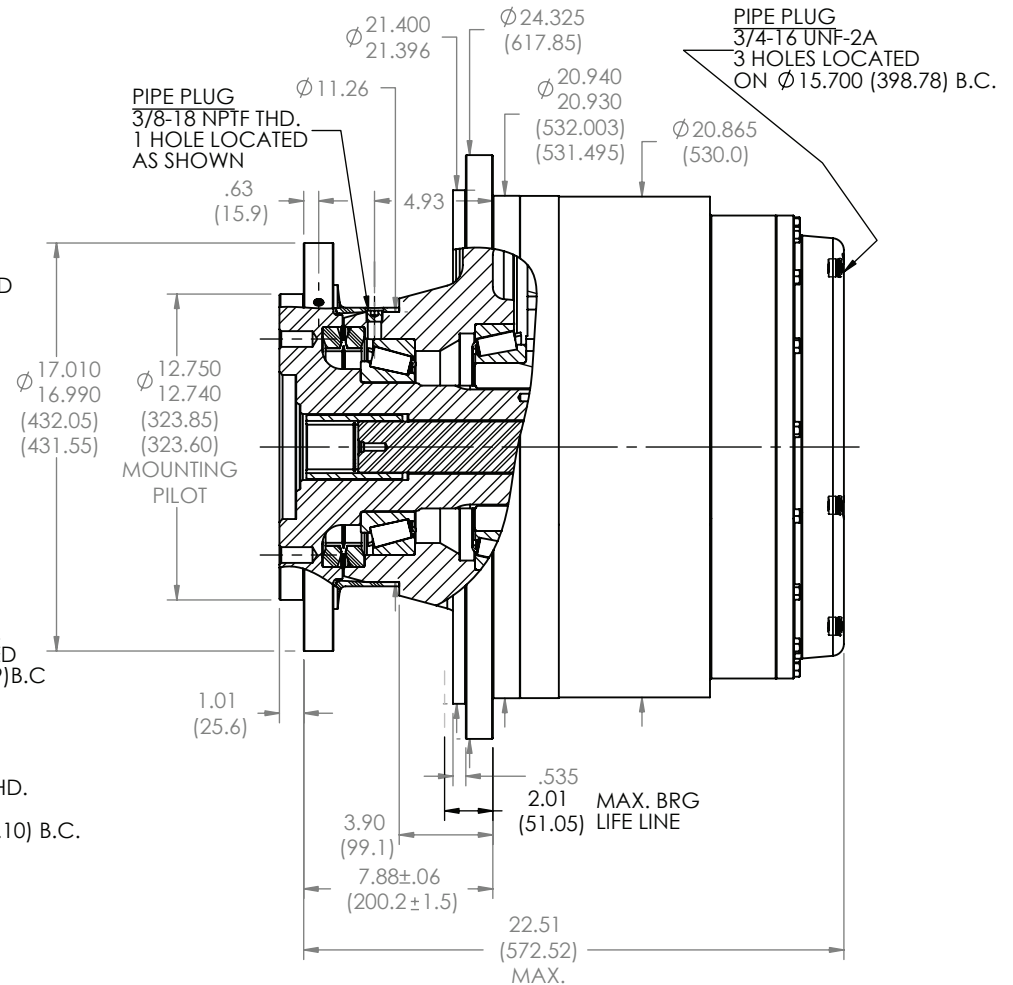
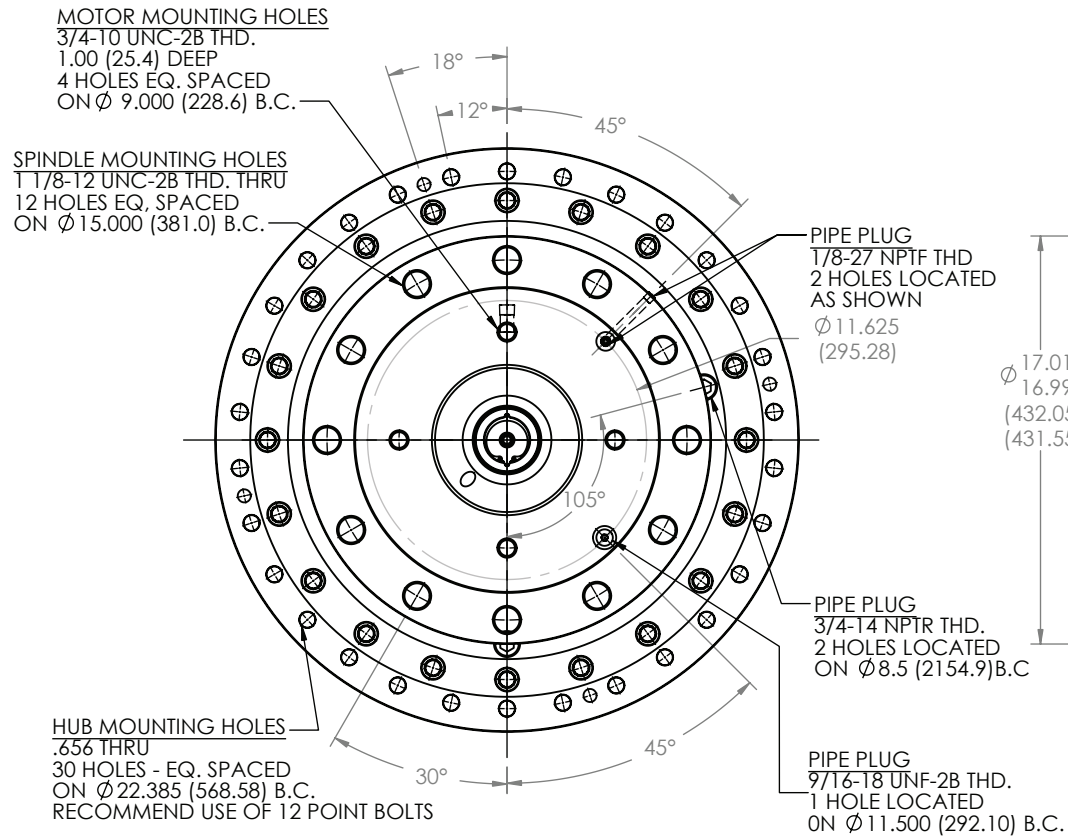
0 – Blank
Z – Seal Boot

W40D2

Application Sheet

TORQUE-HUB®

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NOTE: MM SHOWN IN ()
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OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

W40D2

Performance Data

Continuous	Intermittent	Peak
400,000 in-lbs	800,000 in-lbs	Contact Fairfield
33,333 ft-lbs	66,667 ft-lbs	
45,198 N-m	90,395 N-m	
4,607 kg-m	9,215 kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 2,500 RPM Maximum Intermittent

Weight

Approximately 1,170lbs (532kg)

Note: Specific models will change weights.

W40D2 Model Formula

W - Torque - Hub Wheel Drive

40 - Series

Spindle				Hub	
Motor Mount	Flange Mounting Dia.	Motor B.C.	Frame B.C.	Mounting Dia.	Flange B.C.
D2	SAE "D"	12.750/12.740	(4) 3/4 - 10 9.000 B.C.	(12) 1.125-12 15.000 B.C.	20.940/ 20.930 (30) .660/650 22.385 B.C.

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume: 500oz (14785cc)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

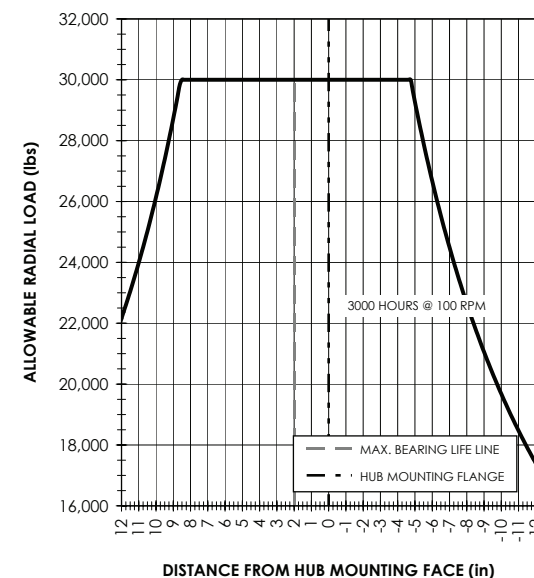
Life = 3,000 hours B10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{\left(\frac{10}{3} \right)}$$

Bearing Curve



W 40 D2 5 24 C Y

Special Features
Y - Seal Boot

Reduction
18 - 18.06
20 - 20.49
24 - 23.95
40 - 39.71

Input
5- 13T 8/16 Spline
W- 16T 8/16 Spline

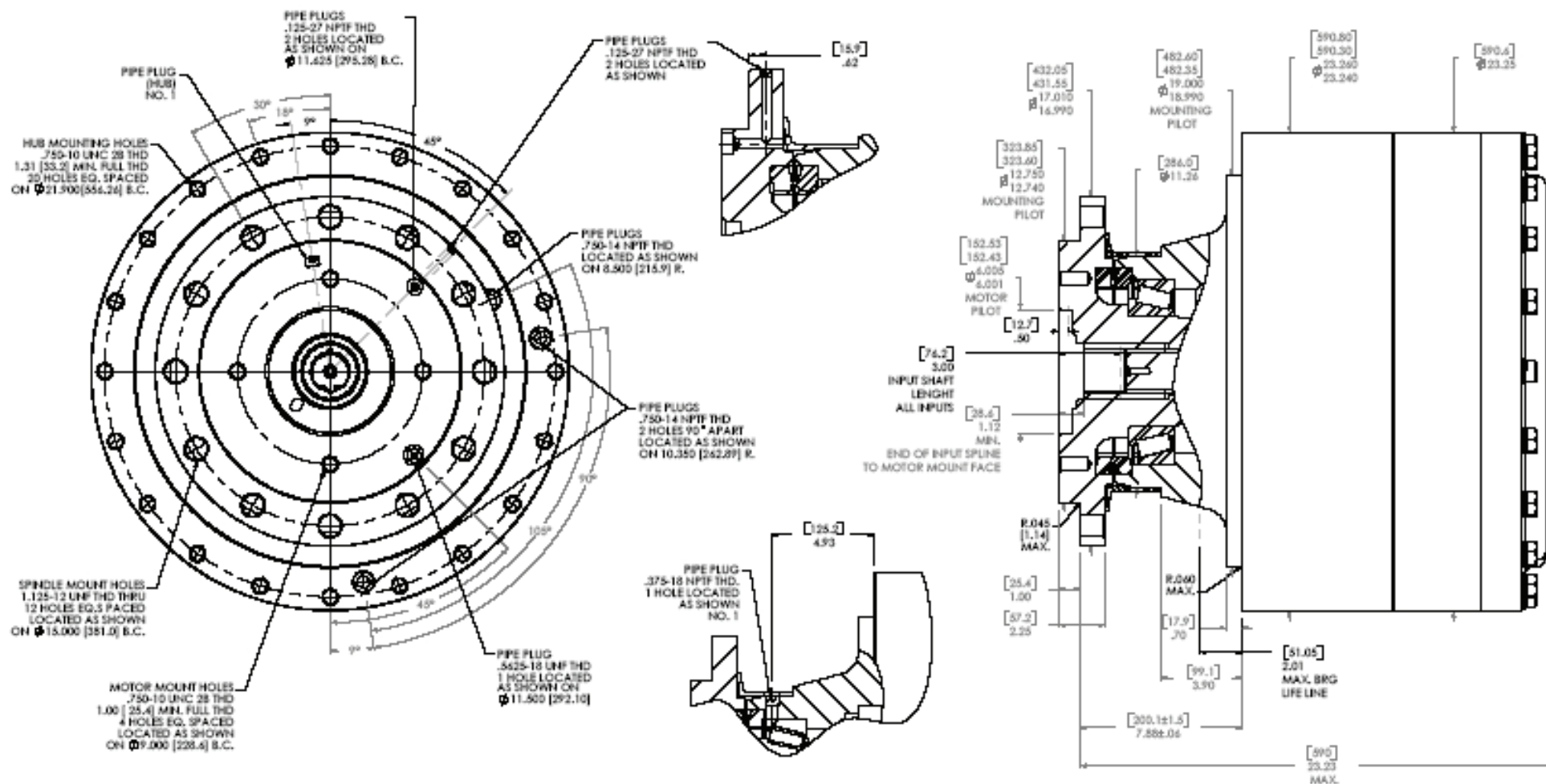
Special Features
C - Ball Bearing in Cover
D - Ball Bearing in Cover and Viton Seal
Z - Blank

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(Same as rotation available - Contact Fairfield)

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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

W50D9

Performance Data

Continuous	Intermittent	Peak
500,000 lb-in	1,000,000 lb-in	Contact Fairfield
41,667 lb-ft	83,333 lb-ft	
56,453 Nm	112,906 Nm	
5,760 kg-m	11,520 kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 3,000 RPM Maximum Intermittent

(Contact Fairfield for specific speed information)

Weight

Approximately 1,360 lbs (612 kg)

Note: Specific models will change weights.

W50D9 Model Formula

W – Torque-Hub® Wheel Drive

50 – Series

	Spindle				Hub	
	Motor Mount	Flange Mounting Dia.	Motor B.C.	Frame B.C.	Mounting Dia.	Flange B.C.
D9	SAE "D"	<u>12.750</u> 12.740	(3) 3/4-10 9.000 B.C.	(12) 1 1/8-12 15.000 B.C.	<u>19.000</u> 18.990	(20) 3/4-10 21.900 B.C.

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Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 500 oz. (14,886 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right)^x \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

W 50 D9 5 24 C Y

Input

0 – No Input Provided

W – 16T, 8/16 Spline

5 – 13T, 8/16 Spline

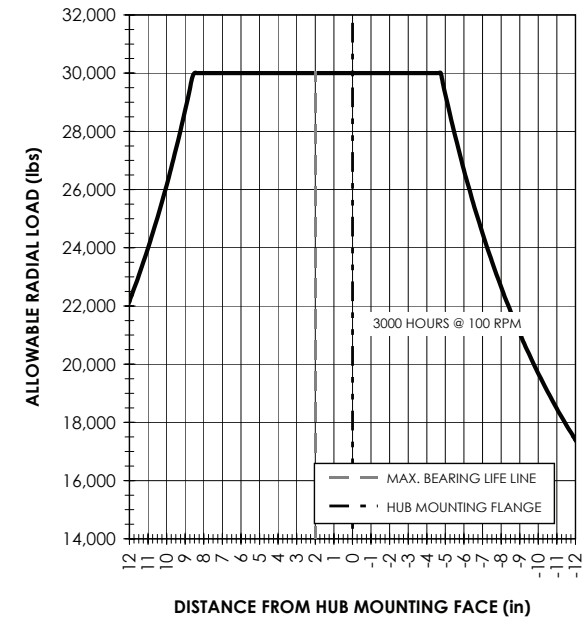
Reduction

18 – 18.06:1

20 – 20.49:1

24 – 23.95:1

Bearing Curve



Special Features

Y – Seal Boot

Special Features

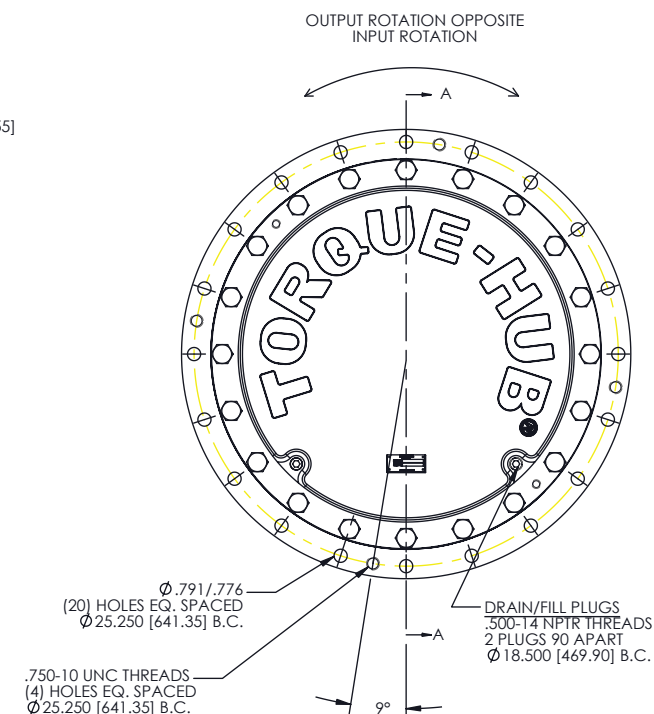
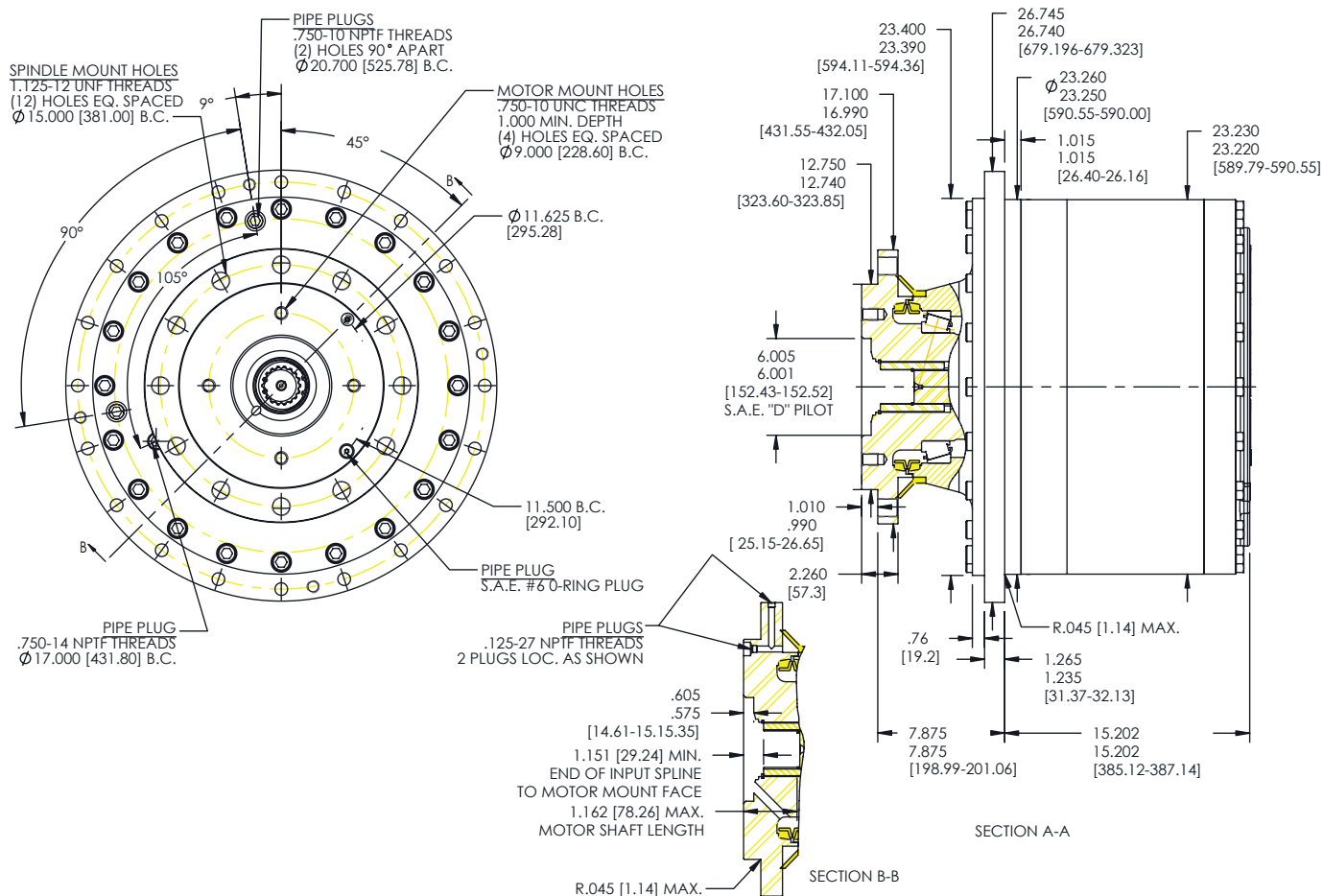
Z – Blank

B – Thrust Bearing in Cover
(available in 16T input with 18:1 ratio)

C – Ball Bearing in Cover
(available in 16T input with 18:1, 19:1, and 24:1 ratios)

TORQUE-HUB®

Planetary Final Drives



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Before final design request a certified print from Fairfield.

NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

W80D1

Performance Data

Continuous	Intermittent	Peak
800,000 in-lbs	1,600,000 in-lbs	Contact Fairfield
66,667 ft-lbs	133,333 ft-lbs	
90,395 N-m	180,791 N-m	
9,215 kg-m	18,429 kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 2,500 RPM Maximum Intermittent

Weight

Approximately 1,725lbs (784kg)

Note: Specific models will change weights.

W80D1 Model Formula

W - Torque-Hub Wheel Drive

80 - Series

Spindle				Hub	
Motor Mount	Flange Mounting Dia.	Motor B.C.	Frame B.C.	Mounting Dia.	Flange B.C.
D1	SAE "D"	12.750/ 12.740	(4) 3/4-10 9.000 B.C.	(12) 1.125-12 15.000 B.C.	23.26/23.25 (20) .791/.776 25.250 B.C.

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

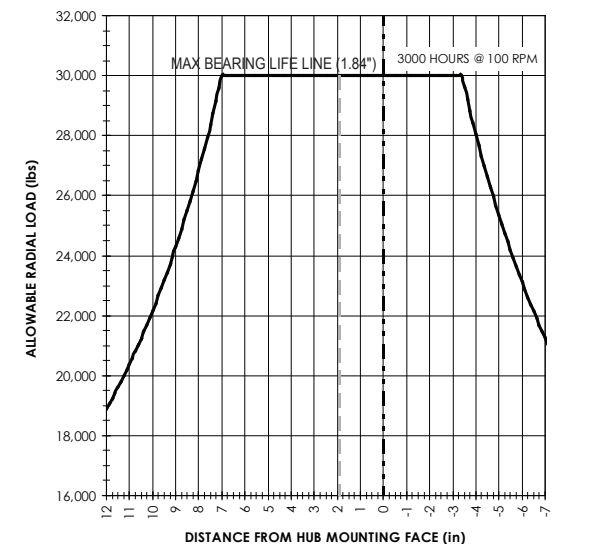
Life = 3,000 hours B10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{\left(\frac{10}{3} \right)}$$

Bearing Curve



W 80 D1 0 35 Z Y

Reduction
20 - 20.13
35 - 34.63

Input
0 - Not Included
A - IA15F input adapter
B - 18T, 8/16 spline

Special Features
Y - Seal Boot

Special features
Z - Blank

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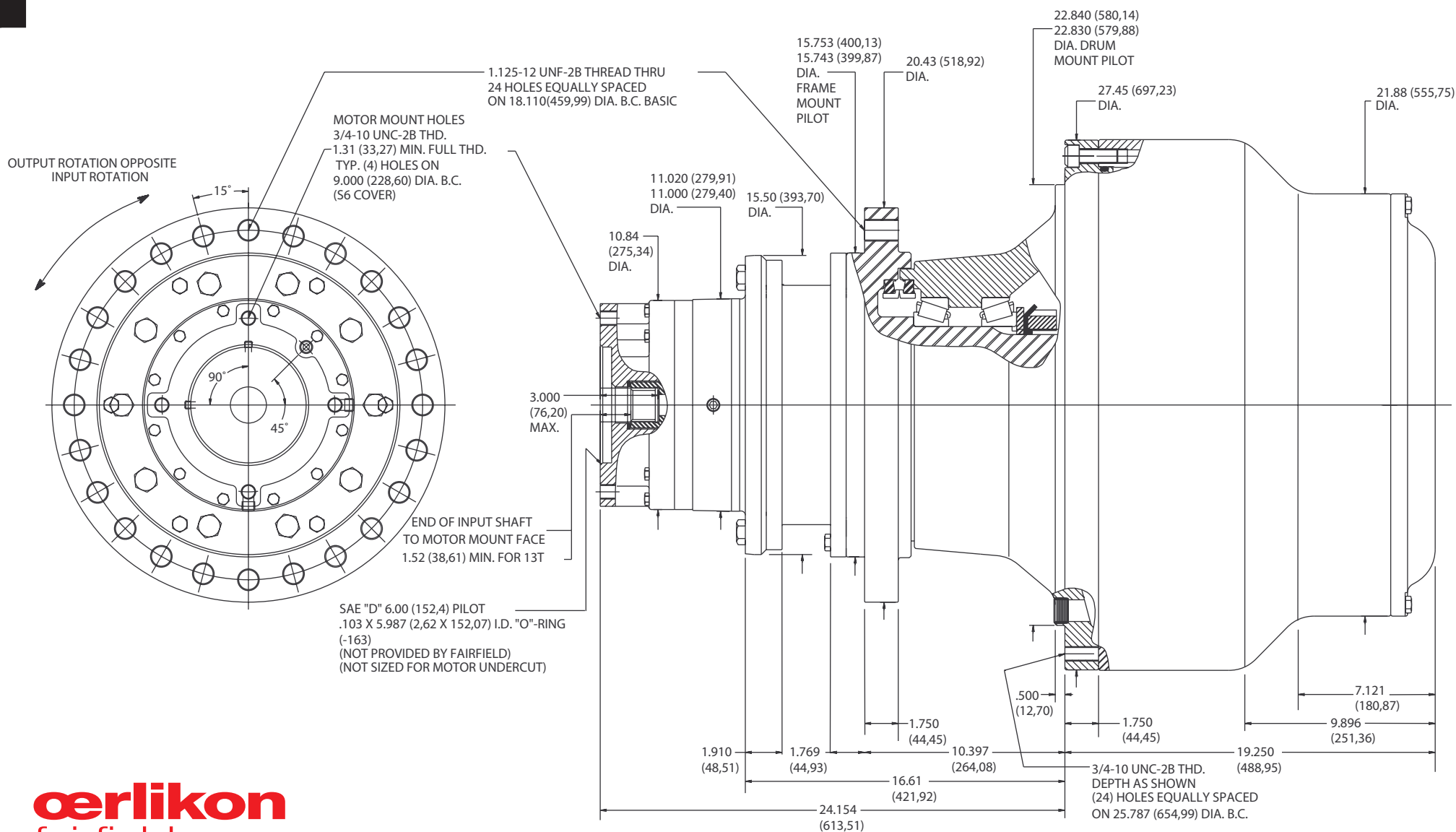
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TORQUE-HUB[®]

Planetary Final Drives

(Also available with special input and 25:1 ratio)



NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

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Before final design request a certified print from Fairfield.

W90

Performance Data

Continuous	Intermittent	Peak
1,470,000 lb-in	2,941,000 lb-in	Contact Fairfield
122,500 lb-ft	245,000 lb-ft	
166,110 Nm	332,333 Nm	
16,905 kg-m	33,821 kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: Please contact Fairfield.

Weight

Approximately 2,276 lbs (1,024 kg)

Note: Specific models will change weights.

W90 Model Formula

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 7.5 gal. (28,400 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

Please contact Fairfield.

Bearing Curve

Please contact Fairfield.

Note: Unit shown uses S6C1 single planetary input to W90 for 3-stage ratios of 95:1, 113:1, 118:1, and 151:1. W90 with 25.218:1 ratio does not use S6C input.

W – Torque-Hub® Wheel Drive

90 – Series

W 90 D1 5 118 —

Special Features
Y – Seal Boot

Reduction

- 25** – 25.218:1
(25.218:1 ratio available with 19 T, 8/16 spline. See W90K data.)
- 95** – 94.57:1
(uses S6C gear package–3.75:1)
- 113** – 113.48:1
(uses S6C gear package–4.50:1)
- 118** – 117.77:1
(uses S6C gear package–4.67:1)
- 151** – 151.31:1
(uses S6C gear package–6.00:1)

Input

- 5** – 13T, 8/16 Spline
- 7** – 21T, 16/32 Spline (used with 95:1 ratio)

		Spindle			Hub	
		Motor Mount	Flange Mounting Dia.	Motor B.C.	Frame B.C.	Mounting Dia.
D1	SAE "D"	15.753	(4) 3/4-10	(24) 1.125-12	22.840	(24) 3/4-10
		15.743	9.000 B.C.	18.110 B.C.	22.830	25.787 B.C.
C1	SAE "C"	15.753	(4) 1/2-13	(24) 1.125-12	22.840	(24) 3/4-10
		15.743	6.375 B.C.	18.110 B.C.	22.830	25.787 B.C.

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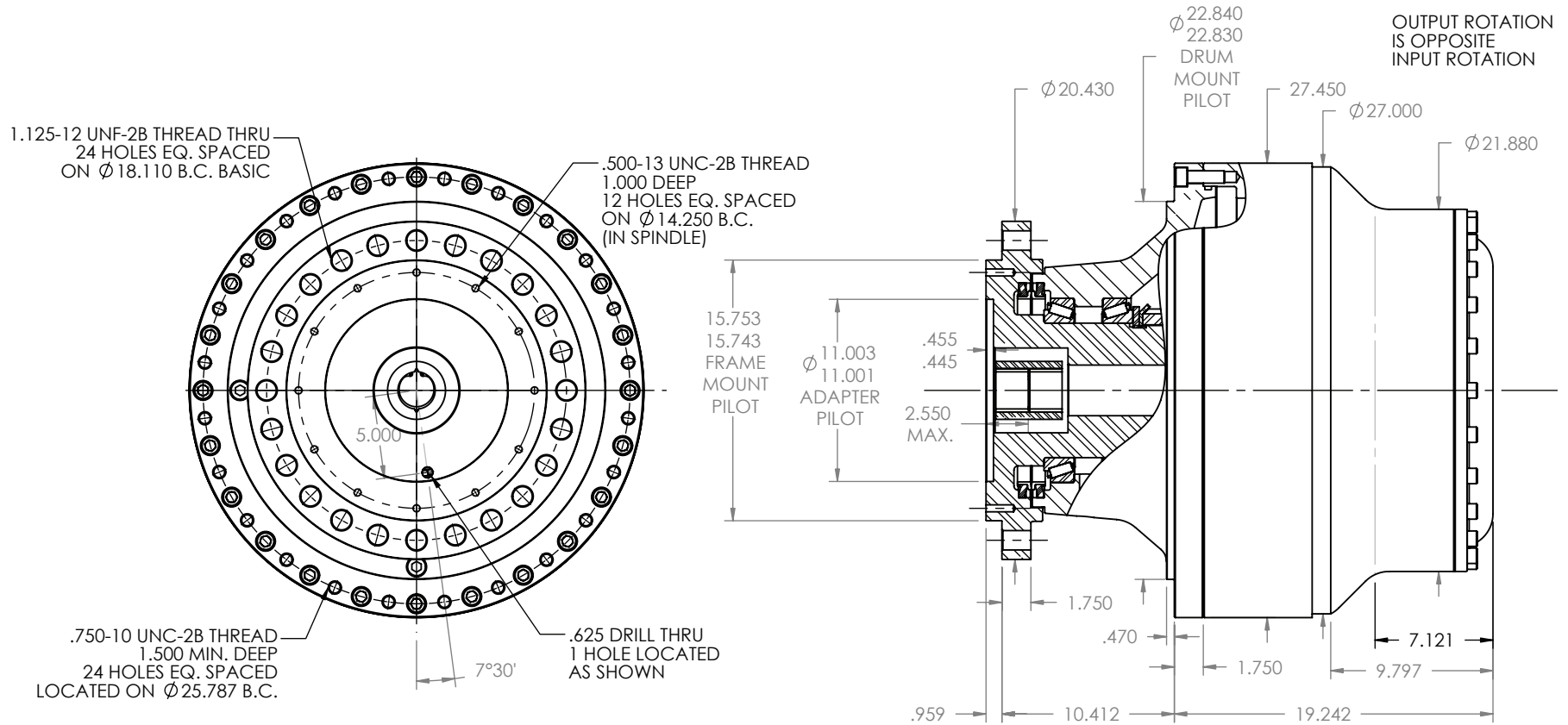
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W90K Application Sheet

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Planetary Final Drives



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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

W90K

Performance Data

Continuous	Intermittent	Peak
1,470,000 lb-in	2,941,000 lb-in	
122,500 lb-ft	245,000 lb-ft	Contact Fairfield
166,110 Nm	332,333 Nm	
16,905 kg-m	33,821 kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 2,000 RPM Maximum Intermittent

Weight

Approximately 2,250lbs (1,023kg)

Note: Specific models will change weights.

Model Formula

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume: 960oz (28387.2cc)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

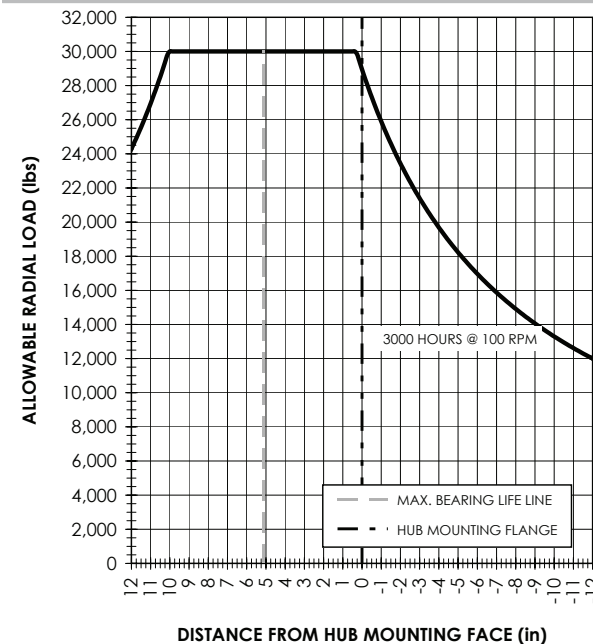
Life = 3,000 hours B10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{\left(\frac{10}{3} \right)}$$

Bearing Curve



W 90 K1 L 25

W - Torque-Hub Wheel Drive

90

Spindle				Hub	
Adapter Pilot	Flange Mounting Dia.	Adapter B.C.	Frame B.C.	Mounting Flange Dia.	Flange B.C.
11.003/ 11.001	15.753/ 15.743	(12) 1/2 - 13 14.250 B.C.	(24) 1.125-12 18.110 B.C.	22.840/ 22.830	(24) 3/4-10 25.787 B.C.

Reduction
25 - 25.218

Input
L - 19T 8/16 Spline

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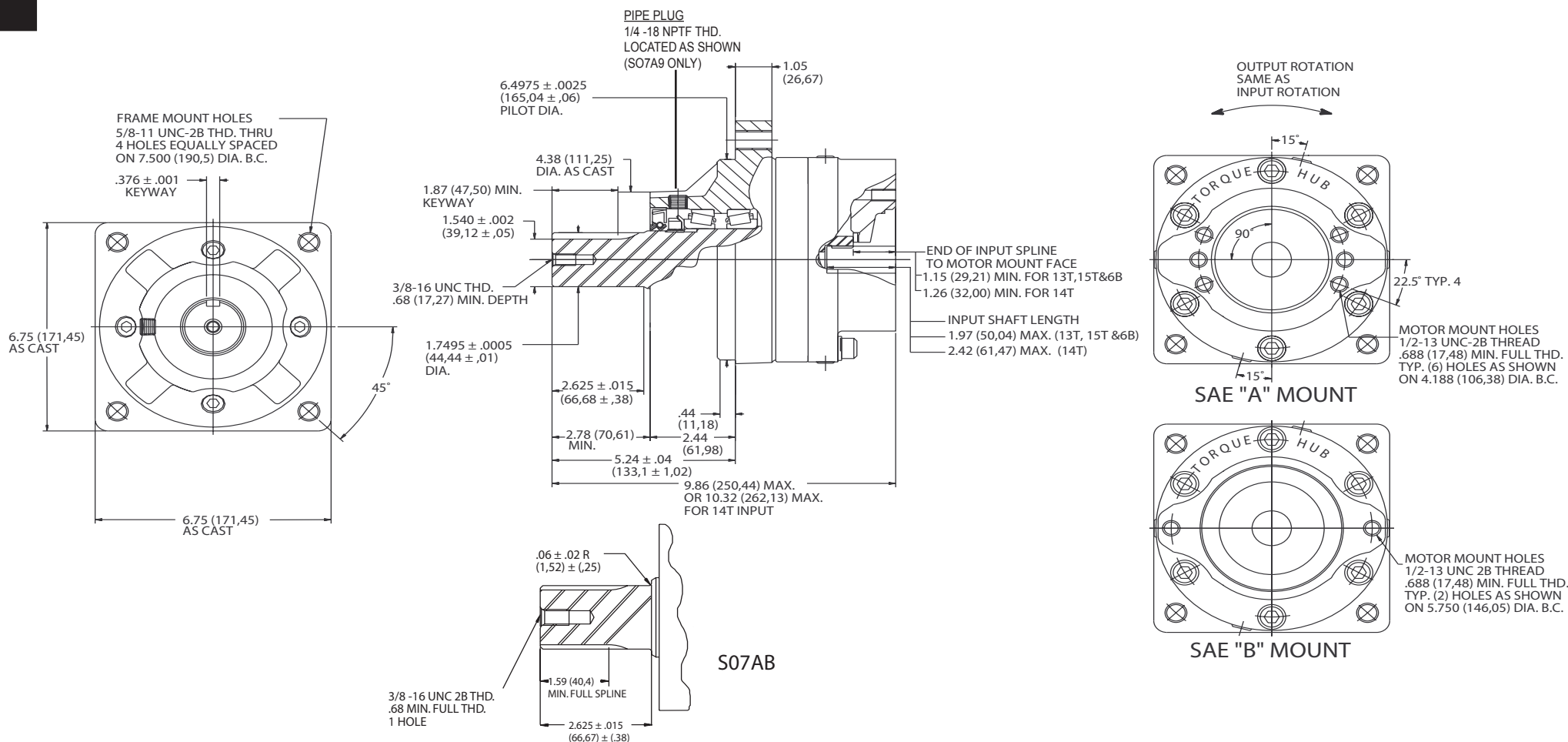
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07 Series

S07A/AB

Application Sheet

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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

S07A

Performance Data

Continuous	Intermittent	Peak
7,500 lb-in	15,000 lb-in	20,000 lb-in
625 lb-ft	1,250 lb-ft	1,666.7 lb-ft
845 Nm	1,690 Nm	2,260 Nm
86 kg-m	172 kg-m	230 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 4,000 RPM Maximum Intermittent

Contact Fairfield for specific speed information.

Weight

Approximately 45 lbs (20 kg)

Note: Specific models will change weights.

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 11oz. (325 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

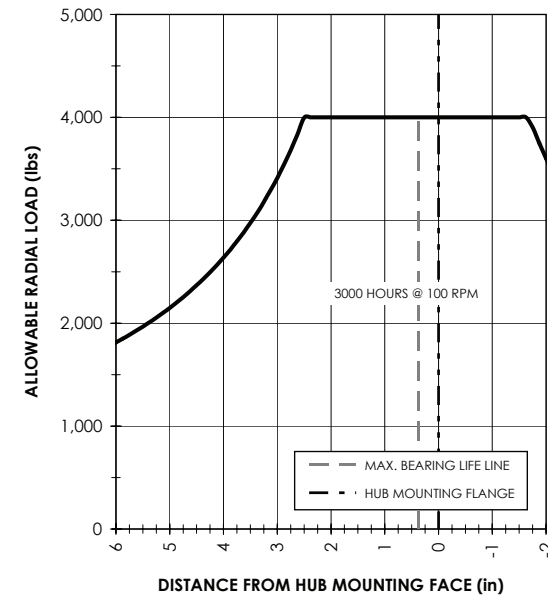
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



S07A Model Formula

S 07 A2 6 3 0 4

S – Torque-Hub® Shaft Output

07 – Series

	Shaft	Hub
	Configuration	Hub Flange Thickness Flange B.C.
A2	1 3/4" Dia. 3/8" Keyway	1.05" (4) 5/8-11 Holes 7.500 Dia. B.C.
AB	1.495" Dia. 17T, 12/24 Spline	.94" (4) .671/.641 Thru 7.750 Dia. B.C.

Motor Input

3 – 13T, 16/32 Spline
6 – 6B Parallel Side Spline
(major dia. = 1.00 in.)

Ratio

4 – 4.105:1

Options/Features

0 – Not Included

Hydraulic Motor Mount

3 – S.A.E. "B"
(4.005/4.001) Pilot
6 – S.A.E. "A"
(3.255/3.251) Pilot
(2 and 4 bolt)

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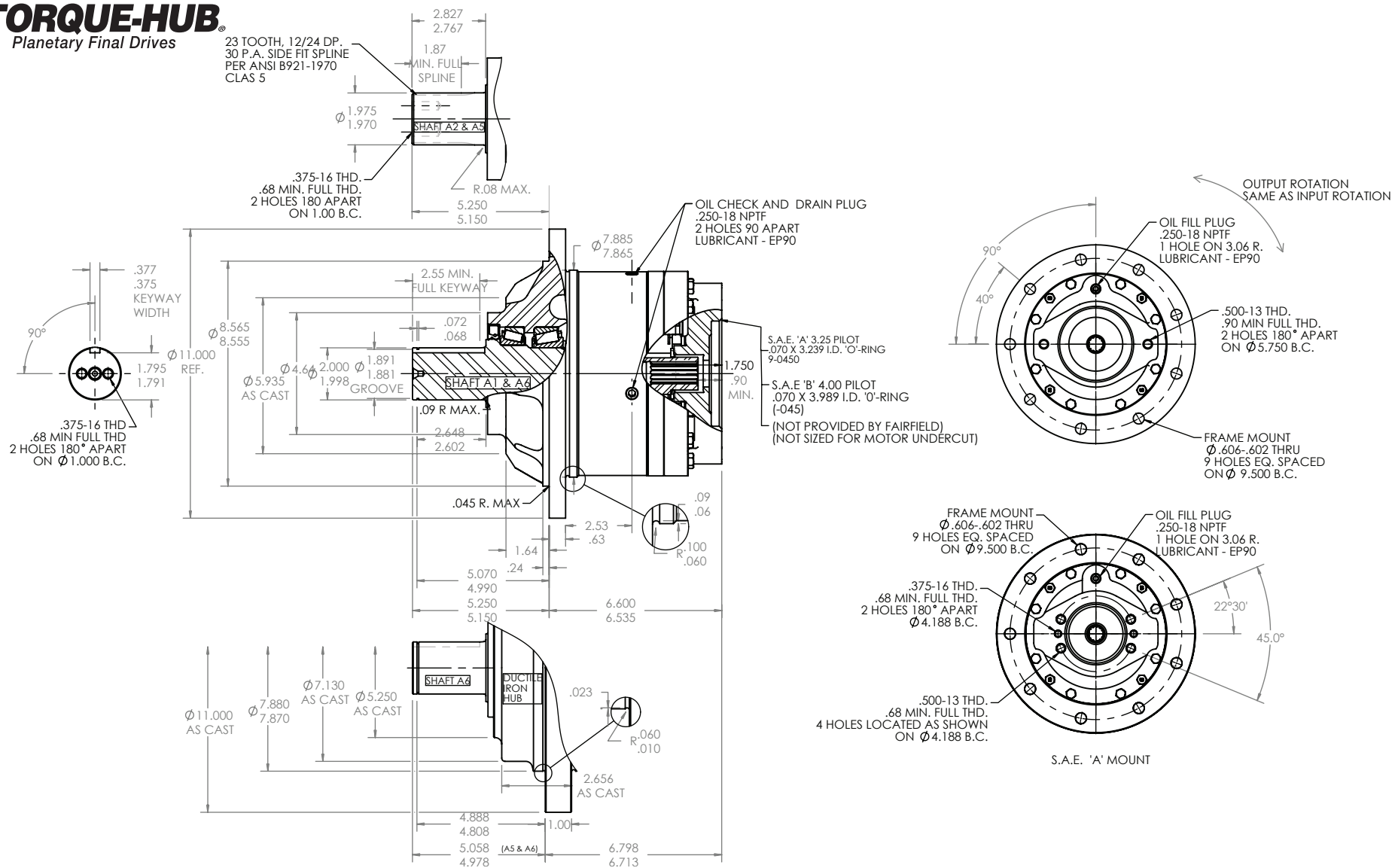
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TORQUE-HUB®
Planetary Final Drives

23 TOOTH, 12/24 DP.
30 P.A. SIDE FIT SPLINE
PER ANSI B921-1970
CLASS 5



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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

S1A

Performance Data

Continuous	Intermittent	Peak
15,000 lb-in	30,000 lb-in	40,000 lb-in
1,250 lb-ft	2,500 lb-ft	3,333 lb-ft
1,690 Nm	3,381 Nm	4,500 Nm
172 kg-m	345 kg-m	460 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 4,000 RPM Maximum Intermittent

(Contact Fairfield for specific speed information.)

Weight

Approximately 84 lbs (36.6 kg)

Note: Specific models will change weights.

S1A Model Formula

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 17 oz. (503 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

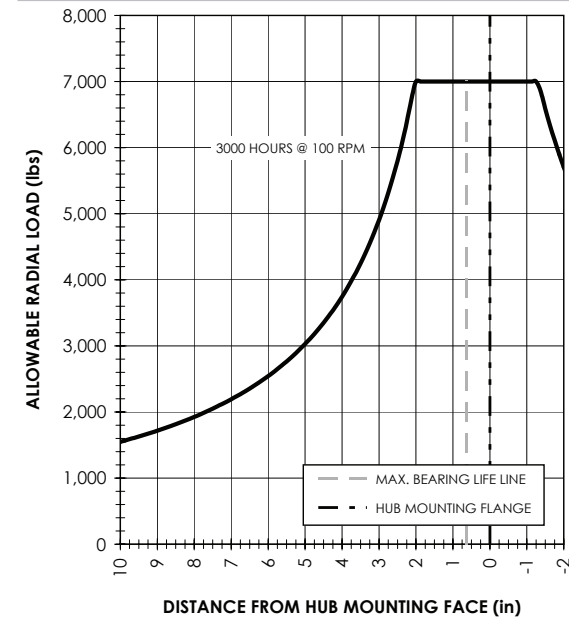
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



S – Torque-Hub® Shaft Output

1 – Series

	Shaft	Hub
	Configuration	Hub Flange Thickness Flange B.C.
A1	2.00" Dia. 3/8" Keyway	.62 (9) .606/.602 Holes 9.500 Dia. B.C.
A2	1.99" Dia. 23T, 12/24 Spline	.62 (9) .606/.602 Holes 9.500 Dia. B.C.
A5	1.99" Dia. 23T, 12/24 Spline	1.0 (9) .606/.602 Holes 9.500 Dia. B.C.
A6	2.00" Dia. 3/8" Keyway	1.0 (9) .606/.602 Holes 9.500 Dia. B.C.

Input

3 – 13T, 16/32 Spline

Motor Mount

2 – S.A.E. "A" (3.255/3.251)

3 – S.A.E. "B" (4.005/4.001)

Reduction

19 – 19.25:1

25 – 25.85:1

31 – 31.05:1

36 – 36.13:1

41 – 41.25:1

48 – 48.33:1

50 – 50.29:1

59 – 58.89:1

69 – 69.00:1

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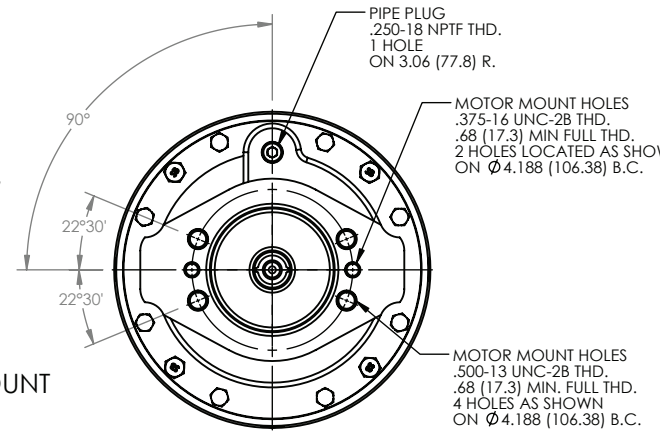
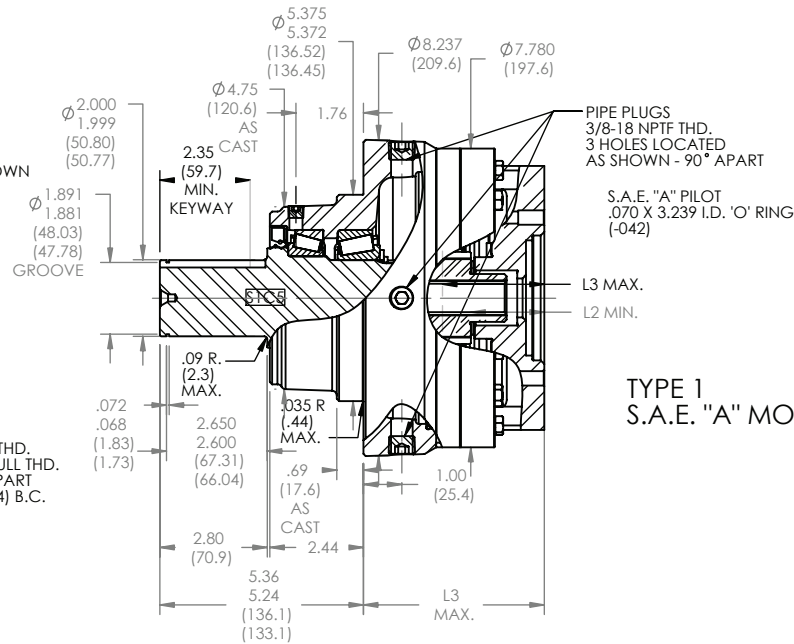
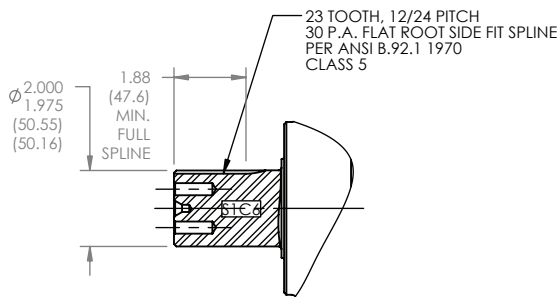
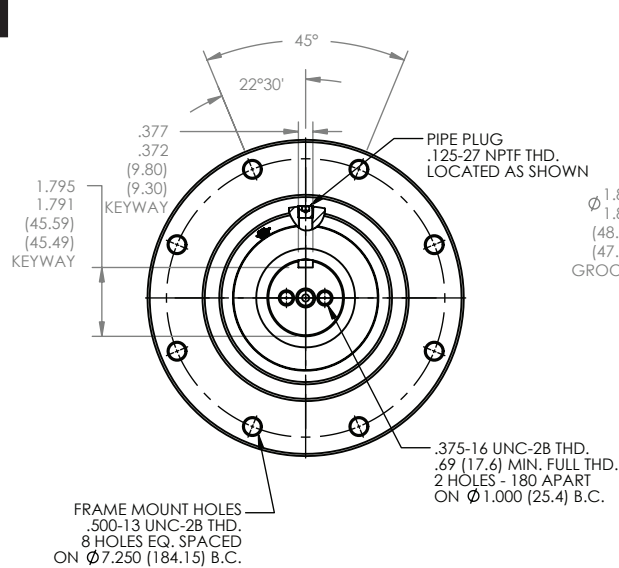
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1 Series

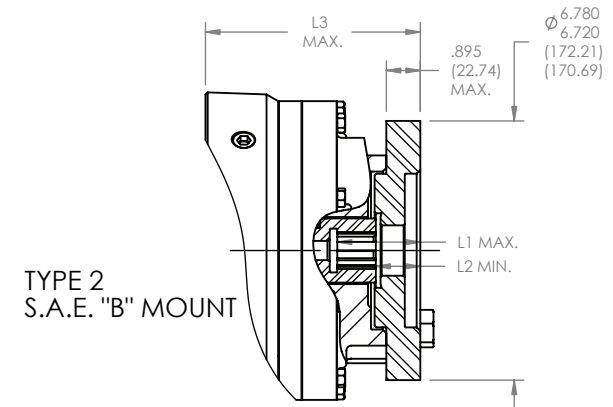
S1C5

Application Sheet

TORQUE-HUB®
Planetary Final Drives



RATIO	3.50:1				RATIO	5.29:1			
INPUT	L1	L2	L3	MOUNT	INPUT	L1	L2	L3	MOUNT
13T	2.22 (56.4)	.91 (23.1)	4.77 (121.2)	TYPE 1	13T	2.22 (56.4)	.94 (23.9)	4.77 (121.2)	TYPE 1
14T	2.22 (56.4)	1.24 (31.5)	4.77 (121.2)	TYPE 1	14T	2.22 (56.4)	1.09 (27.6)	5.66 (143.7)	TYPE 2
15T	-	-	-	-	15T	-	-	-	-
6B	-	-	-	-	6B	2.22 (56.4)	1.09 (27.6)	5.66 (143.7)	TYPE 2
RATIO	4.17:1				RATIO	6.21:1			
INPUT	L1	L2	L3	MOUNT	INPUT	L1	L2	L3	MOUNT
13T	2.22 (56.4)	.91 (23.1)	4.77 (121.2)	TYPE 1	13T	1.75 (44.5)	.89 (22.6)	4.77 (121.2)	TYPE 1
14T	2.22 (56.4)	1.25 (31.6)	4.77 (121.2)	TYPE 1	14T	2.22 (56.4)	1.09 (27.6)	5.66 (143.7)	TYPE 2
15T	2.22 (56.4)	.91 (23.1)	4.77 (121.2)	TYPE 1	15T	-	-	-	-
6B	2.22 (55.4)	1.05 (23.7)	4.77 (121.2)	TYPE 1	6B	-	-	-	-



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Before final design request a certified print from Fairfield.

NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

S1C5

Performance Data

Continuous	Intermittent	Peak
15,000 lb-in	30,000 lb-in	40,000 lb-in
1,250 lb-ft	2,500 lb-ft	3,333 lb-ft
1,690 Nm	3,381 Nm	4,508 Nm
172 kg-m	345 kg-m	460 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 5,000 RPM Maximum Intermittent

Contact Fairfield for specific speed information.

Weight

Approximately 60 lbs (27 kg)

Note: Specific models will change weights.

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 12 oz. (355 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

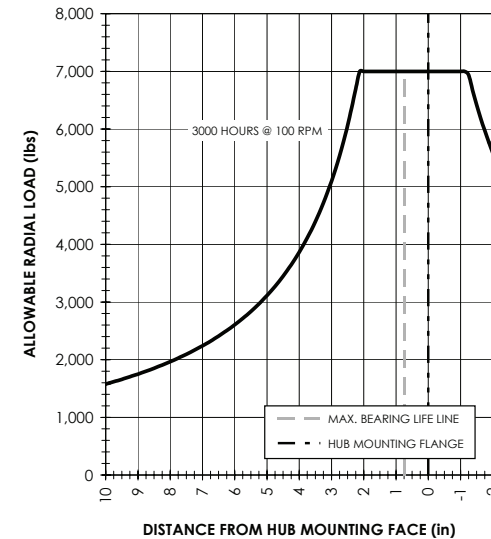
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



S1C5 Model Formula

S 1 C5 6 4 S 5

S – Torque-Hub® Shaft Output

1 – Series

	Shaft	Hub	
	Configuration	Hub Flange Thickness	Flange B.C.
C5	2.00" Dia. 3/8" Keyway	No Flange	(8) 1/2-13 Holes 7.250 B.C.
C6	1.990" Dia. 23T, 12/24 Spline	No Flange	(8) 1/2-13 Holes 7.250 B.C.

Input

3 – 13T, 16/32 Spline

***4** – 14T, 12/24 Spline

***6** – 6B Parallel Side Spline

Major Dia.: 1.00

* Longer length for 5:1 and 6:1 ratios.

Reduction

3 – 3.50:1

4 – 4.17:1

5 – 5.29:1

6 – 6.21:1

Single Reduction

Motor Mount

3 – S.A.E. "B" (4.005/4.001) Pilot

4 – S.A.E. "C" (5.005/5.001) Pilot

6 – S.A.E. "A" (3.256/3.251) Pilot

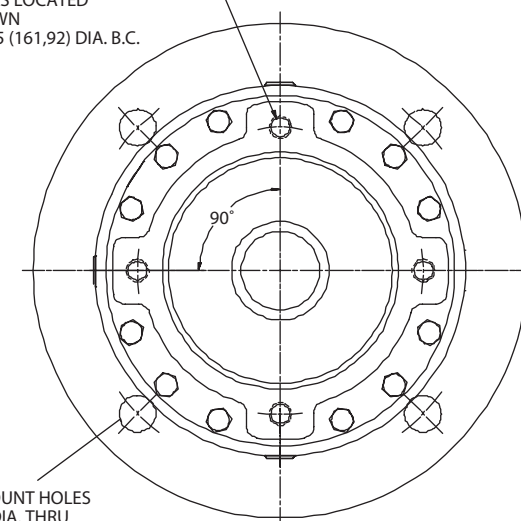
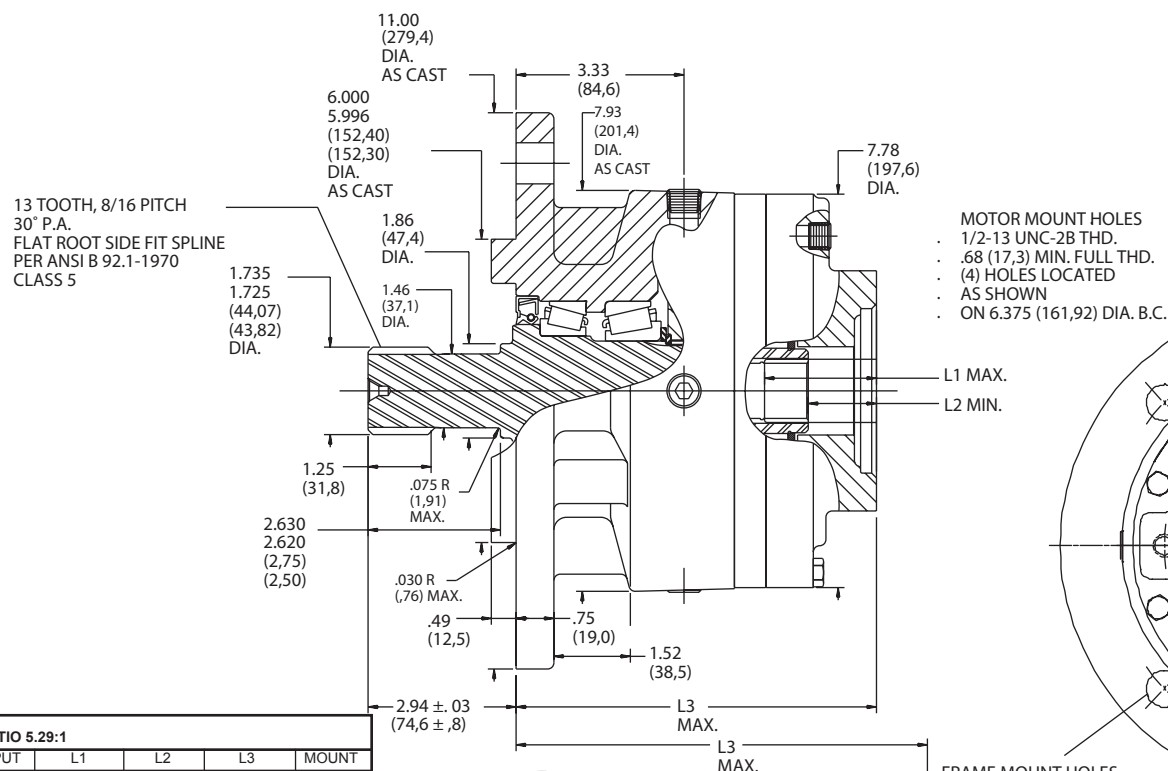
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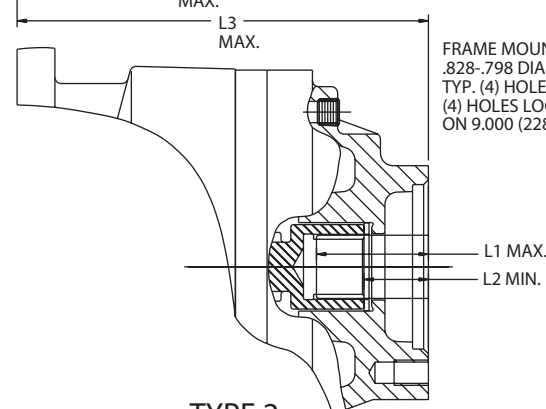
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TORQUE-HUB®
Planetary Final Drives



TYPE 1
SAE "A" MOUNT



TYPE 2
SAE "C" MOUNT

RATIO 3.50:1					RATIO 5.29:1				
INPUT	L1	L2	L3	MOUNT	INPUT	L1	L2	L3	MOUNT
13T	2.22 (56,4MM)	.91 (23,1MM)	7.18 (182,3MM)	TYPE1	13T	2.22 (56,4MM)	.94 (23,9MM)	7.18 (182,3MM)	TYPE1
14T	2.22 (56,4MM)	1.25 (31,6MM)	7.18 (182,3MM)	TYPE1	14T	2.22 (56,4MM)	1.19 (30,2MM)	8.19 (208,1MM)	TYPE2
15T	--	--	--	--	15T	--	--	--	--
6B	--	--	--	--	6B	2.22 (56,4MM)	1.19 (30,2MM)	8.19 (208,1MM)	TYPE2
RATIO 4.17:1					RATIO 6.21:1				
INPUT	L1	L2	L3	MOUNT	INPUT	L1	L2	L3	MOUNT
13T	2.22 (56,4MM)	.91 (23,1MM)	7.18 (182,3MM)	TYPE1	13T	1.72 (43,7MM)	.89 (22,6MM)	7.18 (182,3MM)	TYPE1
14T	2.22 (56,4MM)	1.25 (31,6MM)	7.18 (182,3MM)	TYPE1	14T	2.22 (56,4MM)	1.19 (30,2MM)	8.19 (208,1MM)	TYPE2
15T	2.22 (56,4MM)	.91 (23,1MM)	7.18 (182,3MM)	TYPE1	15T	---	---	---	---
6B	2.22 (56,4MM)	1.05 (26,7MM)	7.18 (182,3MM))	TYPE1	6B	---	---	---	---

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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

S1CD

Performance Data

Continuous	Intermittent	Peak
15,000 lb-in	30,000 lb-in	40,000 lb-in
1,250 lb-ft	2,500 lb-ft	3,333 lb-ft
1,690 Nm	3,381 Nm	4,508 Nm
172 kg-m	345 kg-m	460 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 5,000 RPM Maximum Intermittent

Contact Fairfield for specific speed information.

Weight

Approximately 60 lbs (27 kg)

Note: Specific models will change weights.

S1CD Model Formula

Oil

Fill to half full with EP-90 oil on most applications.

Approximate Volume 12 oz. (355 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

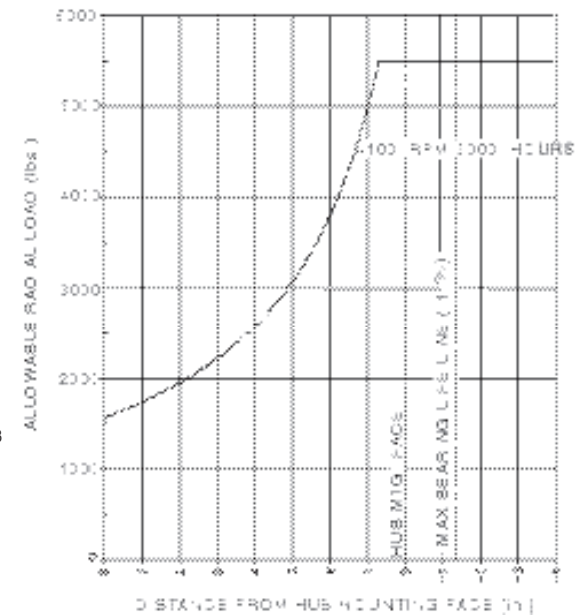
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



S 1 CD 3 3 S 5

S – Torque-Hub® Shaft Output

1 – Series

Motor Mount

3 – S.A.E. "B" (4.005/4.001) Pilot
4 – S.A.E. "C" (5.005/5.001) Pilot /4 - Bolt
6 – S.A.E. "A" (3.256/3.251) Pilot /2 and 4 - Bolt

Reduction

3 – 3.50:1
4 – 4.17:1
5 – 5.29:1
6 – 6.21:1

Single Reduction

Input

3 – 13T, 16/32 Spline
***4** – 14T, 12/24 Spline
***6** – 6 B parallel Side Spline
 Major Dia: 1.00
***8** – 15T, 16/32 Spline
 * Longer length for 5:1 and 6:1 ratios.

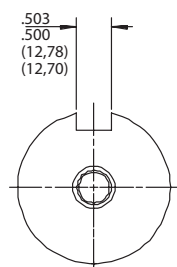
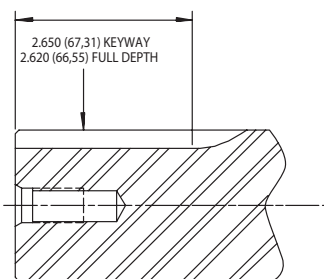
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fairfield

Fairfield Manufacturing Company, Inc.

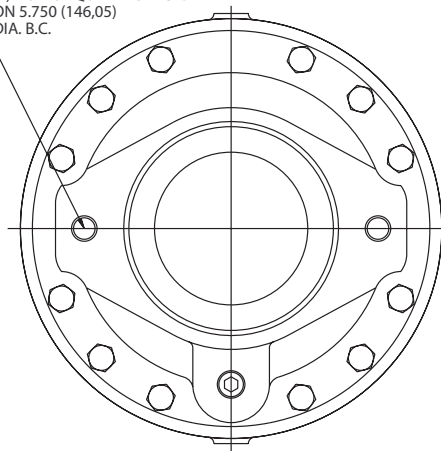
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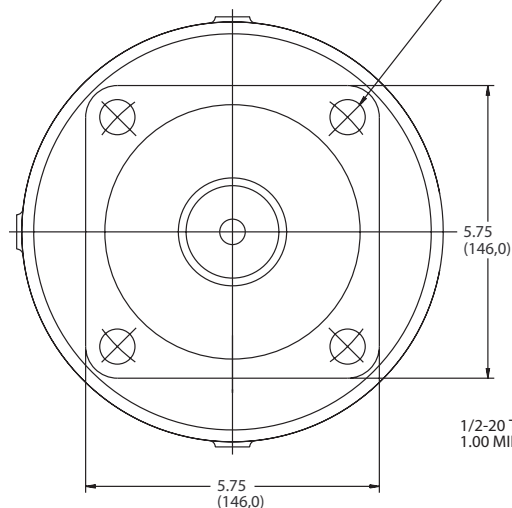
	Shaft	Hub
	Configuration	Hub Flange Thickness Flange B.C.
CD	1.735" Dia. 13T, 8/16 Spline	.75" (4) .828/.798 Holes 9.000 B.C.

TORQUE-HUB®
Planetary Final Drives**S1CL SHAFT**

MOTOR MOUNT HOLES
1/2-13 UNC-2B THD.
.900 (22,86) MIN FULL THD.
(2) HOLES EQUALLY SPACED
ON 5.750 (146,05)
DIA. B.C.

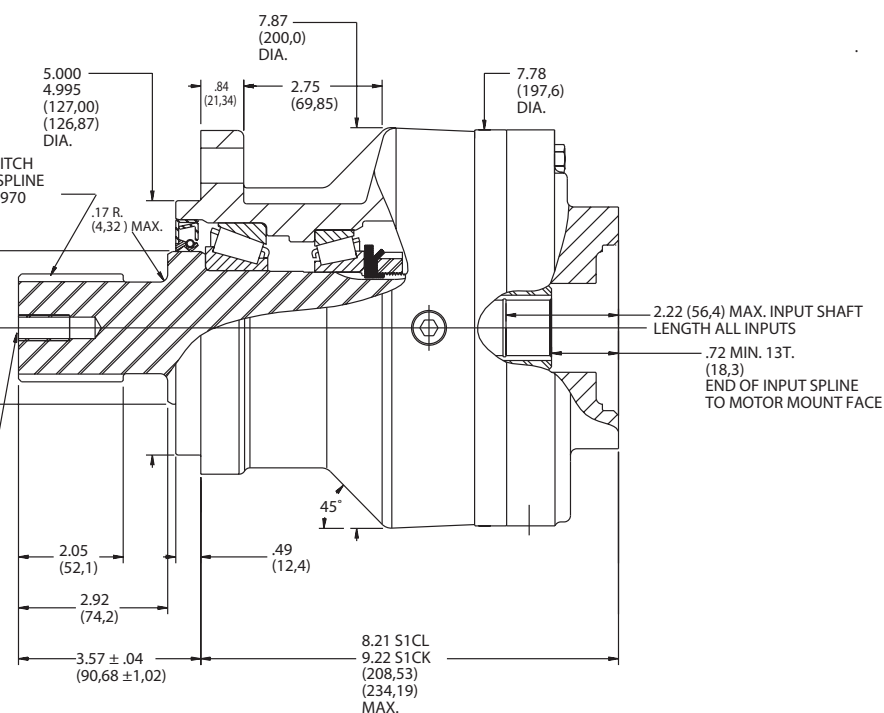
**S.A.E. "B" MOUNT**

FRAME MOUNT HOLES
.695-.685 (17,65-17,40) DIA.
(4) HOLES - LOCATED AS SHOWN
ON 6.375 (161,93) DIA.B.C.



16 TOOTH 8/16 PITCH
30° P.A. SIDE FIT SPLINE
PER ANSI B92.1-1970
CLASS 6

1/2-20 THREAD
1.00 MIN. FULL THREAD



NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

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Catalog prints are representative of the units.
Before final design request a certified print from Fairfield.

S1CK/CL

Performance Data

Continuous	Intermittent	Peak
15,000 lb-in	30,000 lb-in	40,000 lb-in
1,250 lb-ft	2,500 lb-ft	3,333 lb-ft
1,690 Nm	3,381 Nm	4,508 Nm
172 kg-m	345 kg-m	460 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 5,000 RPM Maximum
Horsepower: 40 HP Maximum, 20 HP Continuous
Overall Ratio: 4.17:1, 5.29:1, 6.21:1

Weight

Approximately 68 lbs (30.8 kg)

Note: Specific models will change weights.

S1CK Model Formula

Oil

Fill to half full with EP-90 oil on most applications.

Approximate Volume 12 oz.(355 cm³)

Note: Oil level and type will vary with specific model and application.

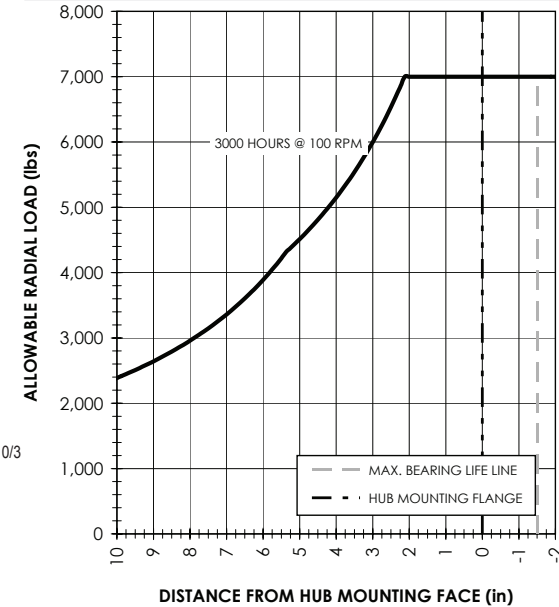
Conditions of Bearing Curve

Life = 3,000 hours B-10
Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



S 1 CK 3 3 S 4

S – Torque-Hub® Shaft Output

1 – Series

Motor Mount

3 – S.A.E. "B" (4.005/4.001) Pilot
4 – S.A.E. "C" (5.005/5.001) Pilot (4:1 ratio, 14T spline only)
6 – S.A.E. "A" (3.256/3.251) Pilot

Reduction
4 – 4.17:1
5 – 5.29:1
6 – 6.21:1

Single Reduction

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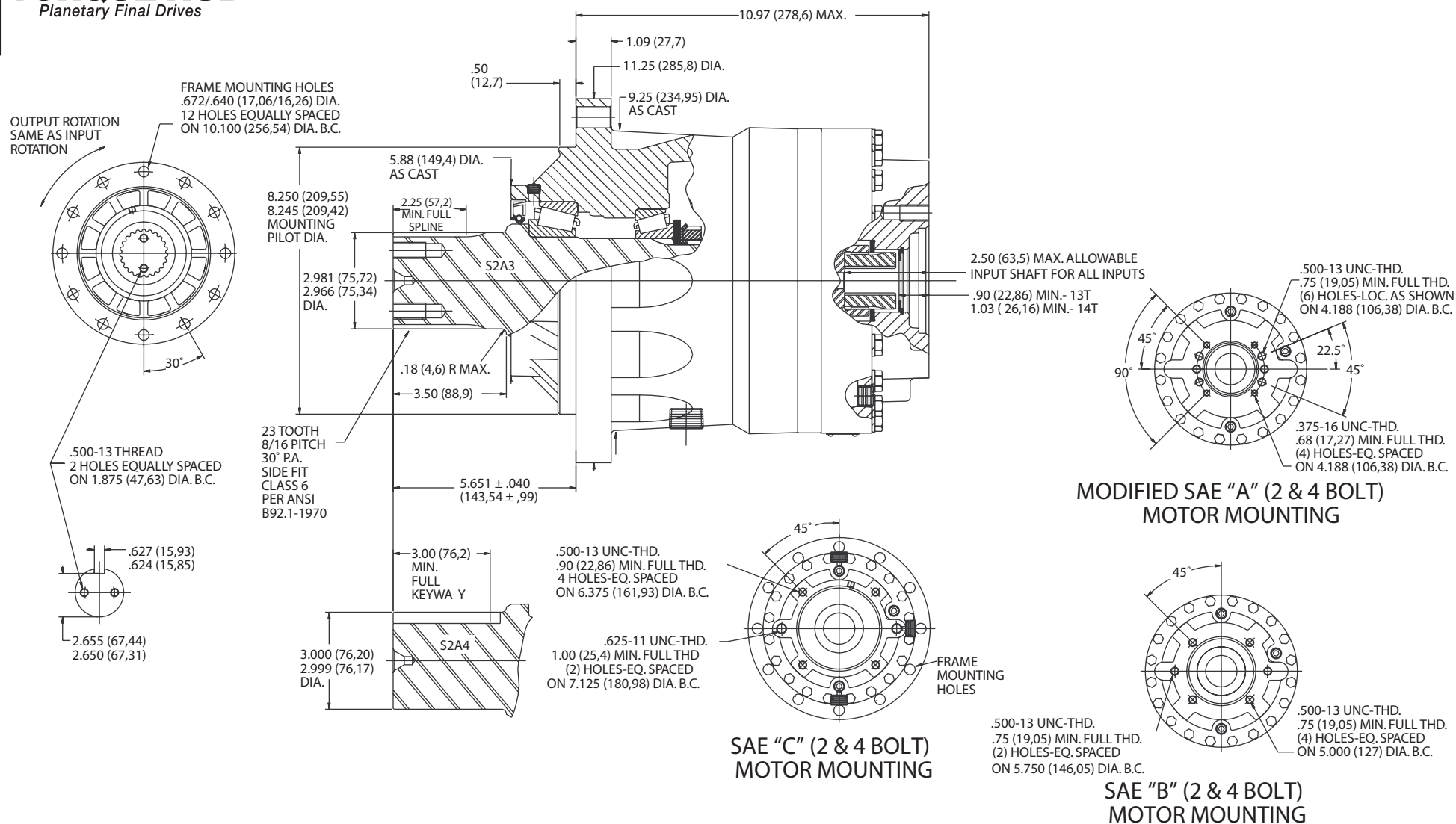
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	Shaft	Hub	
	Configuration	Hub Flange Thickness	Flange B.C.
CK	2.125" Dia. 16T, 8/16 Spline	.84	(4) .695/.685 Holes 6.375 Dia. B.C.
CL	2.25" Dia. 1/2" Keyway	.84	(4) .695/.685 Holes 6.375 Dia. B.C.

Input

3 – 13T, 16/32 Spline
***4** – 14T, 12/24 Spline
***6** – 6 B Parallel Side Spline Major Dia: 1.00
 * Longer length for 5:1 and 6:1 ratios.

TORQUE-HUB®
Planetary Final Drives**æerlikon**
fairfield

Catalog prints are representative of the units.

Before final design request a certified print from Fairfield.

NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODELOTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

S2A3

Performance Data

Continuous	Intermittent	Peak
25,000 lb-in	50,000 lb-in	60,000 lb-in
2,083 lb-ft	4,167 lb-ft	5,000 lb-ft
2,817 Nm	5,633 Nm	6,790 Nm
287 kg-m	573 kg-m	688 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 4,000 RPM Maximum Intermittent

Weight

Approximately 160 lbs (73 kg)

Note: Specific models will change weights.

S2A3 Model Formula

S – Torque-Hub® Shaft Output

2 – Series

	Shaft	Hub	
	Configuration	Hub Flange Thickness	Flange B.C.
A3	2.981" Dia. 23T, 8/16 Spline	1.09	(12) .672/.640 Holes 10.100 B.C.
A4	3.000" Dia. .627/.624 Keyway	1.09	(12) .672/.640 Holes 10.100 B.C.

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Hydraulic Motor Mount

2 – S.A.E. "A" (3.255/3.251) Pilot

3 – S.A.E. "B" (4.005/4.001) Pilot

4 – S.A.E. "C" (5.005/5.001) Pilot

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 45 oz. (1,336 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

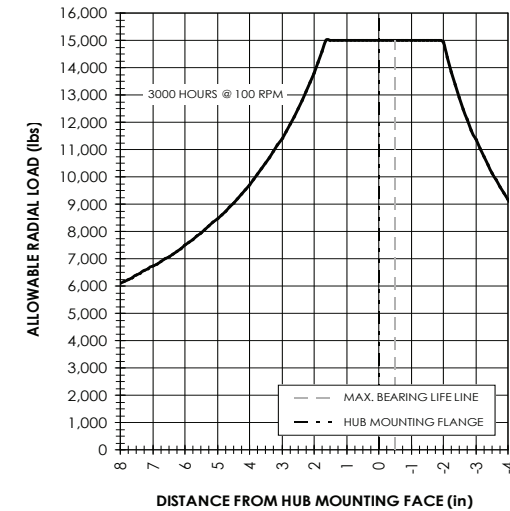
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



S 2 A3 3 3 50

Ratios

14 – 14.30:1

21 – 20.86:1

26 – 25.82:1

29 – 29.22:1

35 – 34.83:1

38 – 37.64:1

44 – 43.65:1

50 – 50.03:1

Input

3 – 13T, 16/32 Spline

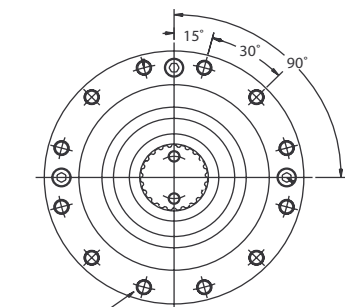
4 – 14T, 12/24 Spline

6 – 6 B Parallel Side Spline

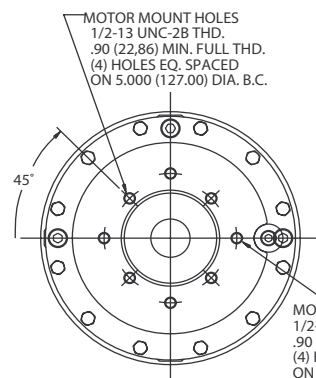
Major Dia.: 1.00 in.

8 – 15T, 16/32 Spline

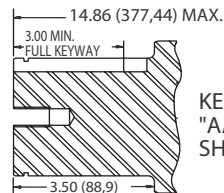
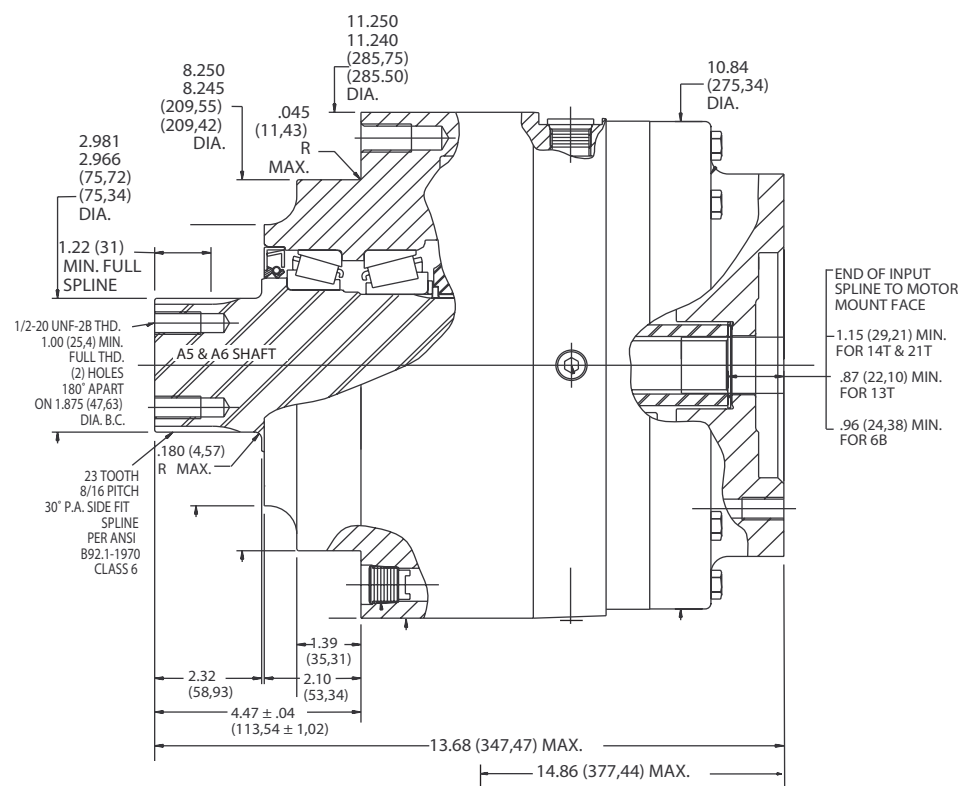
TORQUE-HUB®
Planetary Final Drives



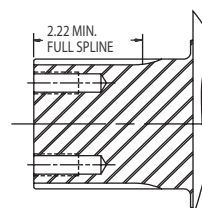
FRAME MOUNT HOLES
5/8-11 UNC-2B THD.
1.10 (27,94) MIN. FULL THD.
(12) HOLES EQ. SPACED
ON 10.10 (256.54) DIA. B.C.



SAE "B" MOUNT
BACK END VIEW

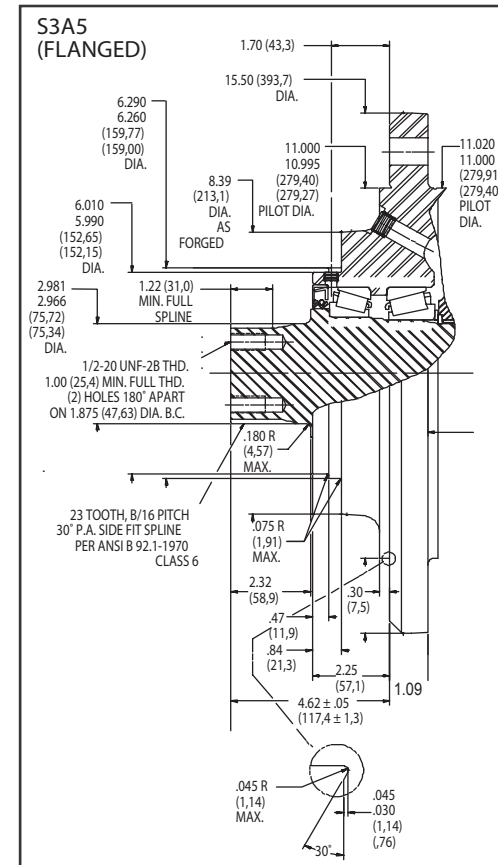


KEYED SHAFT
"AA" AND "A4"
SHAFT VIEW



SPLINED SHAFT
— "AB" FLANGED HUB
"AH" FLANGELESS HUB

NOTE: IMV1 SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL



OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

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Before final design request a certified print from Fairfield.

S3A

Performance Data

Continuous	Intermittent	Peak
37,500 lb-in	75,000 lb-in	100,000 lb-in
3,125 lb-ft	6,250 lb-ft	8,333 lb-ft
4,234 Nm	8,468 Nm	11,290 Nm
432 kg-m	864 kg-m	1,152 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 4,000 RPM Maximum Intermittent

Weight

Approximately 195 lbs (88 kg)

Note: Specific models will change weights.

S3A6 Model Formula

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 44 oz. (1,302 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

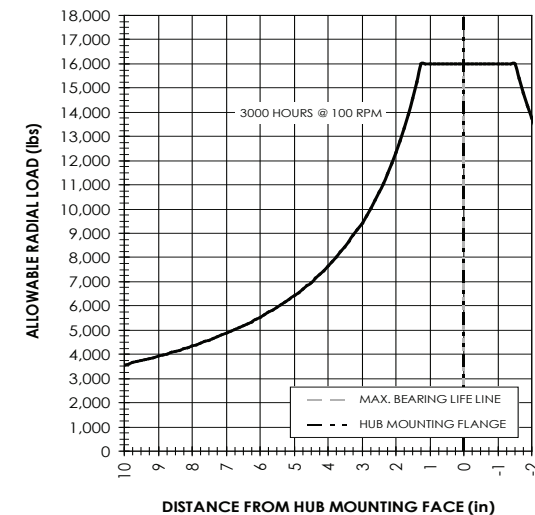
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



S – Torque-Hub® Shaft Output

3 – Series

	Shaft	Hub	
	Configuration	Hub Flange Thickness	Flange B.C.
A4	3.00" Dia. 5/8 Keyway	1.09"	(10) .828-.798 Holes 13.187 B.C.
A5	2.981" Dia. 23T, 8/16 Spline	1.09"	(10) .828-.798 Holes 13.187 B.C.
AB	2.981" Dia. 23T, 8/16 Spline	1.09"	(10) .828-.798 Holes 13.187 B.C.
A6	2.981" Dia. 23T, 8/16 Spline	No Flange	(12) 5/8-11 Holes 10.100 B.C.
AA	3.00" Dia. 5/8" Keyway	No Flange	(12) 5/8-11 Holes 10.100 B.C.
AH	2.981" Dia. 23T, 8/16 Spline	No Flange	(12) 5/8-11 Holes 10.100 B.C.

Input

3 – 13T, 16/32 Spline
4 – 14T, 12/24 Spline
6 – 6B Parallel Side
 Spline Major Dia. 1.00

Motor Mount

2 – S.A.E. "A" (3.255/3.251) Pilot
 4-bolt and 6-bolt
3 – S.A.E. "B" (4.005/4.001) Pilot
 (2) 2-bolt and 4-bolt
4 – S.A.E. "C" (5.005/5.001) Pilot
 2-bolt and 4-bolt

Reduction

19 – 19.75:1
25 – 25.43:1
31 – 31.04:1
36 – 35.49:1
44 – 43.50:1
51 – 51.54:1
55 – 54.58:1

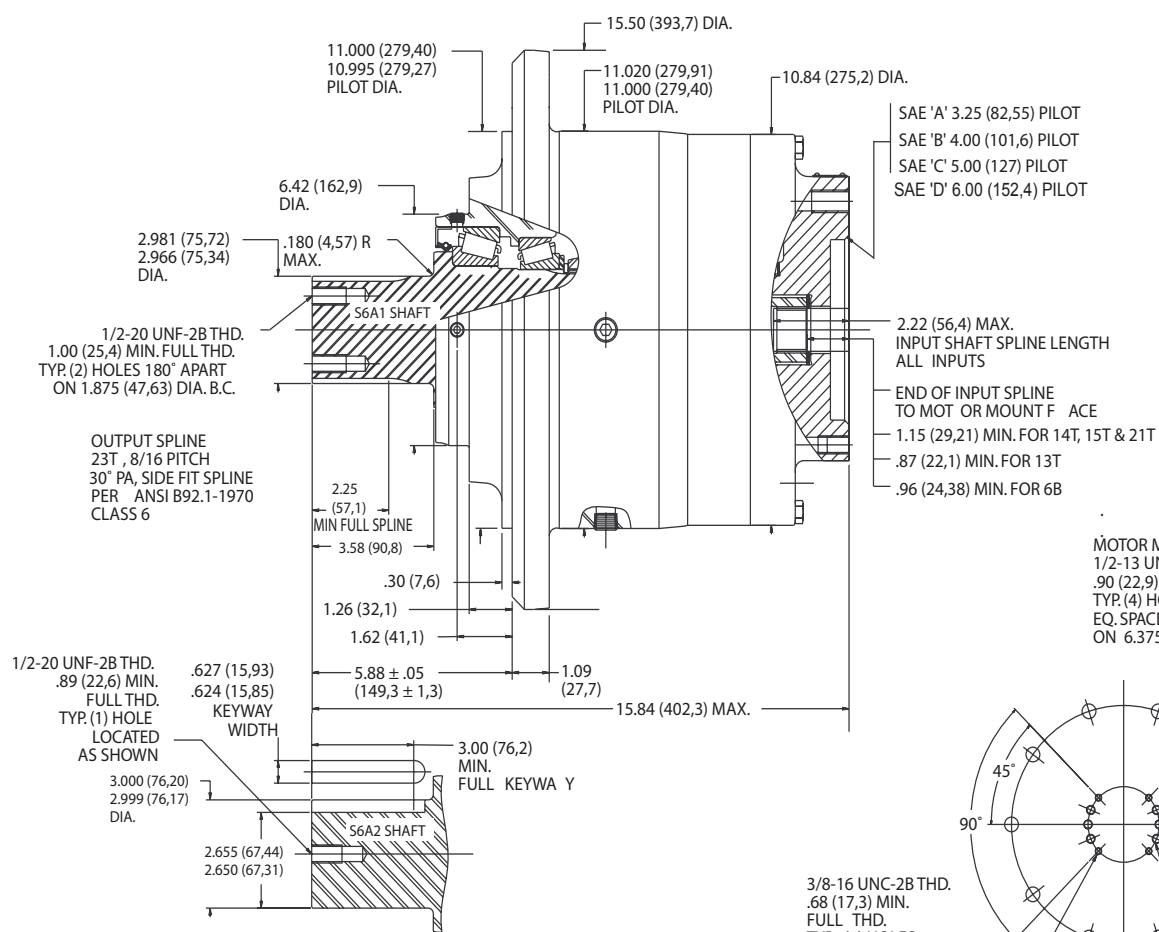
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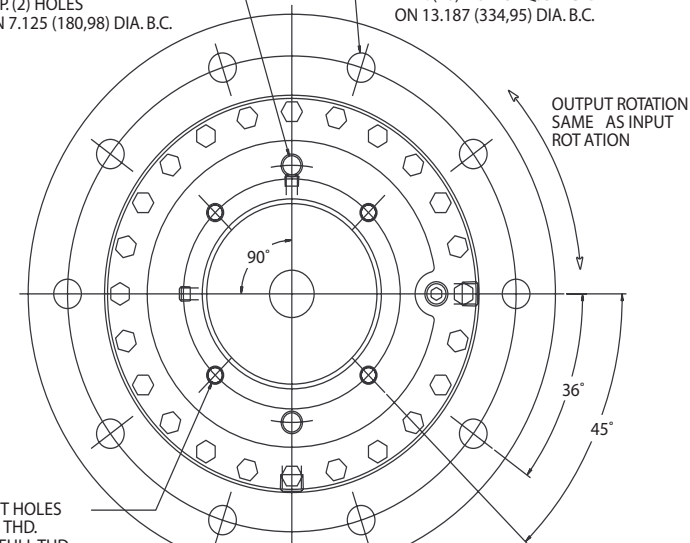
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TORQUE-HUB®
Planetary Final Drives

MOTOR MOUNT HOLES
5/8-11 UNC-2B THD.
1.10 (27,9) MIN. FULL THD.
TYP. (2) HOLES
ON 7.125 (180,98) DIA. B.C.

FRAME MOUNT HOLES
.828-.798 (21,03-20,27) DIA. THRU
TYP. (10) HOLES EQ. SPACED
ON 13.187 (334,95) DIA. B.C.

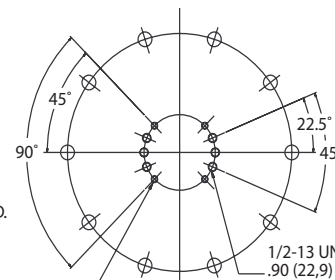


MOTOR MOUNT HOLES
1/2-13 UNC-2B THD.
.90 (22,9) MIN. FULL THD.
TYP. (4) HOLES
EQ. SPACED
ON 6.375 (161,93) DIA. B.C.

SAE "C" MOUNT

MOTOR MOUNT HOLES
1/2-13 UNC-2B THD.
.90 (22,9) MIN. FULL THD.
TYP. (4) HOLES
ON 5.000 (127,00) DIA. B.C.

3/8-16 UNC-2B THD.
.68 (17,3) MIN.
FULL THD.
TYP. (4) HOLES
ON 4.188 (106,38)
DIA. B.C.

**SAE "A" MOUNT**

1/2-13 UNC-2B THD.
.90 (22,9) MIN.
FULL THD.
TYP. (6) HOLES
ON 4.188 (106,38)
DIA. B.C.

SAE "B" MOUNT

MOTOR MOUNT HOLES
1/2-13 UNC-2B THD.
.90 (22,9) MIN. FULL THD.
TYP. (4) HOLES
ON 5.750 (146,05) DIA. B.C.

MOTOR MOUNT HOLES IN RELATION TO FRAME MOUNT HOLES

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Catalog prints are representative of the units.
Before final design request a certified print from Fairfield.

NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

S6A

Performance Data

Continuous	Intermittent	Peak
60,000 lb-in	120,000 lb-in	150,000 lb-in
5,000 lb-ft	10,000 lb-ft	12,500 lb-ft
6,779 Nm	13,558 Nm	16,950 Nm
691 kg-m	1,382 kg-m	1,725 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 5,000 RPM Maximum Intermittent

Weight

Approximately 242 lbs (109 kg)

Note: Specific models will change weights.

S6A1 Model Formula

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 75 oz.

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

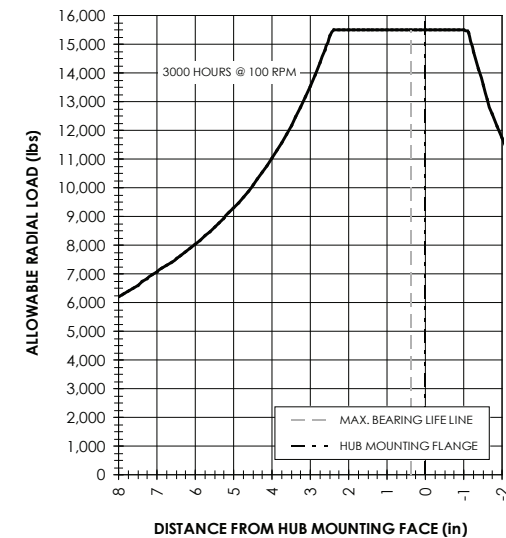
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{\left(\frac{10}{3} \right)}$$

Bearing Curve



S – Torque-Hub® Shaft Output

6 – Series

	Spindle	Hub	
	Configuration	Hub Flange Thickness	Flange B.C.
A1	2.981" Dia. 23T, 8/16 Spine	1.09	(10) .828/.798 Holes 13.187 Dia. B.C.
A2	3.00" Dia. 5/8" Keyway	1.09	(10) .828/.798 Holes 13.187 Dia. B.C.

S 6 A1 4 4 32

Input

3 – 13T, 16/32 Spline
4 – 14T, 12/24 Spline
5 – 13T 8/16 Spine
6 – 6B Parallel Side Spline
 Major Dia.: 1.00 in.
8 – 15T, 16/32 Spline

Reduction

13 – 13.07:1
16 – 15.26:1
19 – 19.04:1
26 – 25.96:1
32 – 32.31:1
 (Special 42:1 Ratio Available
 in Specific Configurations
 - Contact Fairfield)

Motor Mount

2 – S.A.E. "A" (3.255/3.251) Pilot (4 & 6 Bolt)
3 – S.A.E. "B" (4.005/4.001) Pilot (2 & 4 Bolt)
4 – S.A.E. "C" (5.005/5.001) Pilot (2 & 4 Bolt)
5 – S.A.E. "D" (6.005/6.001) Pilot (2 & 4 Bolt)

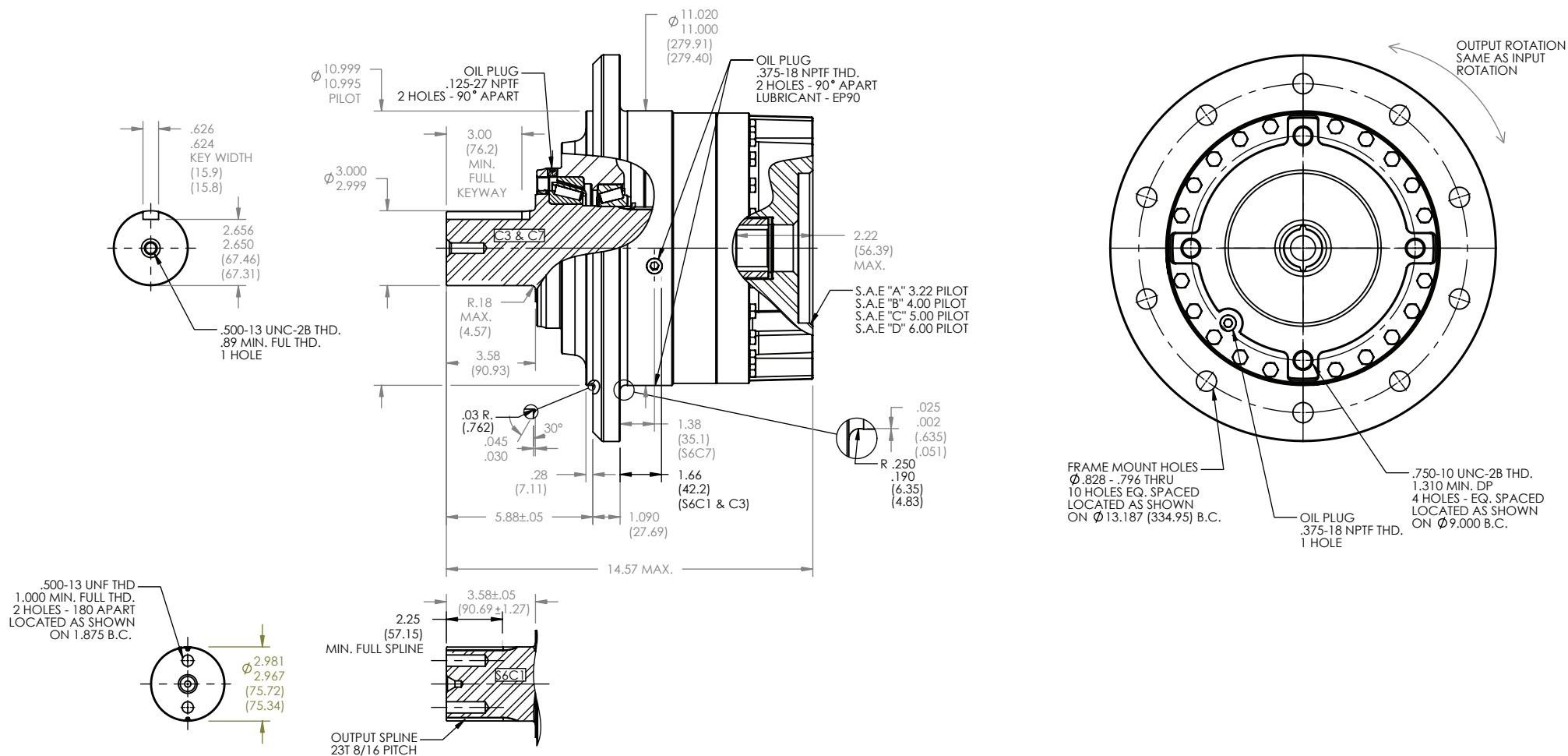
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Planetary Final Drives



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Before final design request a certified print from Fairfield.

NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

S6C

Performance Data

Continuous	Intermittent	Peak
60,000 lb-in	120,000 lb-in	150,000 lb-in
5,000 lb-ft	10,000 lb-ft	12,500 ft-lb
6,774 Nm	13,549 Nm	16,950 Nm
691 kg-m	1,382 kg-m	1,725 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Maximum Continuous Input Rpm: 1,500

Maximum Intermittent Input Rpm: 2,500

(Contact Fairfield for specific speed information)

Weight

Approximately 205 lbs (93kg) without Brake

Note: Specific models will change weights.

S6C7 Model Formula

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

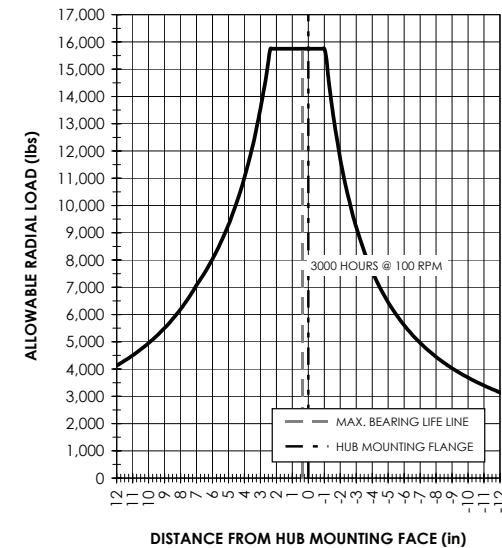
Approximate Volume 40oz. (1.25 quarts)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

Note: Contact Fairfield for Conditions of Bearing Curve.

Bearing Curve



S – Torque-Hub® Shaft Output

6 – Series

	Shaft	Hub	
	Configuration	Hub Flange Thickness	Flange B.C.
C1	2.981" Dia. 23T, 8/16 Spline	1.09	(10) .828/.798 Holes 13.187 Dia. B.C.
C7	3.00" Dia. 5/8" Keyway	1.09	(10) .828/.798 Holes 13.187 Dia. B.C.

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S 6 C7 4 4 4

Motor Mount

2 – S.A.E. "A" (3.225/3.251) Pilot 4 Bolt and 6 Bolt
3 – S.A.E. "B" (4.005/ 4.001) Pilot (2) 2 Bolt and 4 Bolt
4 – S.A.E. "C" (5.005/ 5.001) Pilot 2 Bolt and 4 Bolt
5 – S.A.E. "D" (6.005/ 6.001) Pilot 4 Bolt

Reduction

4 – 3.75:1
*45 – 4.50:1
5 – 4.67:1
6 – 6.00:1
(*Available in 13T, 8/16 Only)

Input

3 – 13T, 16/32 Spline
4 – 14T, 12/24 Spline
5 – 13T, 8/16 Spline
*7 – 21T, 16/32 Spline
(*Available in 4:1 only)

Final Drives

18.10 MAX (459,74)

7.66 ± .07 (194,56 ± 1,78)

19.00 DIA. (482,60)

4.36 (110,74)

15.000 (381,00)

14.990 (380,75)

PILOT DIA.

10.250 (260,35)

DIA. AS CAST

8.250 (209,55)

DIA. AS CAST

6.844 (173,84)

DIA. AS CAST

2.90 MIN FULL SPLINE

1/2-20 UNF THD. 1.00 MIN. FULL THD. TYP. (2) EQ. SPACED ON 1.75 DIA. B.C.

3.500 DIA. (88,90)

3.490 (88,65)

16 R MAX. 4.19 (106,43)

20T 6/12 PITCH 30° P.A. SIDE FIT SPLINE PER ANSI B92.1-1970 CLASS 6

.469 (11,91) AS CAST

1.031 (26,19) AS CAST

.045 R .015 (1,14) (0,38)

30°

.045 (1,14) (0,76)

.025 (0,64) .002 (0,05)

.250 R .190 (6,35) (4,83)

1.003 KEYWAY WIDTH

3.558 DIA 3.546 GROOVE

3.750 (95,25) 3.182 (80,82)

3.748 (95,20) 3.172 (80,57)

DIA.

4.19 (106,43)

7.66 ± .07 (194,56 ± 1,78)

3.25 MIN FULL KEYWAY

SHAFT

1/2-20 UNF THD 1.00 MIN FULL THD. TYP. (2) EQ. SPACED AS SHOWN ON 1.75 B.C. DIA.

.16 (4,06) R MAX 3.790 (96,27) 3.770 (95,75)

127 GROOVE WIDTH (3,226) (3,048)



OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

S7AB

Performance Data

Continuous	Intermittent	Peak
75,000 lb-in	150,000 lb-in	200,000 lb-in
6,250 lb-ft	12,500 lb-ft	16,667 lb-ft
8,468 Nm	16,936 Nm	22,600 Nm
864 kg-m	1,728 kg-m	2,300 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 3,000 RPM Maximum Intermittent

Weight

Approximately 430 lbs. (194 kg)

Note: Specific models will change weights.

S7AB Model Formula

S – Torque-Hub® Shaft Output

7 – Series

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 85 oz. (2,515 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

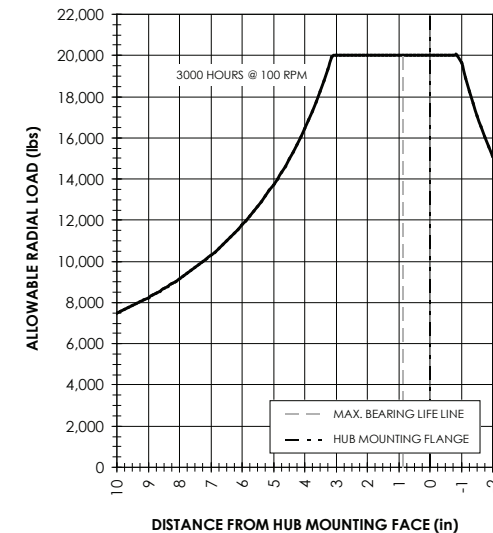
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



S 7 AB 4 4 95

Reduction

27 – 27.4:1

45 – 45.2:1

59 – 58.8:1

73 – 72.5:1

95 – 94.7:1

Input

4 – 14T, 12/24 Spline

Motor Mount

4 – S.A.E. "C" (5.005/5.001) Pilot
[2 & 4 bolt]

	Shaft	Hub	
	Configuration	Hub Flange Thickness	Flange B.C.
AA	3.75" Dia. 1" Keyway	1.12"	(12) .843/.813 Holes 16.75 Dia. B.C.
AB	3.500" Dia. 20T, 6/12 Spline	1.12"	(12) .843/.813 Holes 16.75 Dia. B.C.

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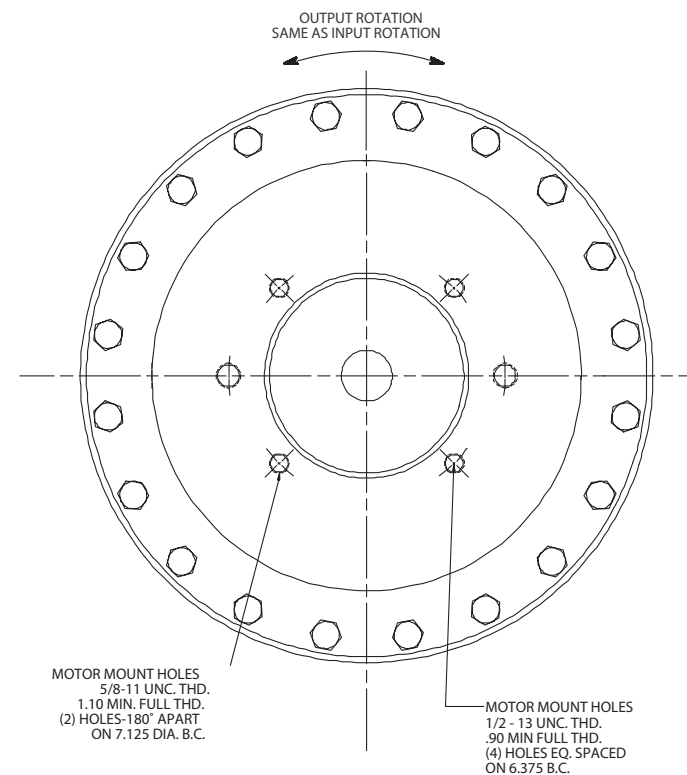
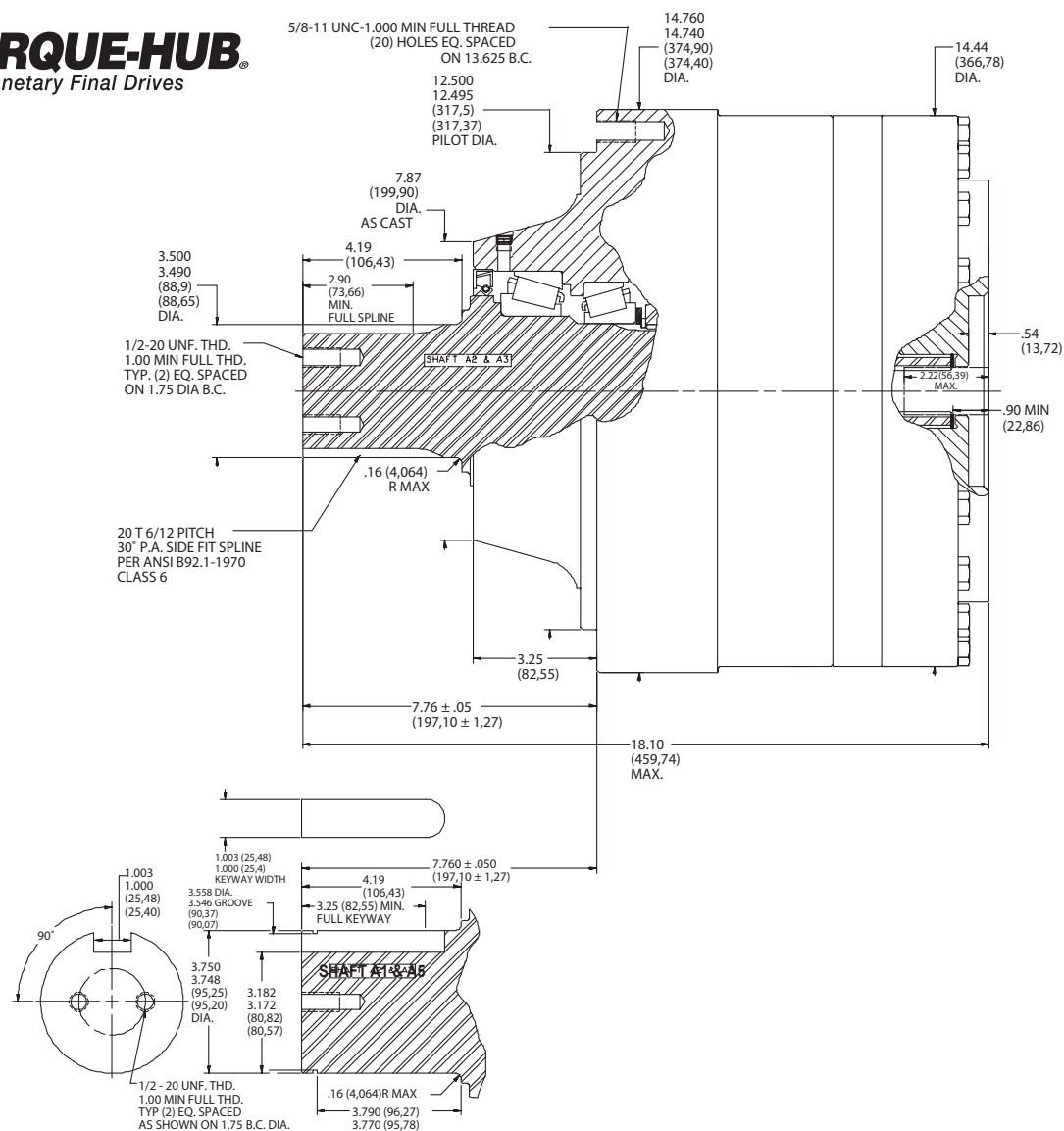
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S7A1/A2

Application Sheet

TORQUE-HUB®

Planetary Final Drives



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Catalog prints are representative of the units.
Before final design request a certified print from Fairfield.

NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

S7A1/A2

Performance Data

Continuous	Intermittent	Peak
75,000 lb-in	150,000 lb-in	200,000 lb-in
6,250 lb-ft	12,500 lb-ft	16,600 lb-ft
8,468 Nm	16,936 Nm	22,600 Nm
864 kg-m	1,728 kg-m	2,304 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 3,000 RPM Maximum Intermittent

Weight

Approximately 430 lbs. (194 kg)

Note: Specific models will change weights.

S7A1 Model Formula

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 85 oz. (2,515 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

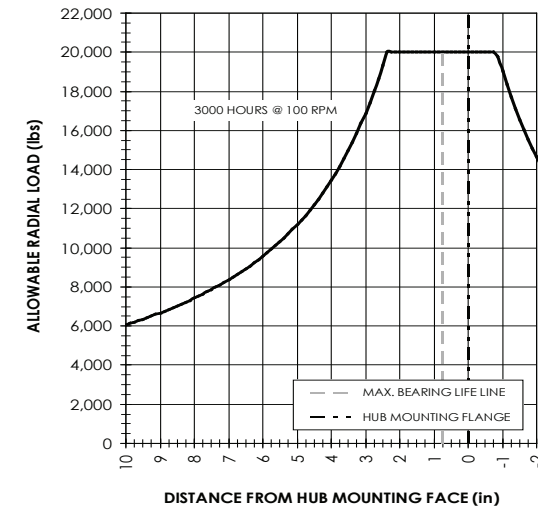
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



S 7 A1 4 4 95

S – Torque-Hub® Shaft Output

7 – Series

Reduction

27 – 27.4:1

45 – 45.2:1

59 – 58.8:1

73 – 72.5:1

95 – 94.7:1

Input

4 – 14T, 12/24 Spline

Motor Mount

4 – S.A.E. "C" (5.005/5.001) Pilot
[2 & 4 bolt]

	Shaft	Hub
	Configuration	Hub Flange Thickness Flange B.C.
A1	3.75" Dia. 1" Keyway	No Flange (20) 5/8-11 Holes 13.625 B.C.
A2	3.50" Dia. 20T, 6/12 Spline	No Flange (20) 5/8-11 Holes 13.625 B.C.

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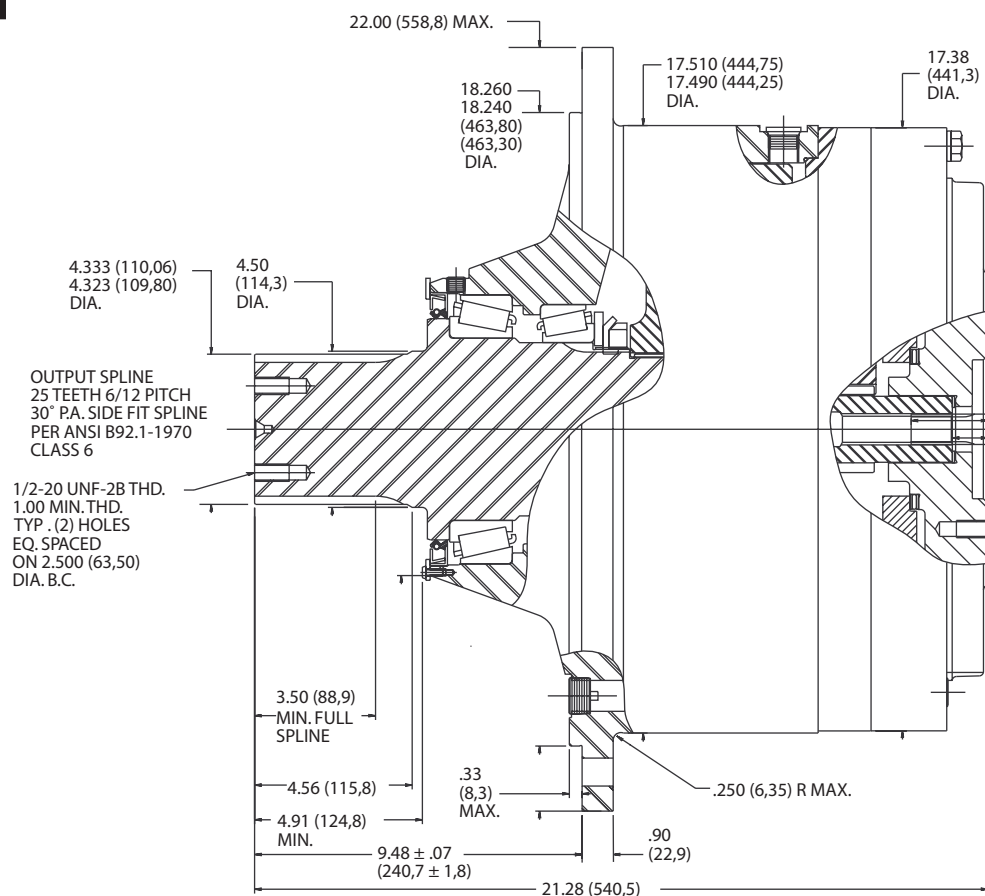
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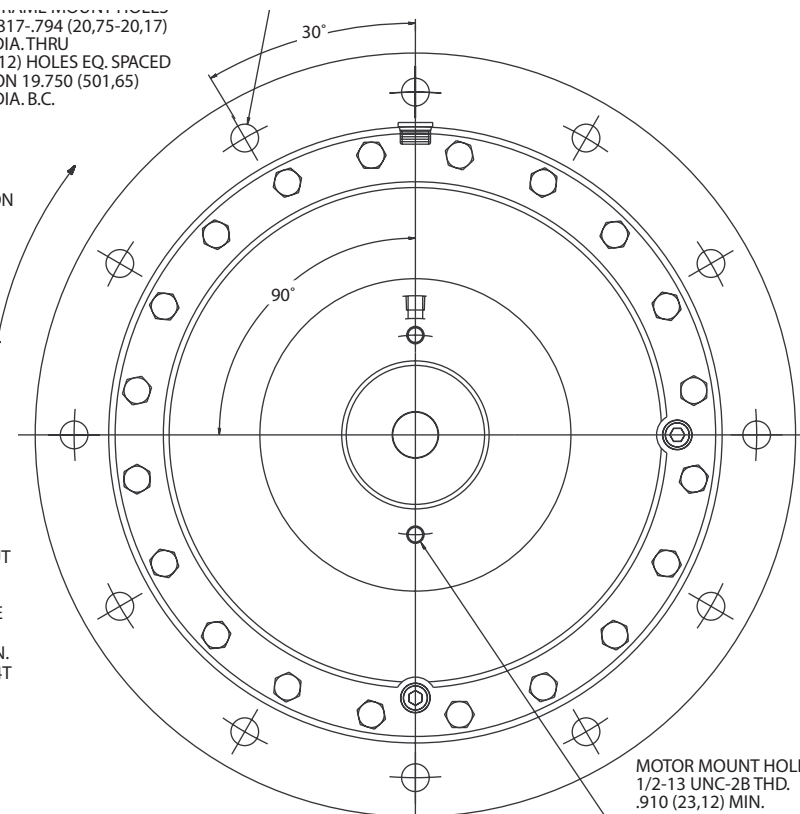
TORQUE-HUB®

Planetary Final Drives

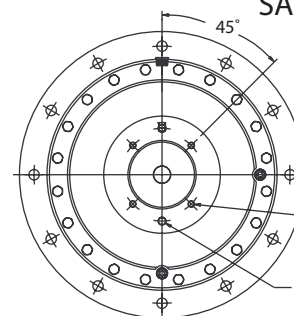


FRAME MOUNT HOLES
.817-.794 (20,75-20,17)
DIA. THRU
(12) HOLES EQ. SPACED
ON 19.750 (501,65)
DIA. B.C.

OUTPUT ROTATION
SAME AS
INPUT ROTATION



SAE 'B' MOUNT



SAE 'C' MOUNT

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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

S10A

Performance Data

Continuous	Intermittent	Peak
125,000 lb-in	250,000 lb-in	300,000 lb-in
10,417 lb-ft	20,833 lb-ft	25,000 lb-ft
14,113 Nm	28,227 Nm	33,872 Nm
1,440 kg-m	2,880 kg-m	3,456 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 1500-1800 Maximum Intermittent

(Contact Fairfield for specific speed information.)

Weight

Approximately 700 lbs (315 kg)

Note: Specific models will change weights.

S10A Model Formula

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 150 oz. (4,438 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

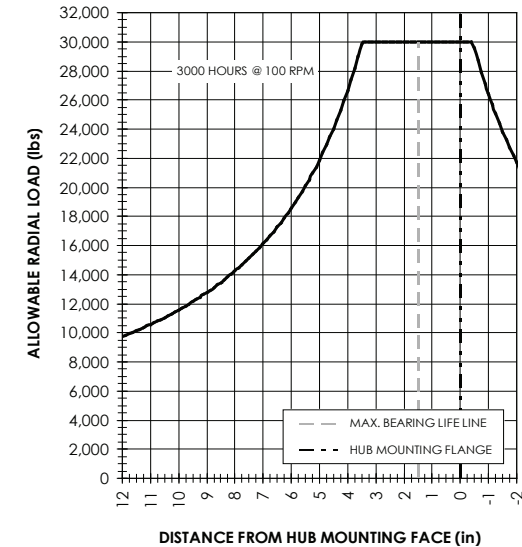
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



S – Torque-Hub® Shaft Output

10 – Series

	Shaft	Hub	
	Configuration	Hub Flange Thickness	Flange B.C.
A1	4.50 Dia. 1" Keyway	.90	(12) .817/.794 Holes 19.750 B.C.
A2	4.33 Dia. 25T, 6/12 Spline	.90	(12) .817/.794 Holes 19.750 B.C.
AC	Same as A2, except with bearing nut retention		

Reduction

44 – 44.8:1
59 – 58.4:1
70 – 70.7:1
81 – 81.3:1
99 – 99.0:1
124 – 124.2:1

Input

3 – 13T, 16/32 Spline
 (70:1 only)
4 – 14T, 12/24 Spline

Motor Mount

3 – S.A.E. "B" (4.005/4.001) Pilot (2 & 4 Bolt)
4 – S.A.E. "C" (5.005/5.001) Pilot (2 & 4 Bolt)

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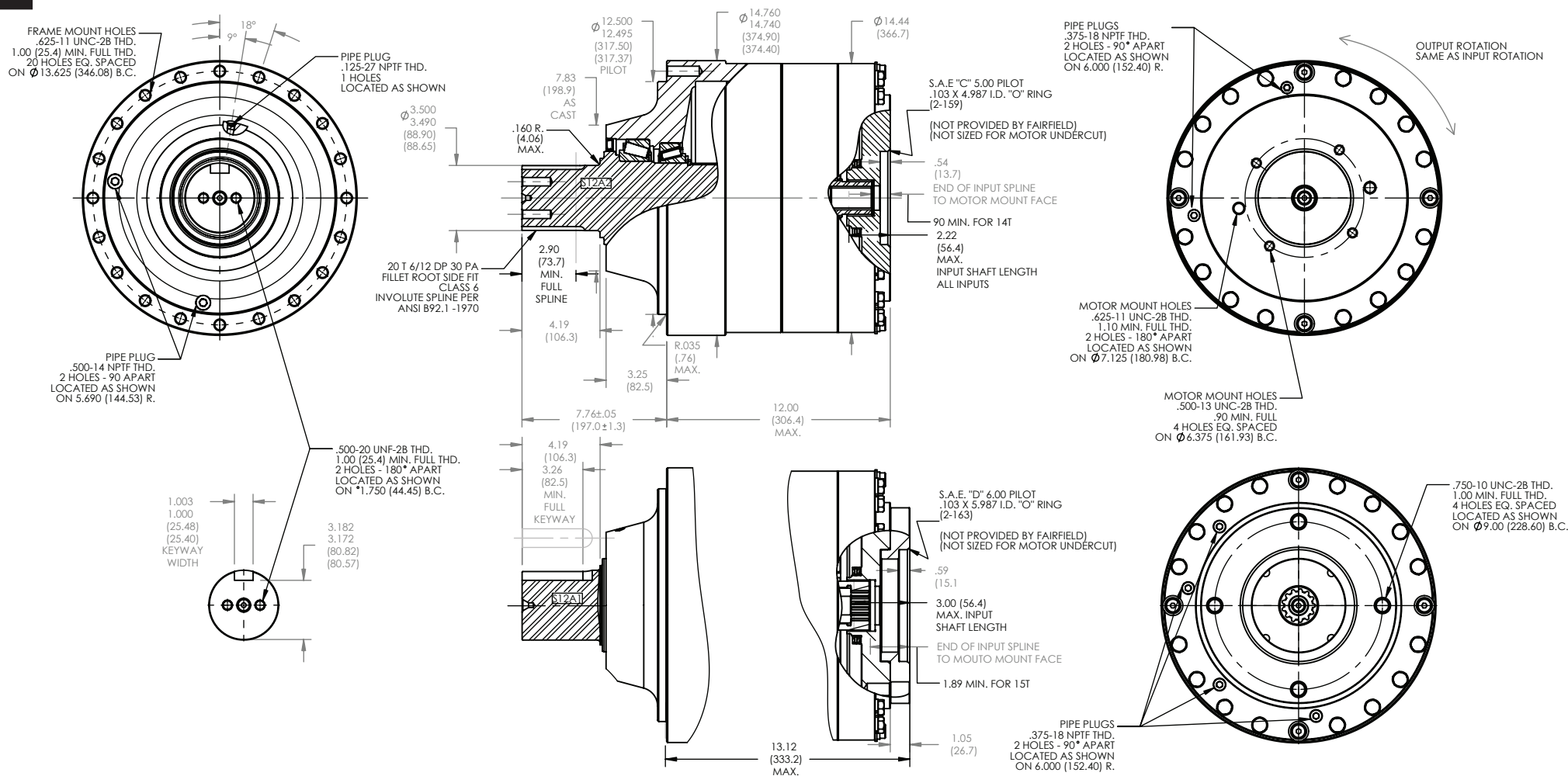
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TORQUE-HUB®

Planetary Final Drives



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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

S12A

Performance Data

Continuous	Intermittent	Peak
125,000 lb-in	250,000 lb-in	Contact Fairfield
10,417 lb-ft	20,833 lb-ft	
14,113 Nm	28,227 Nm	
1,440 kg-m	2,880 kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 4,000 RPM Maximum Intermittent

Weight

Approximately 503 lbs (226 kg)

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 123 oz. (3,639 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

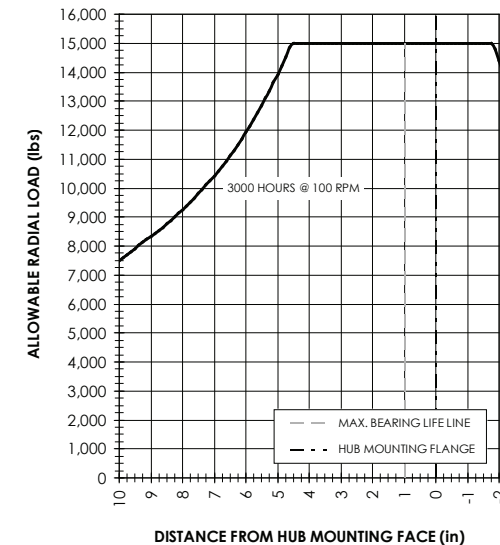
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



S12A Model Formula

S 12 A1 4 4 20

S – Torque-Hub® Shaft Output

12 – Series

	Spindle	Hub	
	Configuration	Hub Flange Thickness	Flange B.C.
A1	3.75" Dia. 1" Keyway	No Flange	(20) 5/8-11 Holes 13.625 Dia. B.C.
A2	3.50" Dia. 20T, 6/12 Spline	No Flange	(20) 5/8-11 Holes 13.625 Dia. B.C.

A4 & A6 - Heavy Duty Bearings Available Contact Fairfield

Reduction

20 – 20.25:1

29 – 29.16:1

40 – 39.37:1

Input

0 – Not Included

4 – 14T, 12/24 Spline

5 – 13T, 8/16 Spline

9 – 15T, 8/16 Spline (20:1 ONLY)

Motor Mount

4 – S.A.E. "C" (5.005/5.001) Pilot (2 & 4 Bolt)

5 – S.A.E. "D" (6.005/6.001) Pilot (4 Bolt)

E – S.A.E. "E" (6.505/6.502) Pilot (4 Bolt)

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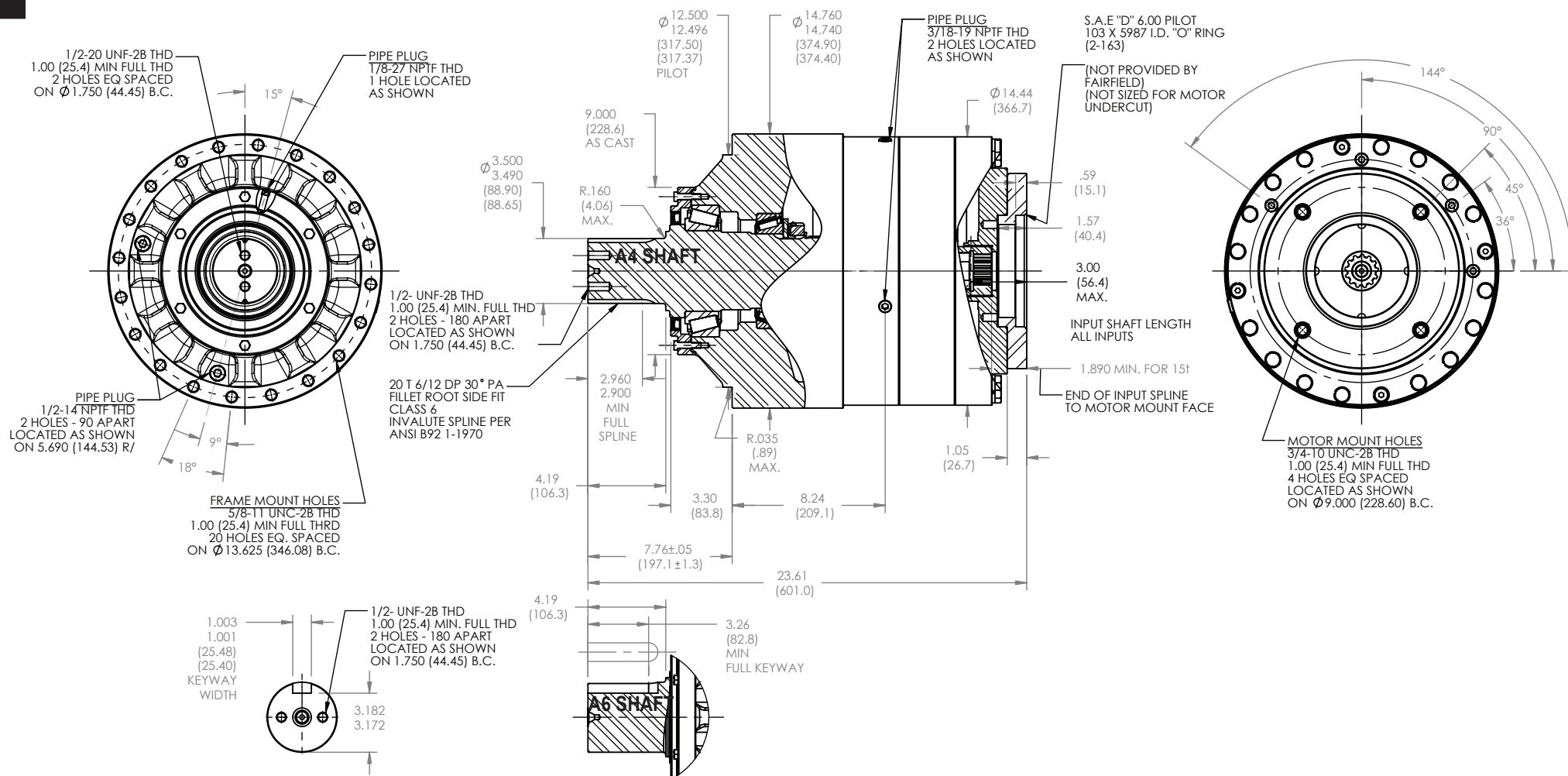
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S16A4/A6

Application Sheet

TORQUE-HUB®

Planetary Final Drives



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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

S16A4/A6

Performance Data

Continuous	Intermittent	Peak
160,000 in-lbs	320,000 in-lbs	Contact Fairfield
13,333 ft-lbs	26,667 ft-lbs	
18,079 N-m	36,158 N-m	
1,843 kg-m	3,686 kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 4,000 RPM Maximum Intermittent

Weight

Approximately 565lbs (257kg)

Note: Specific models will change weights.

S16A4/A6 Model Formula

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume: 123oz (3637.11cc)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

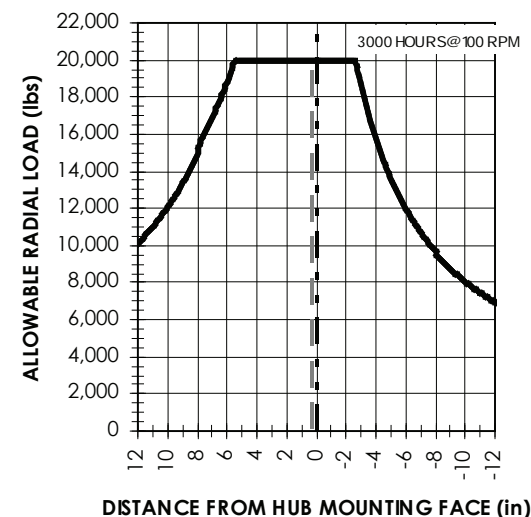
Life = 3,000 hours B10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{\left(\frac{10}{3} \right)}$$

Bearing Curve



S - Torque-Hub Shaft Output

16 - Series

	Shaft	Hub
	Configuration	Hub Flange Thickness
A4	"3.50" Diameter 20T, 6/12	flangeless
A6	"3.75" Diameter 1" Keyway	flangeless
		Flange B.C.
		"(20) 5/8-11 Holes 13.625 Diameter B.C."
		"(20) 5/8-11 Holes 13.625 Diameter B.C."

Input

4 - 14T, 12/24 spline
5 - 13T, 8/16 spline
9 - 15t, 8/16 spline*
*(20:1 only)

Motor Mount

4 - SAE "C" (5.005/5.001) Pilot (2 & 4 bolt)
5 - SAE "D" (6.005/6.001) Pilot (4 bolt)
E - SAE "E" (.505/6.502) Pilot (4 bolt)

Reduction

20 - 20.25
29 - 29.16
40 - 39.37

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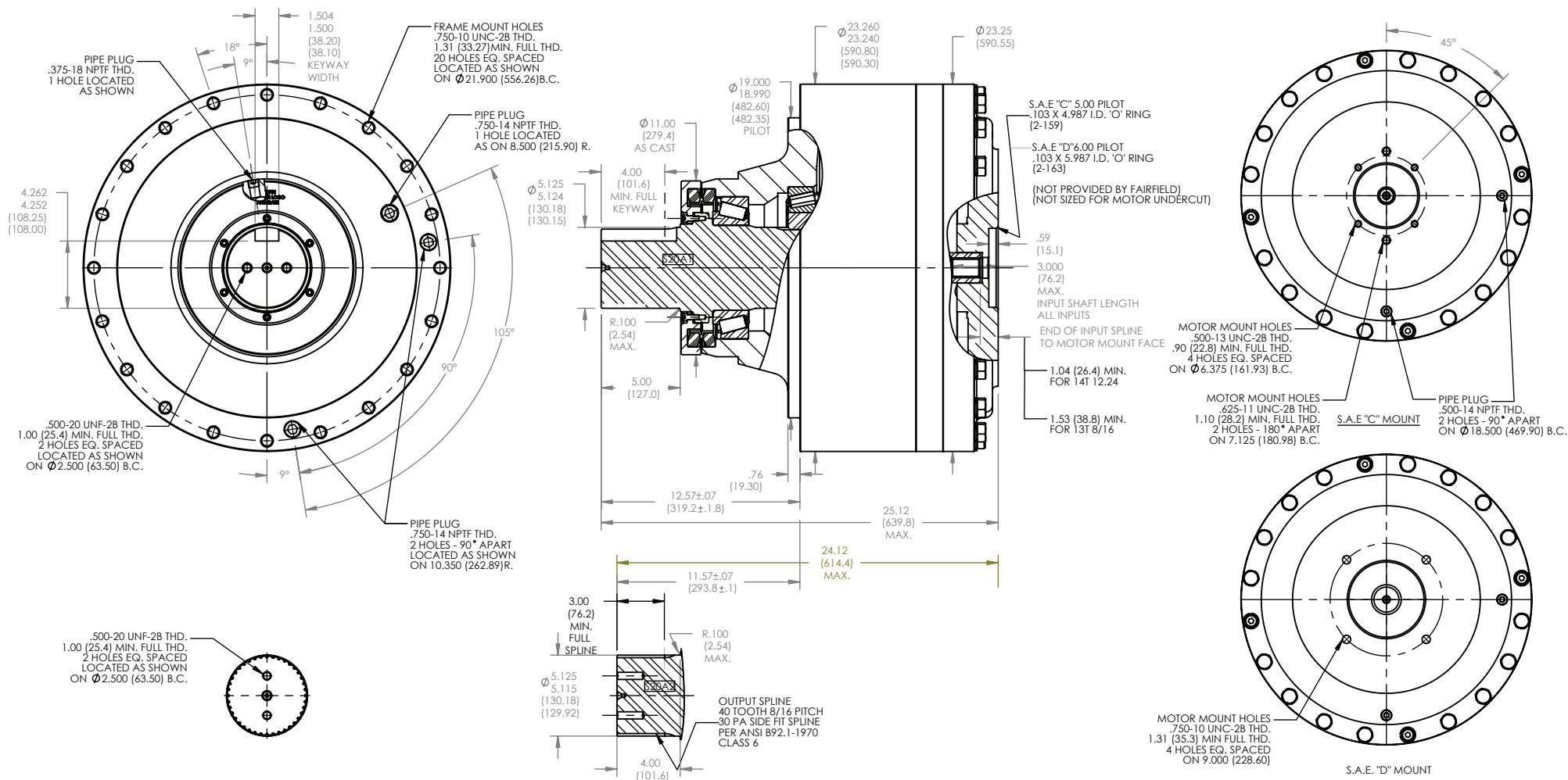
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S20A1

Application Sheet

TORQUE-HUB®

Planetary Final Drives



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Before final design request a certified print from Fairfield.

NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

S20A1

Performance Data

Continuous	Intermittent	Peak
250,000 lb-in	500,000 lb-in	600,000 lb-in
20,833 lb-ft	41,667 lb-ft	50,000 lb-ft
28,245 Nm	56,490 Nm	67,800 Nm
2,880 kg-m	5,760 kg-m	6,900 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 1,500- 1,800 RPM Maximum Intermittent

(Contact Fairfield for specific speed information.)

Weight

Approximately 1,350 lbs (608 kg)

Note: Specific models will change weights.

S20A1 Model Formula

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 256 oz. (7,573 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

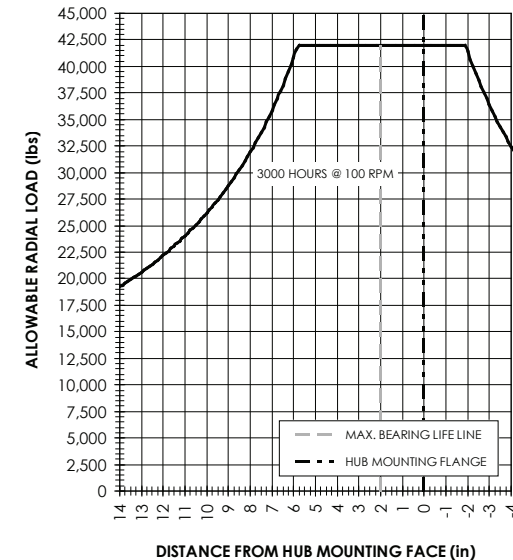
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



S – Torque-Hub® Shaft Output

20 – Series

	Shaft	Hub	
	Configuration	Hub Flange Thickness	Flange B.C.
A1	5.125 Dia. 1-1/2" Keyway	No Flange	(20) 3/4-10 Holes 21.900 B.C.
A2	5.125 Dia. 40T, 8/16 Spline	No Flange	(20) 3/4-10 Holes 21.900 B.C.

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S 20 A1 9 4 4 116

Reduction

27 – 27.2:1
37 – 37.6:1
54 – 54.2:1
62 – 62.2:1
86 – 86.3:1
116 – 116.3:1

Input

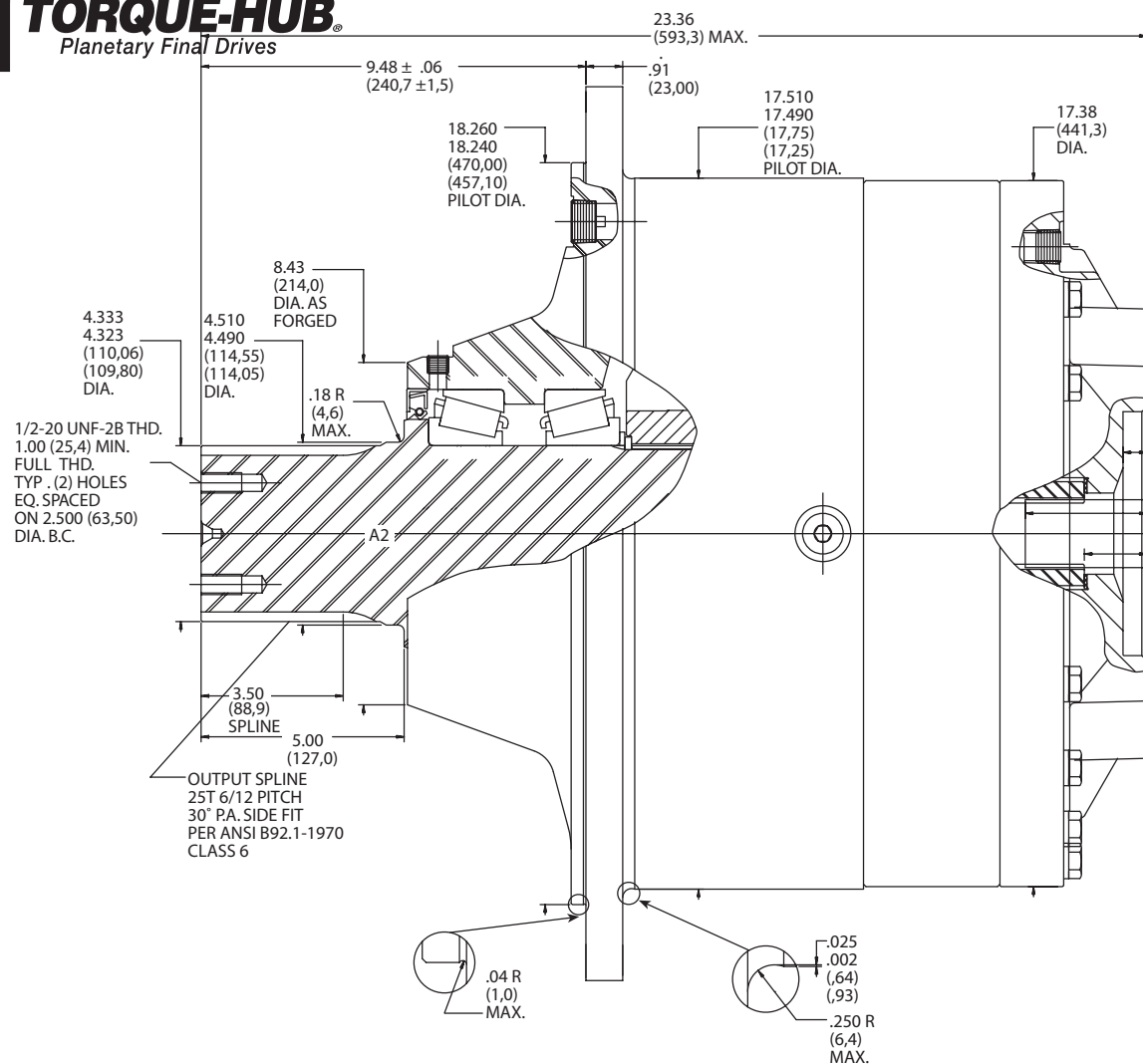
4 – 14T, 12/24 Spline
5 – 13T, 8/16 Spline

Internal Gear

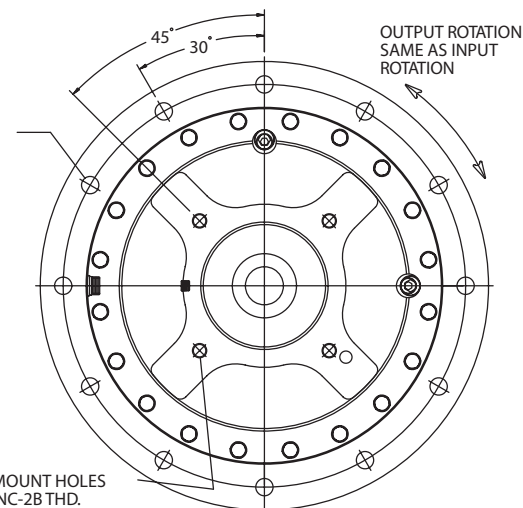
4 – Reduction 27:1 & 54:1
5 – Reduction 37:1 & 62:1
9 – Reduction 86:1 & 116:1

Motor Mount

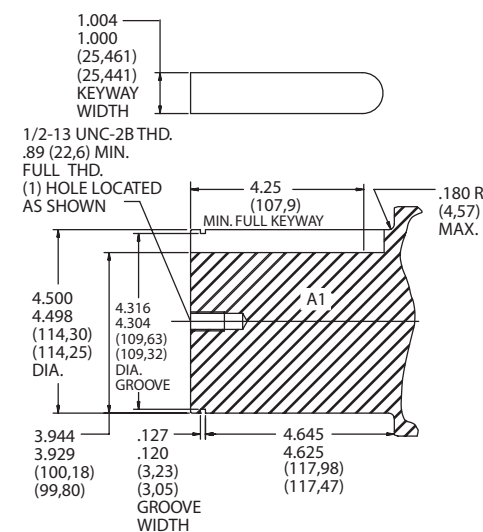
4 – S.A.E. "C" (5.005/5.001) Pilot (2 & 4 Bolt)
5 – S.A.E. "D" (6.005/6.001) Pilot

TORQUE-HUB®
Planetary Final Drives

FRAME MOUNT HOLES
.817-.794 (20,75-20,17) DIA. THRU
TYP. (12) HOLES
EQ. SPACED
ON 19.750 (501,65) DIA. B.C.



MOTOR MOUNT HOLES
3/4-10 UNC-2B THD. 1.30 (33,0) MIN. FULL THD. TYP. (4) HOLES EQ. SPACED ON 9.00 (228,60) DIA. B.C.

SAE 'D' MOTOR MOUNT
1/2 SCALE**oerlikon**
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Before final design request a certified print from Fairfield.

NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

S25A1

Performance Data

Continuous	Intermittent	Peak
200,000 lb-in	400,000 lb-in	Contact Fairfield
16,667 ft-lb	33,333 ft-lb	
22,600 Nm	45,200 Nm	
2,300 Kg-m	4,600 Kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 3,000 RPM Maximum Intermittent

Contact Fairfield for speed limitations and horsepower.

Weight

Approximately 1350 lbs. (612kg)

Note: Specific models will change weights.

S25A1 Model Formula

S- Torque Hub Spindle Output

25- Series

	Shaft	Hub	
	Configuration	Hub Flange Thickness	Flange B.C.
A1	1" Keyway 4.50" Dia.	.91	(12) .817/.794 Holes 19.750 B.C.
A2	4.500" Dia. 25T, 6/12 Spline	.91	(12) .817/.794 Holes 19.750 B.C.

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Volume of Oil: 228 oz.(4.68 quarts)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

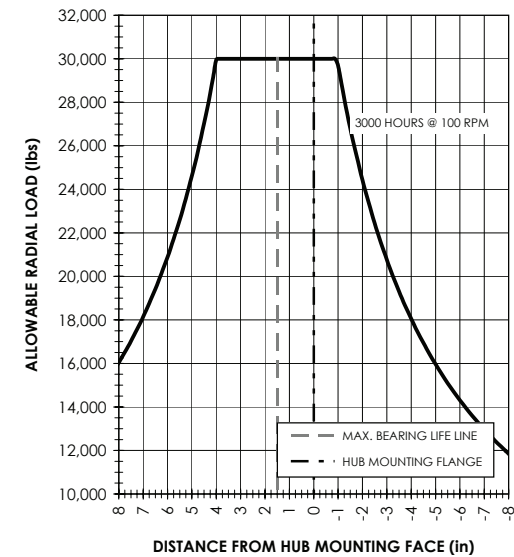
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



Reduction

19 – 18.95:1

29 – 29.08:1

36 – 36.00:1

Input

5 – 13T, 8/16 Spline

Motor Mount

E – S.A.E. "E" (6.505/6.501) Pilot 4 Bolt

5 – S.A.E. "D" (6.005/6.001) Pilot 4 Bolt

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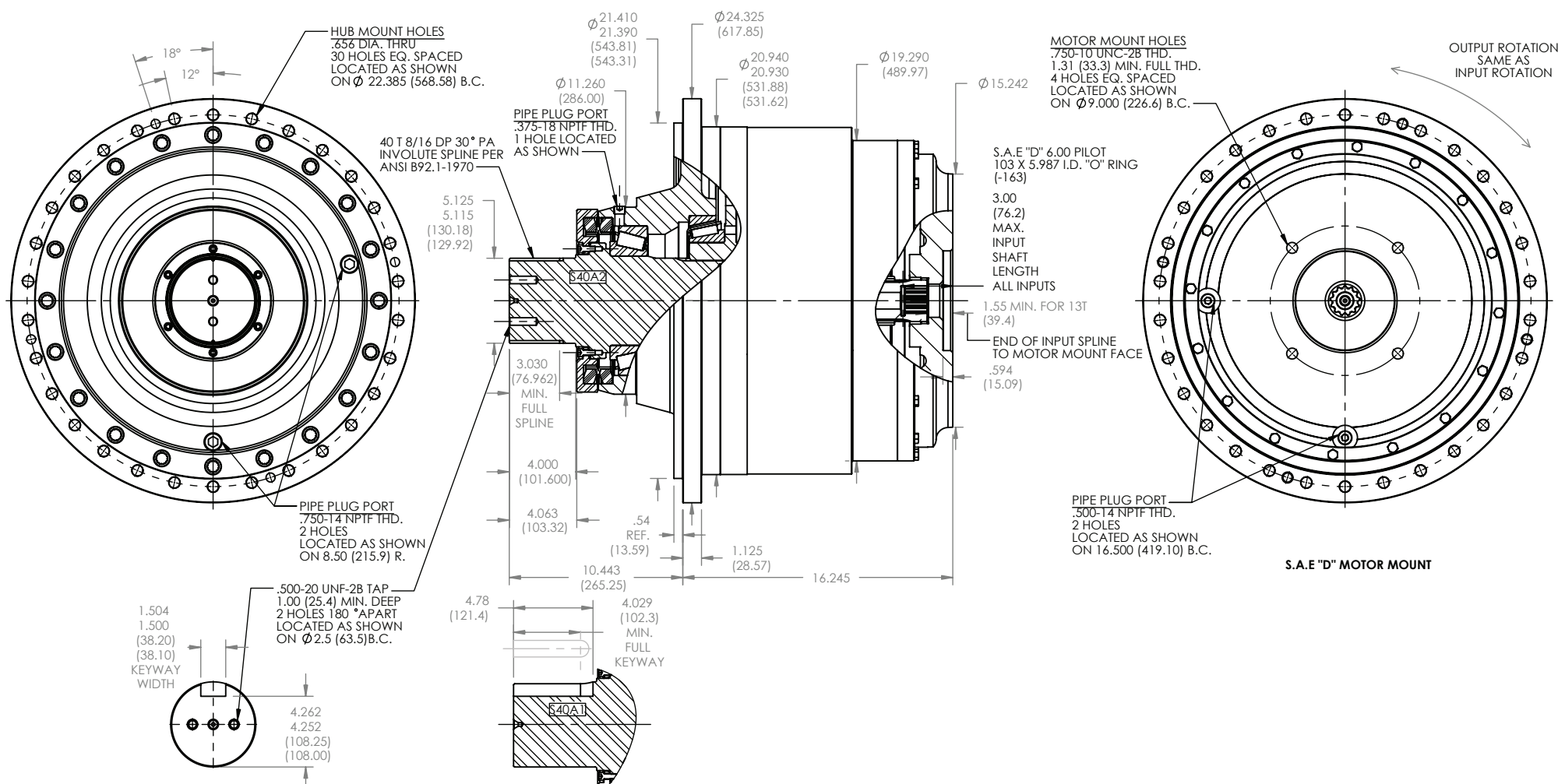
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40 Series

S40A

Application Sheet

TORQUE-HUB®
Planetary Final Drives



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Before final design request a certified print from Fairfield.

NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

S40A

Performance Data

Continuous	Intermittent	Peak
400,000 in-lbs	800,000 in-lbs	
33,333 ft-lbs	66,667 ft-lbs	Contact Fairfield
45,198 N-m	90,395 N-m	
4,607 kg-m	9,215 kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 3,000 RPM Maximum Intermittent

Contact Fairfield for speed limitations and horsepower.

Weight

Approximately 1,400lbs (636kg)

Note: Specific models will change weights.

S40A Model Formula

S - Torque-Hub Shaft Output

40 - Series

	Shaft	Hub	
	Configuration	Hub Flange Thickness	Flange B.C.
A1	"5.125" Diameter 1.5" Keyway"	1.125"	"(30) .660/.650 Holes 22.385 Diameter B.C."
A2	"5.125" Diameter 40T, 8/16 Spline"	1.125"	"(30) .660/.650 Holes 22.385 Diameter B.C."

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume: 500oz (14785cc)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

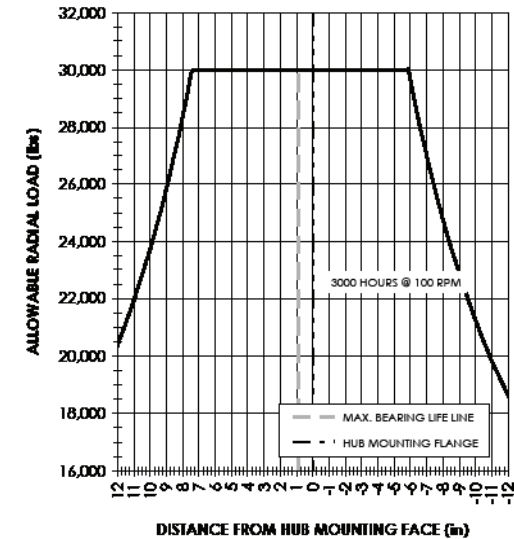
Life = 3,000 hours B10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{\left(\frac{10}{3} \right)}$$

Bearing Curve



Reduction

25 - 24.95

40 - 39.71

Input

5 - 13T, 8/16 spline

Motor Mount

5 - SAE "D" (6.005/6.001) Pilot (4 bolt)

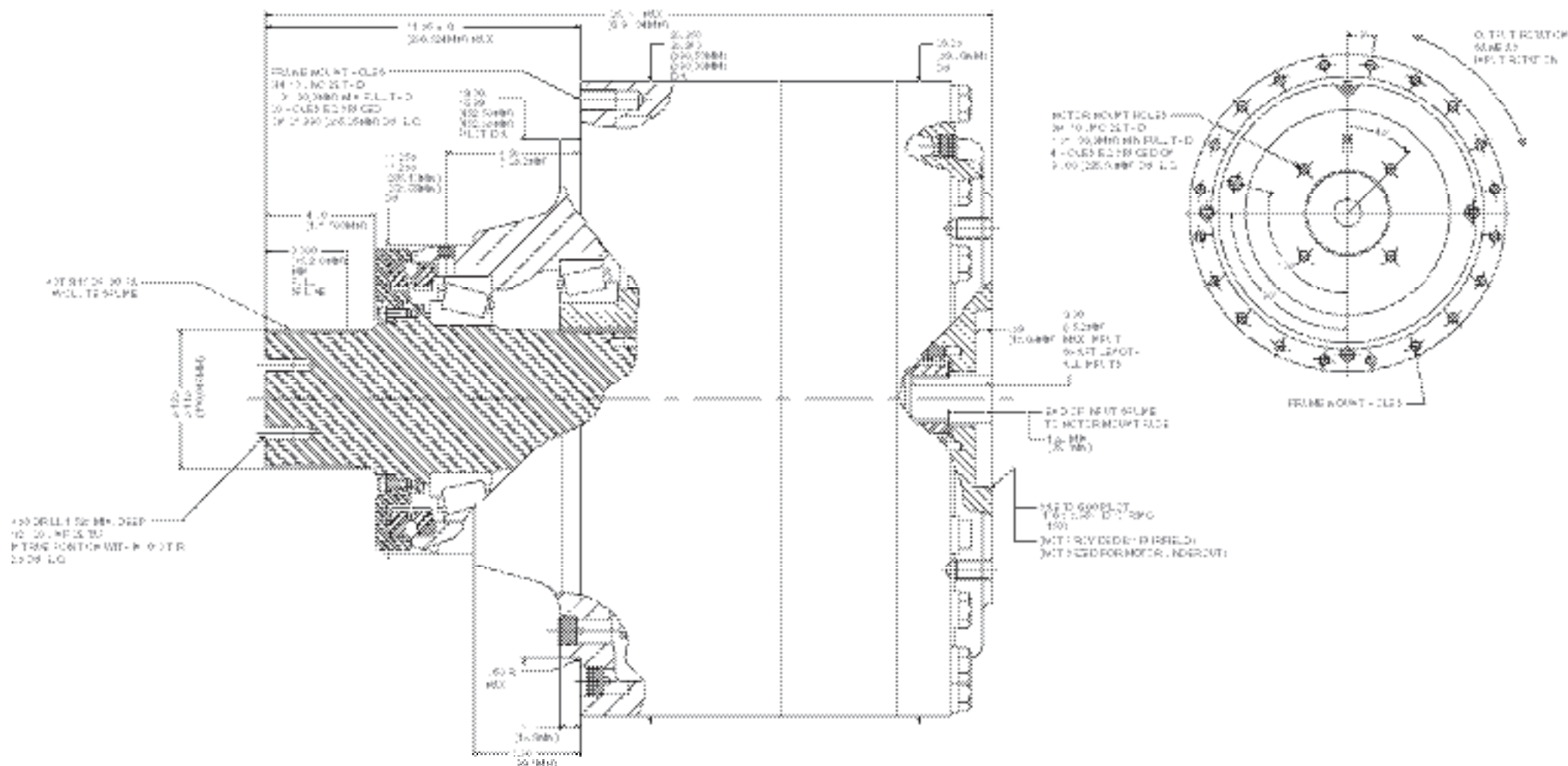
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TORQUE-HUB®
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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

S50A1

Performance Data

Continuous	Intermittent	Peak
500,000 lb-in	1,000,000 lb-in	
41,667 lb-ft	83,333 lb-ft	Contact Fairfield
56,453 Nm	112,906 Nm	
5,760 kg-m	11,520 kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 3,000 RPM Maximum Intermittent

(Contact Fairfield for specific speed and horsepower information.)

Weight

Approximately 1,460 lbs (662kg)

Note: Specific models will change weights.

S50A2 Model Formula

S – Torque-Hub® Shaft Output

50 – Series

	Shaft	Hub
	Configuration	Hub Flange Thickness Flange B.C.
A1	1-1/2" Keyway 5.125" Dia.	No Flange (20) 3/4-10 Holes 21.900 B.C.
A2	5.125" Dia. 40T, 8/16 Spline	No Flange (20) 3/4-10 Holes 21.900 B.C.

Note: Other models available, please contact Fairfield.

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Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 500 oz. (15.63 quarts)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

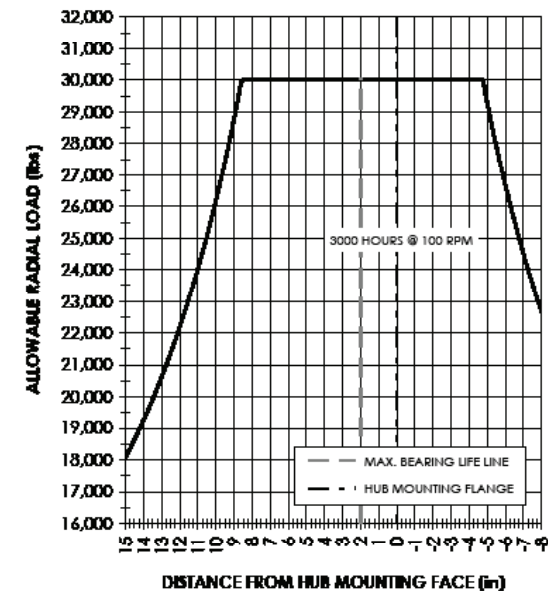
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



Special Features
V – Viton Seals

Special Features
R – Redesigned Input Carrier

Reduction

25 – 24.95:1

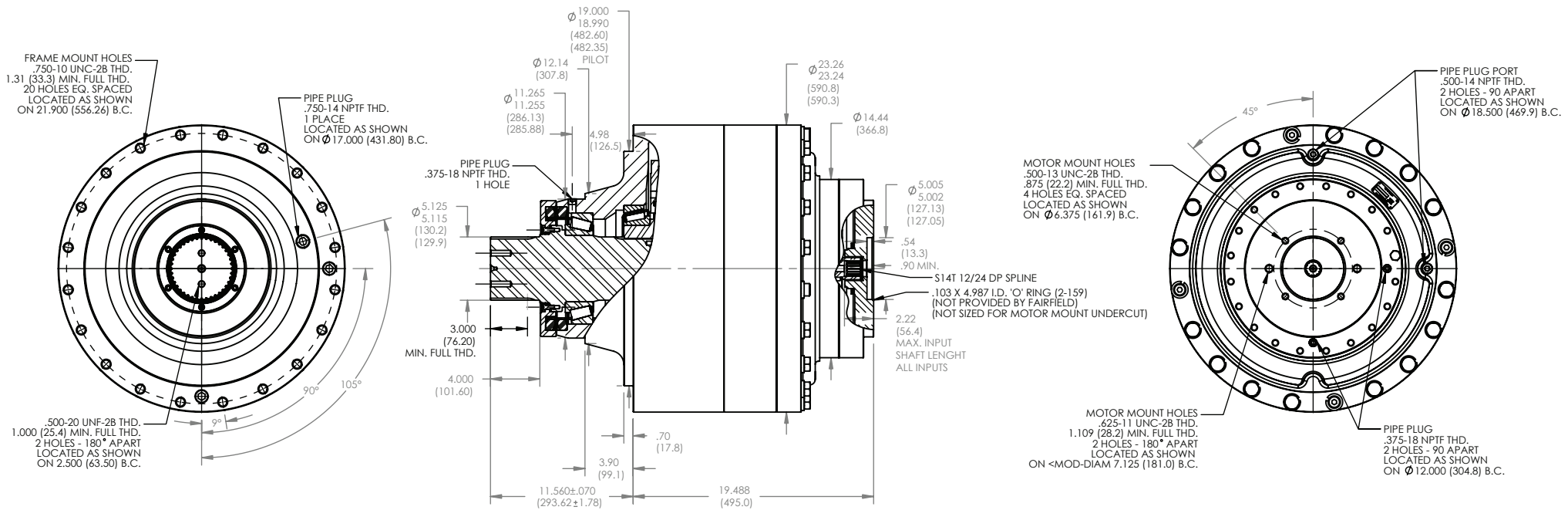
40 – 39.71:1

94 – 93.59:1 (25:1 with S6C 3.75:1)

Input Spindle Side
5 – 13T, 8/16 Spline

Motor Mount

5 – S.A.E. "D" (6.005/6.002) Pilot 4 Bolt



S50A1(T)

Performance Data

Continuous	Intermittent	Peak
500,000 lb-in	1,000,000 lb-in	
41,667 lb-ft	83,333 lb-ft	Contact Fairfield
56,453 Nm	112,906 Nm	
5,760 kg-m	11,520 kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative. Note: Oil level and type will vary with specific model and application.

Speed Limitations

Input Speed: 3,000 RPM Maximum Intermittent

(Contact Fairfield for specific speed and horsepower information.)

Weight

Approximately 1,460 lbs (662kg)

Note: Specific models will change weights.

S50A1 Model Formula

S – Torque-Hub® Shaft Output

50 – Series

	Shaft	Hub	
	Configuration	Hub Flange Thickness	Flange B.C.
A1	1-1/2" Keyway 5.125" Dia.	No Flange	(20) 3/4-10 Holes 21.900 B.C.
A2	5.125" Dia. 40T, 8/16 Spline	No Flange	(20) 3/4-10 Holes 21.900 B.C.

Note: Other models available, please contact Fairfield.

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 500 oz. (15.63 quarts)

Conditions of Bearing Curve

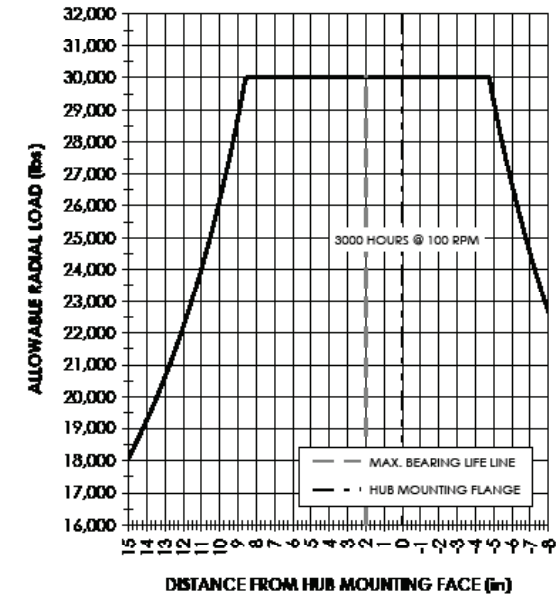
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



Reduction

94 - 93.59
135 - 134.77
149 - 148.9
182 - 181.84
214 - 214.41
289 - 289.29

Input Spindle Side

5 – 13T, 8/16 Spline
4 – 14T, 12/24 Spline

Motor Mount

5 – S.A.E. "D" (6.005/6.002) Pilot 4 Bolt
4 – S.A.E. "C" (5.005/5.002) PILOT 2 & 4 Bolt

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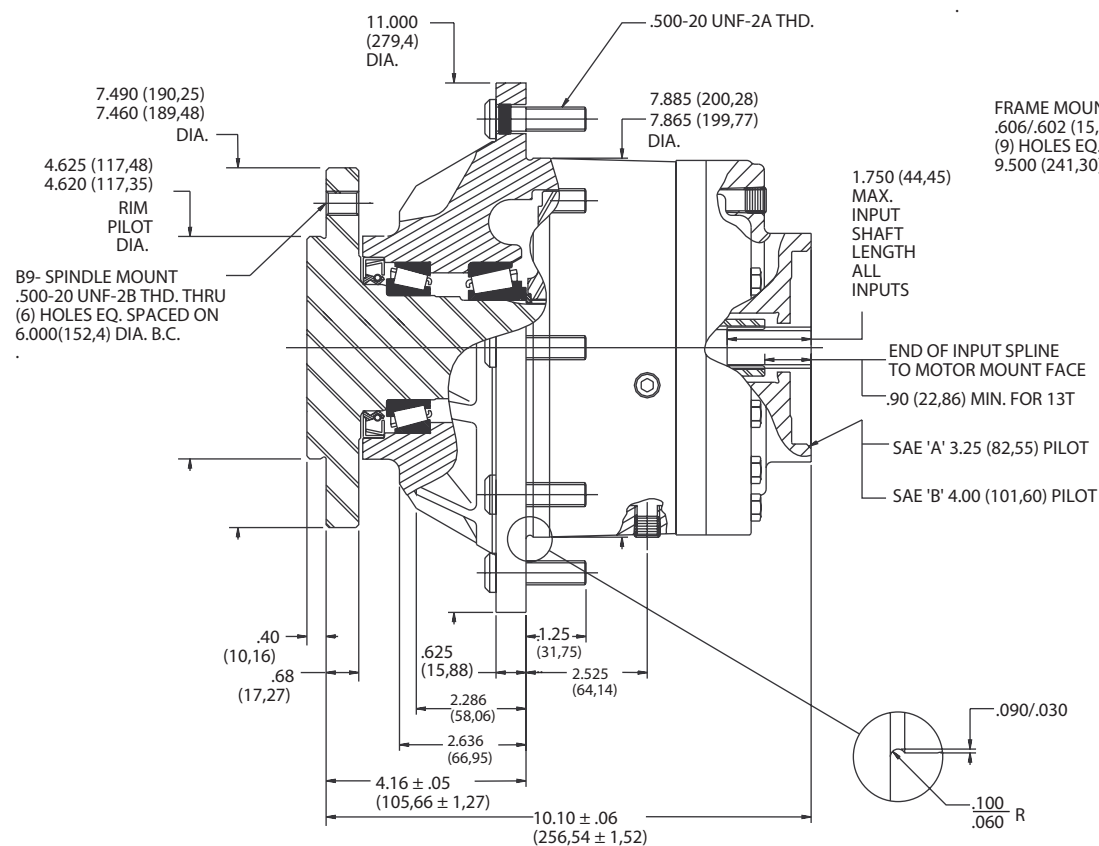
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1 Series

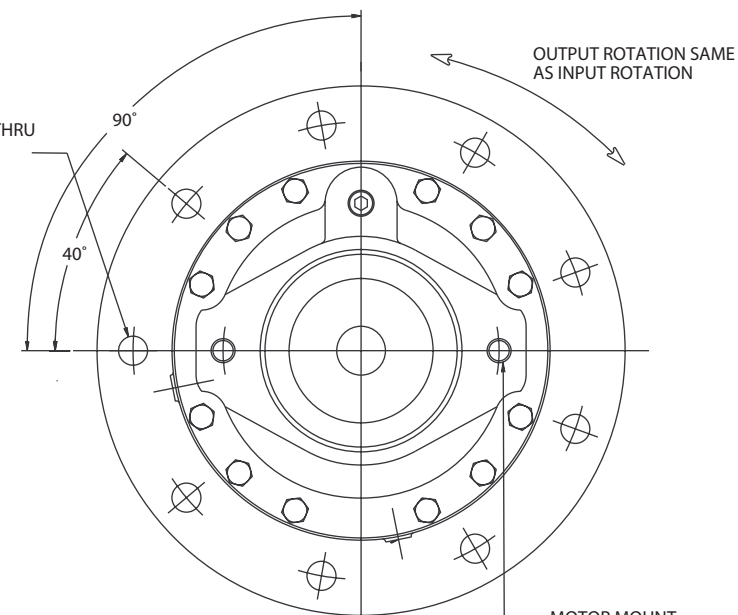
S1B9

Application Sheet

TORQUE-HUB®
Planetary Final Drives

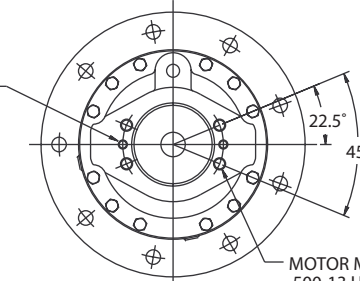


FRAME MOUNT HOLES
.606/.602 (15,39/15,29) DIA. THRU
(9) HOLES EQ. SPACED ON
9.500 (241,30) DIA. B.C.



SAE "B" MOUNT

MOTOR MOUNT
.375-16 UNC-2B THD.
.68 (17,27) MIN. FULL THD.
(2) HOLES 180° APART ON
4.188 (106,38) DIA. B.C.



SAE "A" MOUNT

MOTOR MOUNT
.500-13 UNC-2B THD.
.68 MIN. (17,27) FULL THD.
(4) HOLES LOCATED AS SHOWN ON
4.188 (106,38) DIA. B.C.

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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

S1B9

Performance Data

Continuous	Intermittent	Peak
15,000 lb-in	30,000 lb-in	40,000 lb-in
1,250 lb-ft	2,500 lb-ft	3,333 lb-ft
1,690 Nm	3,381 Nm	4,508 Nm
172 kg-m	345 kg-m	460 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 4,000 RPM Maximum Intermittent

Weight

Approximately 84 lbs (38 kg)

Note: Specific models will change weights.

S1B9 Model Formula

S – Torque-Hub® Spindle Output

1 – Series

	Spindle		Hub	
	Flange Mounting Dia.	B.C.	Mounting Dia.	Flange B.C.
B9	4.625 4.620	(6) 1/2-20 6.000 B.C.	7.885 7.865	(9) .606/.602 9.500 B.C.

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Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 17 oz. (503 cm³)

Note: Oil level and type will vary with specific model and application.

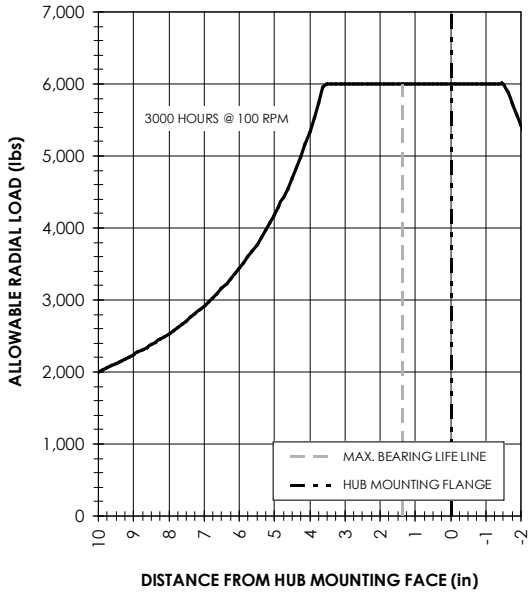
Conditions of Bearing Curve

Life = 3,000 hours B-10
Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

Adjusted Life (hrs) = 3,000 $\left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$

Bearing Curve



S 1 B 9 4 0 3 3 3 1

Input	Reduction
3 – 13T, 16/32 Spline	19 – 19.25:1
	25 – 25.85:1
	31 – 31.05:1
	36 – 36.13:1
	41 – 41.25:1
	48 – 48.33:1
	50 – 50.29:1
	59 – 58.89:1
	69 – 69.00:1

Motor Mount

- 2 – S.A.E. "A" (3.255/3.251) pilot 2-bolt and 4-bolt
- 3 – S.A.E. "B" (4.005/4.001) pilot 2-bolt

Studs

- 0 – Not Included
- 4 – 1/2-20x1.875 in. (for cast iron hub with .606/.602 holes)
- G – 9/16 - 18 x 2.265

Special Features

- 0 – Not Available

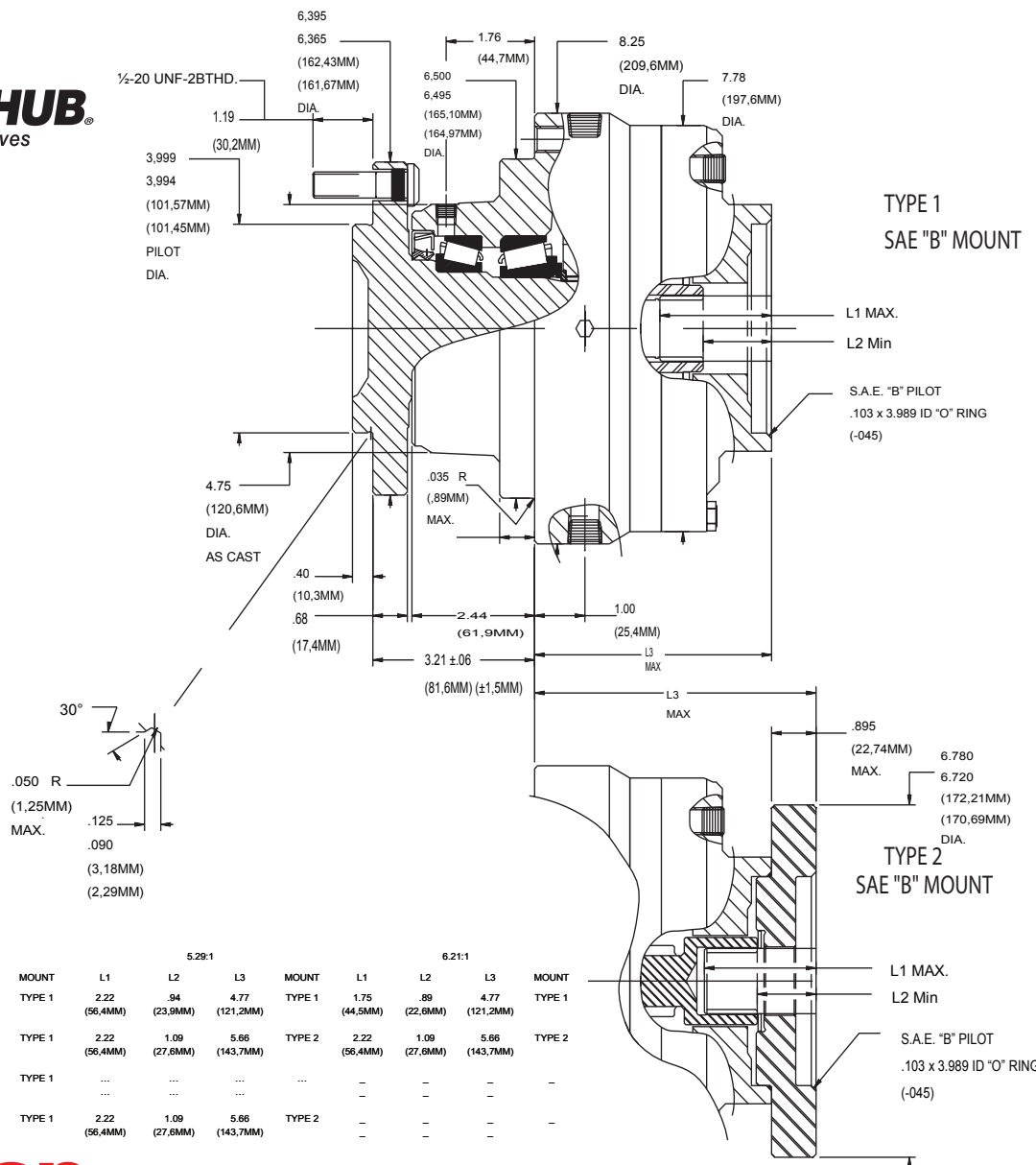
TORQUE-HUB®

Planetary Final Drives

1 Series

S1E1

Application Sheet



RATIO	4.17:1			MOUNT	5.29:1			MOUNT	6.21:1			MOUNT
	L1	L2	L3		L1	L2	L3		L1	L2	L3	
13T	2.22 (56.4MM)	.91 (23.1MM)	4.77 (121.2MM)	TYPE 1	2.22 (56.4MM)	.94 (23.9MM)	4.77 (121.2MM)	TYPE 1	1.75 (44.5MM)	.89 (22.6MM)	4.77 (121.2MM)	TYPE 1
14T	2.22 (56.4MM)	1.25 (31.6MM)	4.77 (121.2MM)	TYPE 1	2.22 (56.4MM)	1.09 (27.6MM)	5.66 (143.7MM)	TYPE 2	2.22 (56.4MM)	1.09 (27.6MM)	5.66 (143.7MM)	TYPE 2
15T	2.22 (56.4MM)	.91 (23.1MM)	4.77 (121.2MM)	TYPE 1	---	---	---	---	---	---	---	---
6B	2.22 (56.4MM)	1.05 (26.7MM)	4.77 (121.2MM)	TYPE 1	2.22 (56.4MM)	1.09 (27.6MM)	5.66 (143.7MM)	TYPE 2	---	---	---	---

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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

S1E1

Performance Data

Continuous	Intermittent	Peak
15,000 lb-in	30,000 lb-in	40,000 lb-in
1,250 lb-ft	2,500 lb-ft	3,333 lb-ft
1,690 Nm	3,381 Nm	4,508 Nm
172 kg-m	345 kg-m	460 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 5,000 RPM Maximum Intermittent

Weight

Approximately 63 lbs (29 kg)

Note: Specific models will change weights.

S1E1 Model Formula

S – Torque-Hub® Spindle Output

1 – Series

	Spindle		Hub	
	Flange Mounting Dia.	B.C.	Mounting Dia.	Flange B.C.
E1	3.999 3.994	(5) .606/.602 5.500 B.C.	6.500 6.495	(8) 1/2 - 13 7.250 B.C.

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Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 12 oz. (355 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

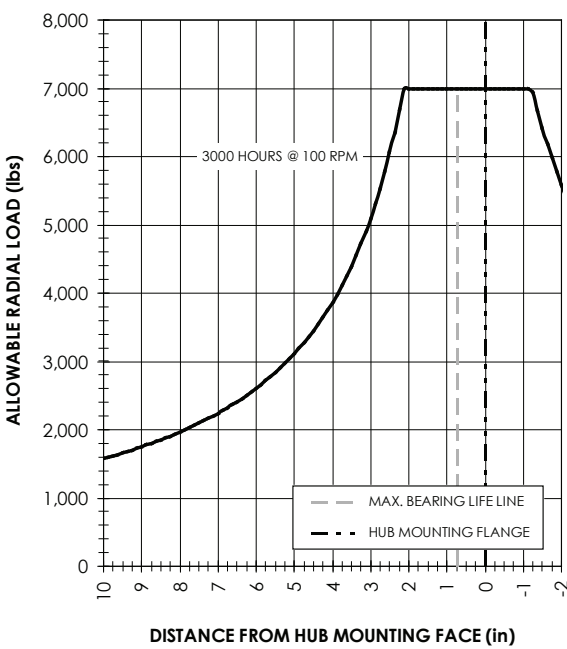
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

Adjusted Life (hrs) = 3,000 $\left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right)^x \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$

Bearing Curve



S 1 E1 4 3 3 S4

Reduction

- 3 - 3.56
- 4 - 4.17:1
- 5 - 5.29:1
- 6 - 6.21:1

Input

- 3 - 13T, 16/32 Spline
- 4 - 14T, 12/24 Spline
- 6 - 6B Parallel Spline
- 8 - 15T, 16/32 Spline (4:1 ONLY)

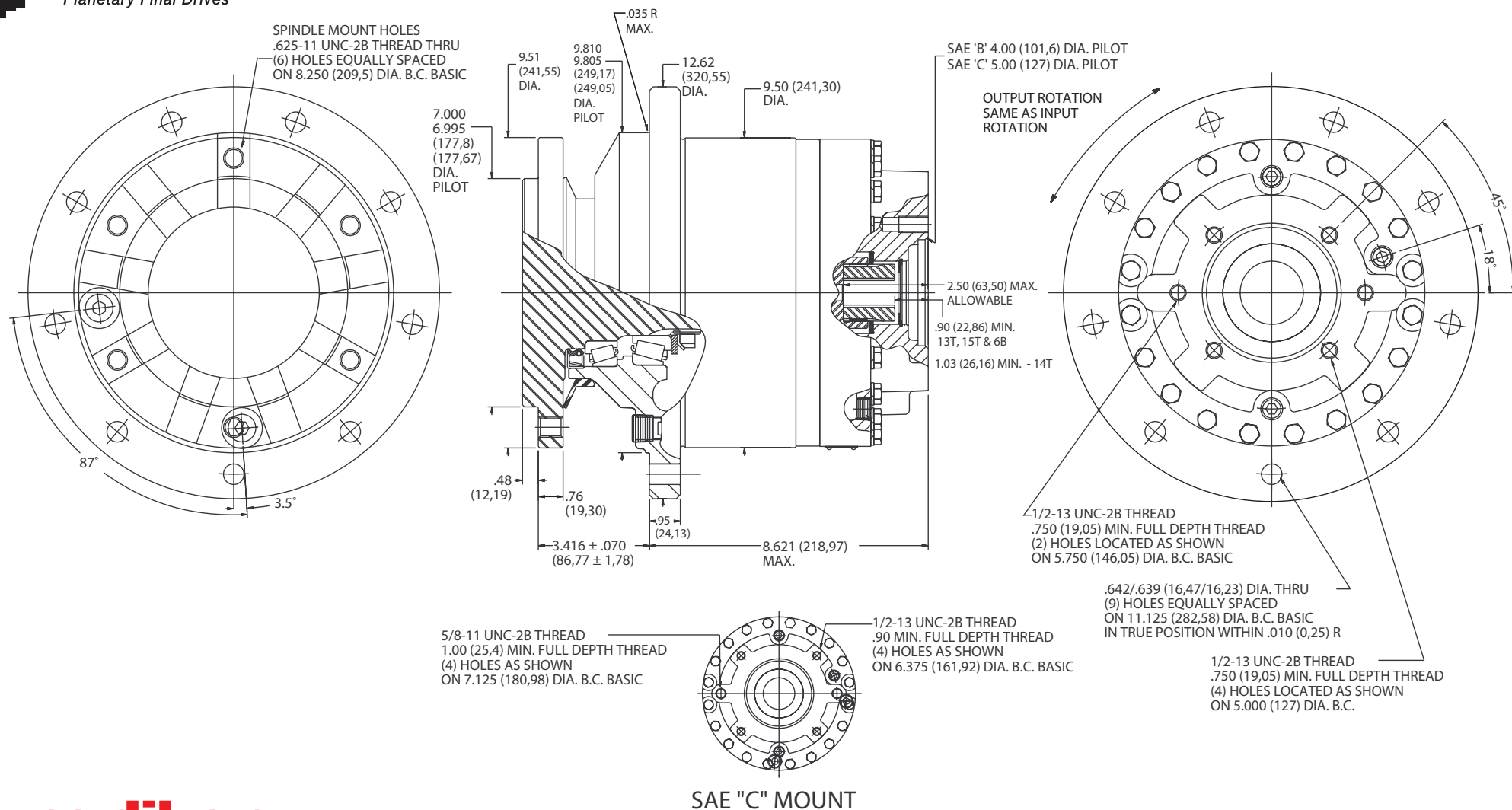
Studs

- 0 - Not Included
- 4 - 1/2-20x1.875 in.
(Studs in spindle)

Motor Mount

- 6 - S.A.E. "A" (3.255/3.251) pilot
2-bolt and 4-bolt
- 3 - S.A.E. "B" (4.005/4.001) pilot
2-bolt
- 4 - S.A.E. "C" (5.005/5.001) pilot
2-bolt

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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

S2B

Performance Data

Continuous	Intermittent	Peak
25,000 lb-in	50,000 lb-in	60,000 lb-in
2,087 lb-ft	4,167 lb-ft	5,000 lb-ft
2,817 Nm	5,633 Nm	6,790 Nm
287 kg-m	573 kg-m	688 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 4,000 RPM Maximum Intermittent

Weight

Approximately 150 lbs (68 kg)

Note: Specific models will change weights.

S2B Model Formula

S – Torque-Hub® Spindle Output

2 – Series

	Spindle		Hub	
	Flange Mounting Dia.	B.C.	Mounting Dia.	Flange B.C.
B1	<u>7.000</u> 6.995	(12) 5/8 - 11 8.250 B.C.	<u>9.810</u> 9.805	(9) .642/.639 11.125 B.C.

Motor Mount

- 2 – S.A.E. "A" (3.255/3.251) Pilot
- 3 – S.A.E. "B" (4.005/4.001) Pilot
- 4 – S.A.E. "C" (5.005/5.001) Pilot

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 40 oz. (1,184 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

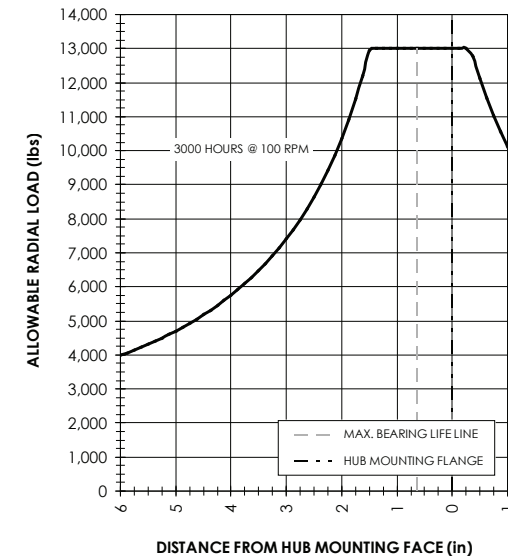
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



Special Features
ZY – Seal Boot

Reduction

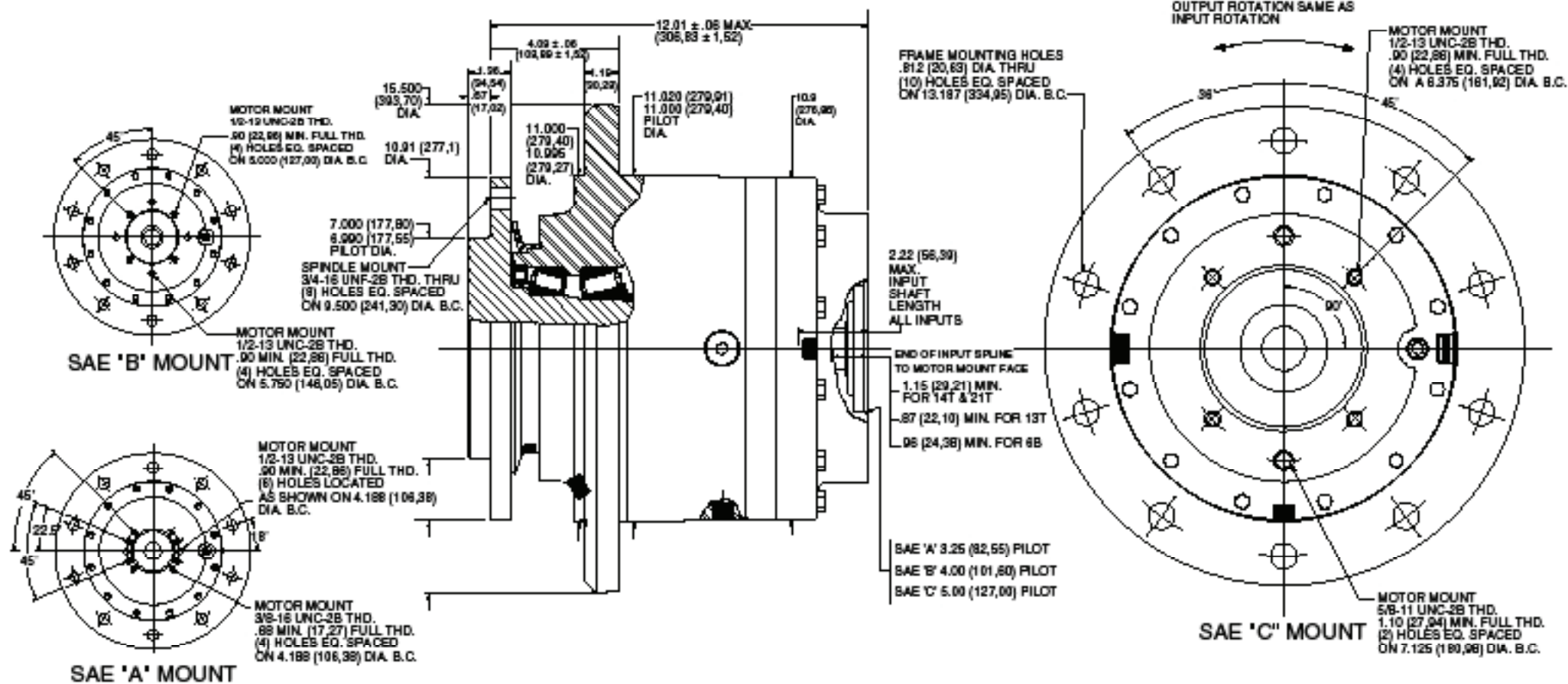
- 14 – 14.30:1
- 21 – 20.86:1
- 26 – 25.82:1
- 29 – 29.22:1
- 35 – 34.83:1
- 38 – 37.64:1
- 44 – 43.65:1
- 50 – 50.03:1

Input

- 3 – 13T, 16/32 Spline
- 4 – 14T, 12/24 Spline
- 6 – 6 B Parallel Side Spline Major Dia.: 1.00 in.
- 8 – 15T, 16/32 Spline

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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

S3B8

Performance Data

Continuous	Intermittent	Peak
37,500 lb-in	75,000 lb-in	100,000 lb-in
3,125 lb-ft	6,250 lb-ft	8,333 lb-ft
4,234 Nm	8,468 Nm	11,290 Nm
432 kg-m	864 kg-m	1,152 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 4,000 RPM Maximum Intermittent

Weight

Approximately 225 lbs (102 kg)

Note: Specific models will change weights.

S3B8 Model Formula

S – Torque-Hub® Spindle Output

3 – Series

	Spindle		Hub	
	Flange Mounting Dia.	B.C.	Mounting Dia.	B.C.
B8	<u>7.000</u> 6.990	(8) 3/4 - 16 9.500 B.C.	<u>11.020</u> 11.000	(10) .828/.798 13.187 B.C.

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Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 44 oz. (1,302 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

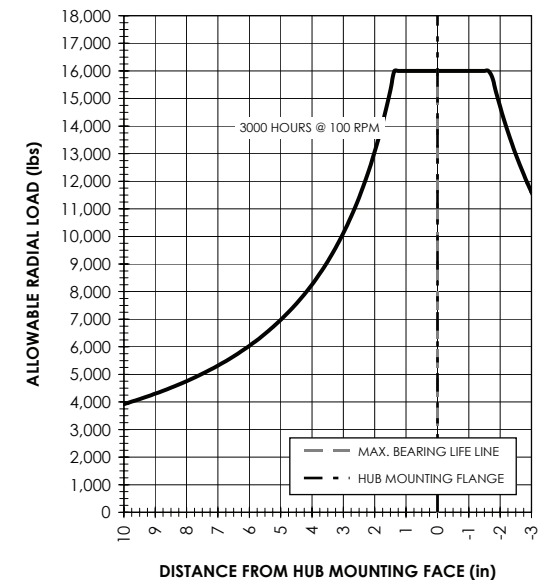
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



S 3 B8 3 3 44 Z B Y

Special Features
Y – Seal Boot

Special Features
S – Studs in Spindle
Z – Blank

Special Features
B – Bronze Washers in Carrier

Reduction
19 – 19.75:1
25 – 24.43:1
31 – 31.04:1
36 – 35.49:1
44 – 43.50:1
51 – 51.54:1
55 – 54.58:1

Motor Mount

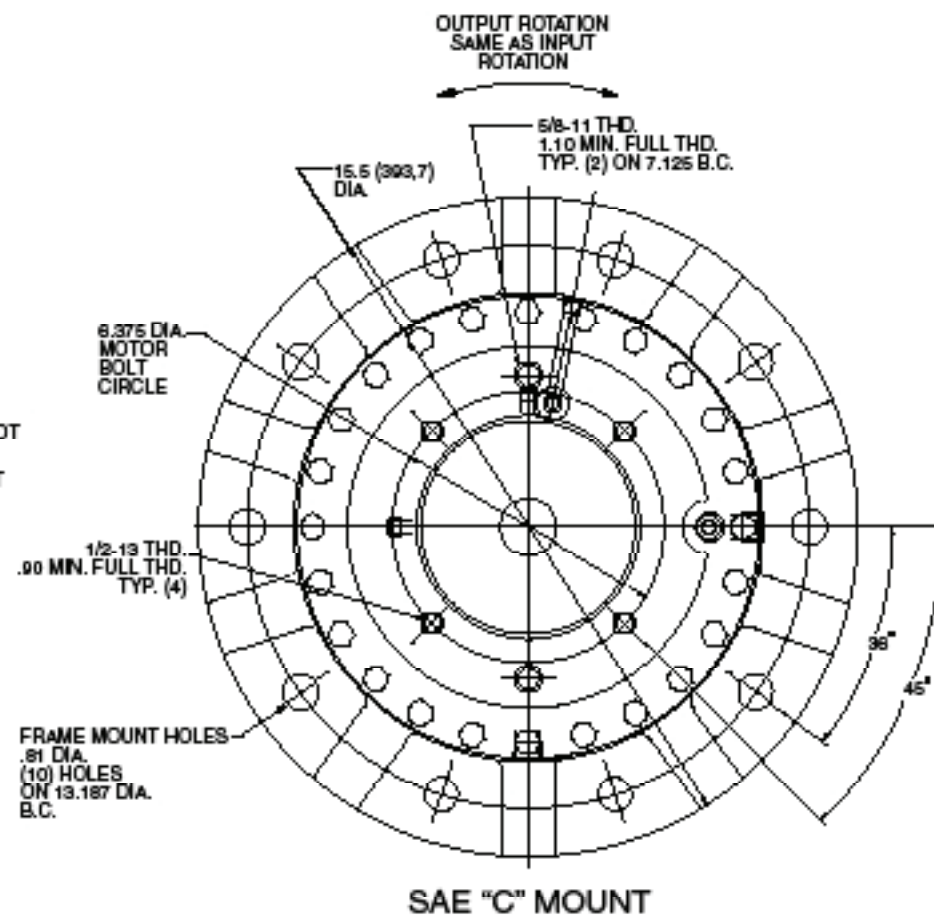
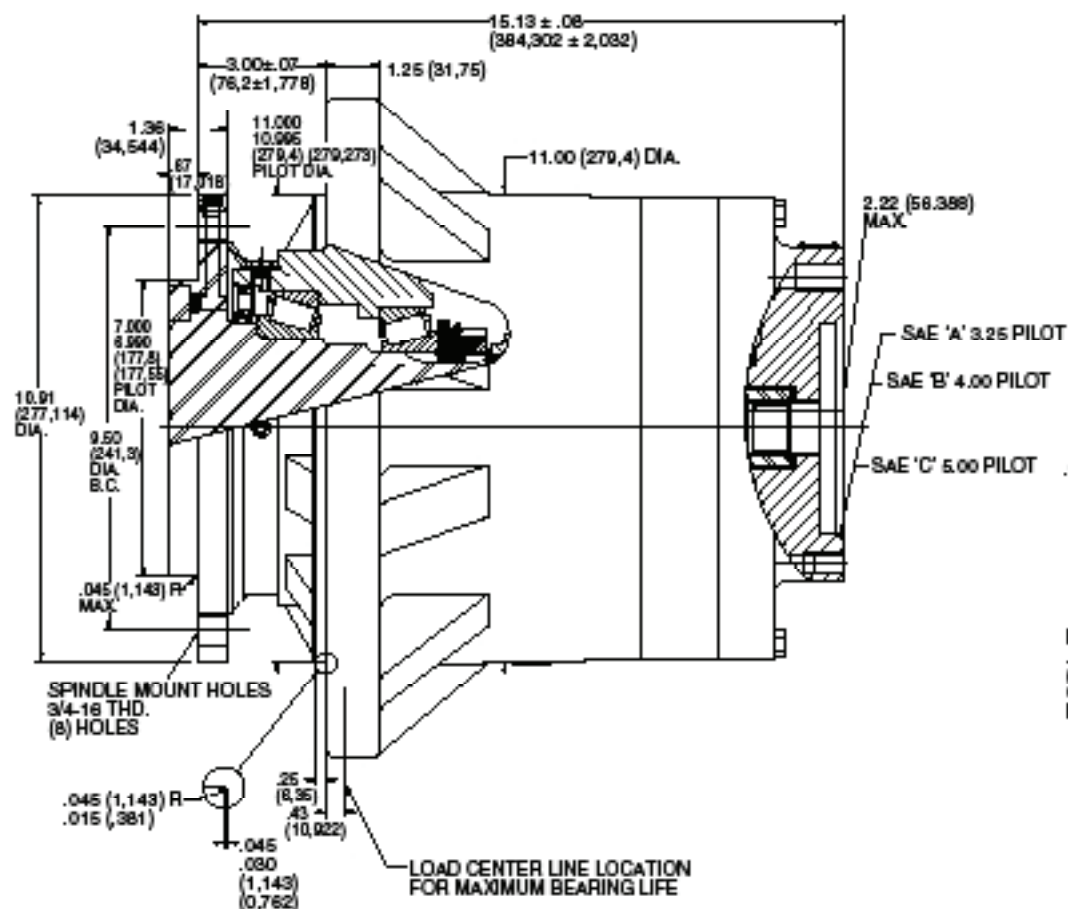
2 – S.A.E. "A" (3.255/3.251) Pilot
4 Bolt and 6 Bolt
3 – S.A.E. "B" (4.005/4.001) Pilot
4 Bolt
4 – S.A.E. "C" (5.005/5.001) Pilot
2 Bolt and 4 Bolt

Input

3 – 13T, 16/32 Spline
4 – 14T, 12/24 Spline
6 – 6 B Parallel Side Spline
Major Dia.: 1.00 in.
(for 31, 36, 51 and 55 ratios)
7 – 21T, 16/32 Spline
(available with "C" mount only)

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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

S6B3

Performance Data

Continuous	Intermittent	Peak
60,000 lb-in	120,000 lb-in	150,000 lb-in
5,000 lb-ft	10,000 lb-ft	12,500 ft-lb
6,779 Nm	13,558 Nm	16,950 Nm
691 kg-m	1,383 kg-m	1,725 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 5,000 RPM Maximum Intermittent

(Contact Fairfield for specific speed information.)

Weight

Approximately 315 lbs (143kg) without Brake

Note: Specific models will change weights.

S6B3 Model Formula

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

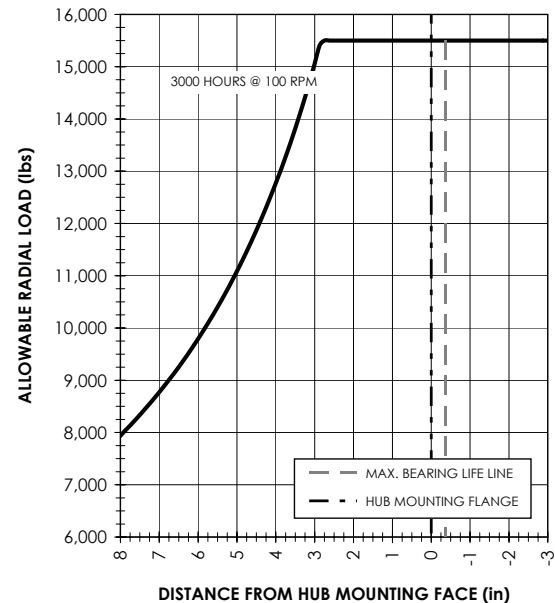
Approximate Volume 50 oz. (1.56quarts)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

Note: Contact Fairfield for Conditions of Bearing Curve.

Bearing Curve



S – Torque-Hub® Spindle Output

6 – Series

	Spindle		Hub	
	Flange Mounting Dia.	B.C.	Mounting Dia.	Flange B.C.
B3	7.000 6.990	(8) 3/4 - 16 9.500 B.C.	11.000 10.995	(10) .828/.798 13.187 B.C.

Motor Mount

- 2 – S.A.E. "A" (3.225/2.251) Pilot 4 Bolt and 6 Bolt
- 3 – S.A.E. "B" (4.005/4.001) Pilot 2 Bolt
- 4 – S.A.E. "C" (5.005/ 5.001) Pilot 2 Bolt

Reduction

- 13 – 13.07:1
- 16 – 15.26:1
- 19 – 19.04:1
- 26 – 25.96:1
- 32 – 32.31:1
- 42 – 41.54:1
- (42:1 Only with S6B2, S6B4)

Input

- 3 – 13T, 16/32 Spline
- 4 – 14T, 12/24 Spline
- 6 – 6B Parallel Side Spline
- Major Dia. 1.00"
- 8 – 15T, 16/32 Spline

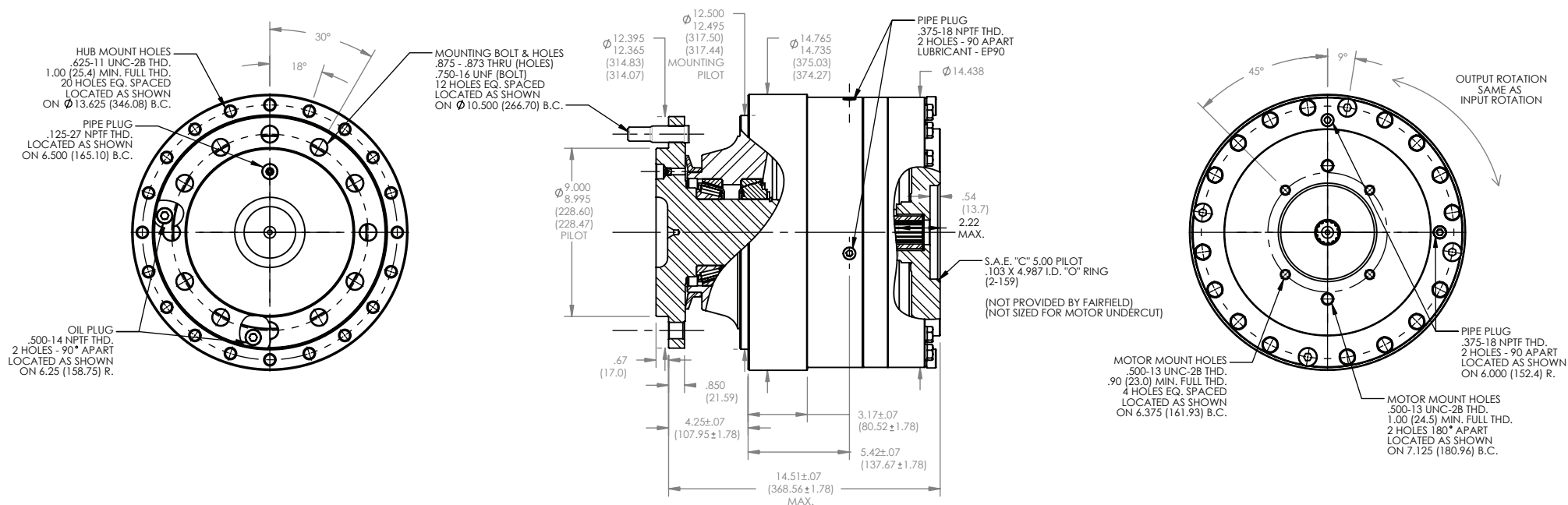
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7 Series

S7B2

Application Sheet

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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

S7B2

Performance Data

Continuous	Intermittent	Peak
75,000 lb-in	150,000 lb-in	200,000 lb-in
6,250 lb-ft	12,500 lb-ft	16,667 lb-ft
8,468 Nm	16,936 Nm	22,600 Nm
864 kg-m	1,728 kg-m	2,300 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 3,000 RPM Maximum Intermittent

Weight

Approximately 435 lbs (198 kg)

Note: Specific models will change weights.

S7B2 Model Formula

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 85 oz. (2,515 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

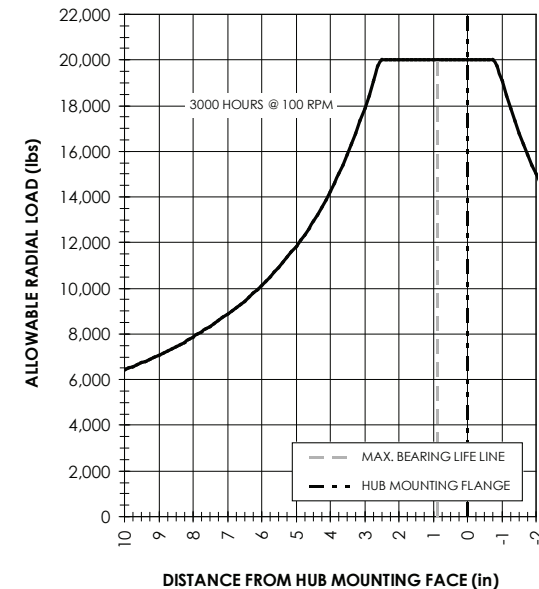
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



S – Torque-Hub® Spindle Output

7 – Series

	Spindle		Hub	
	Flange Mounting Dia.	B.C.	Mounting Dia.	B.C.
B2	9.000 8.997	(12) .875/.873 10.500 B.C.	12.500 12.495	(20) 5/8-11 13.625 B.C.

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S 7 B 2 A Z 4 4 9 5

Reduction

27 – 27.4:1
45 – 45.2:1
59 – 58.8:1
73 – 72.5:1
95 – 94.7:1

Input Cover Side
4 – 14T, 12/24 Spline

Special Feature
0 – Not Included
Z – Seal Boot

Motor Mount on Cover
4 – S.A.E. "C" (5.005/ 5.001) Pilot 2 & 4 Bolt

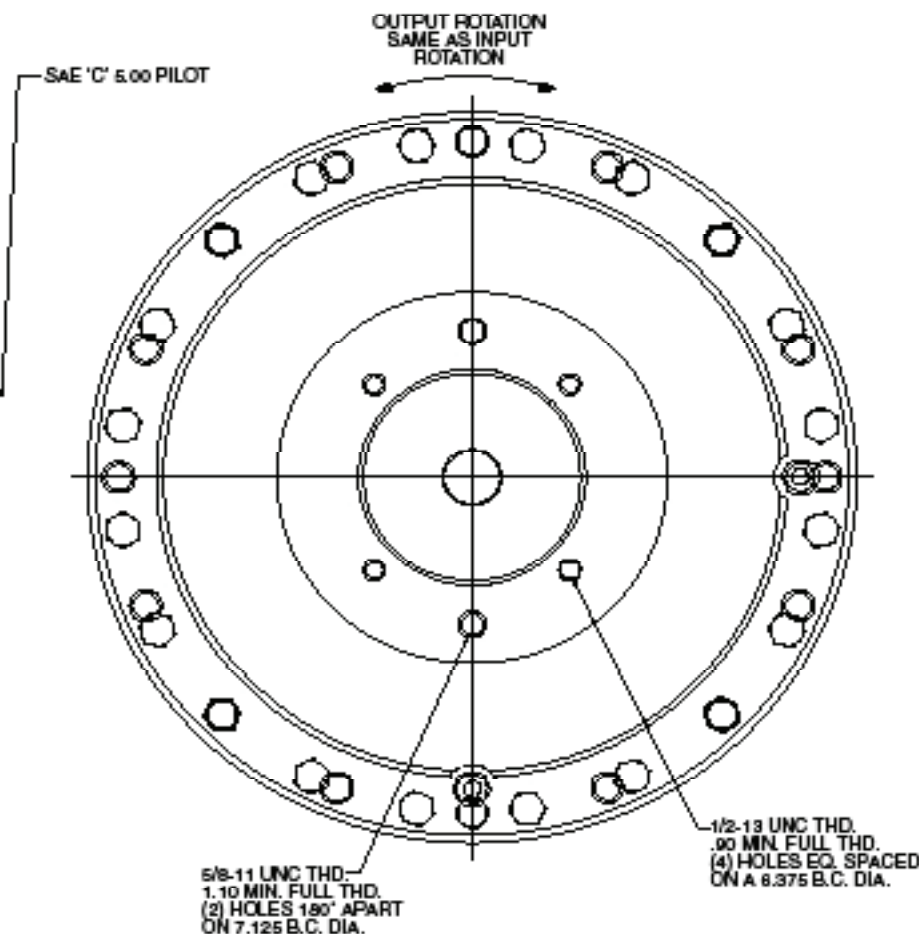
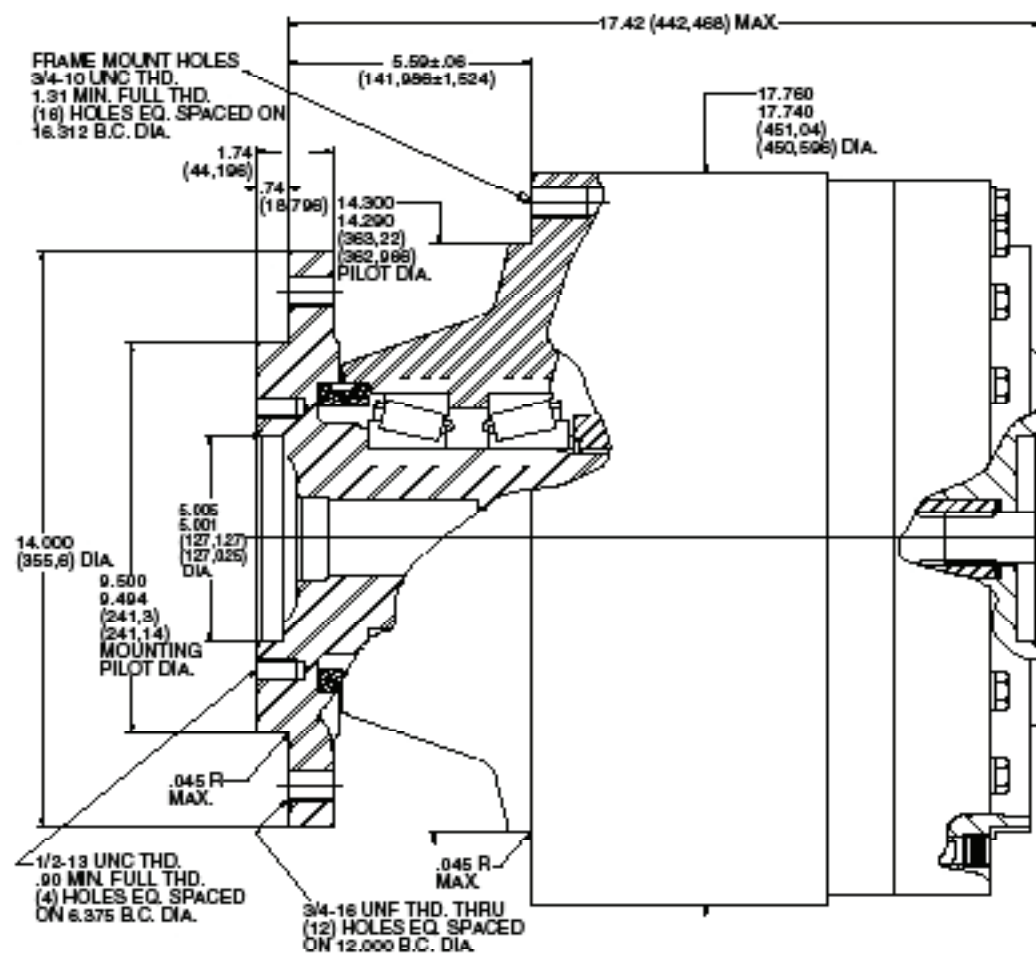
Studs

0 – Not Included
A – 3/4-16 by 3.03 Inch (use with .875/.873 Flange Hole on Steel Spindle)

S10B4

Application Sheet

TORQUE-HUB®
Planetary Final Drives



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Catalog prints are representative of the units.
Before final design request a certified print from Fairfield.

NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

S10B4

Performance Data

Continuous	Intermittent	Peak
125,000 lb-in	250,000 lb-in	300,000 lb-in
10,417 ft-lb	20,833 ft-lb	25,000 ft-lb
14,113 Nm	28,227 Nm	33,877 Nm
1,440 Kg-m	2,880 Kg-m	3,456 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative. Note: Oil level and type will vary with specific model and application.

Speed Limitations

Input Speed: 1,500-1,800 RPM Maximum Intermittent

(Please contact Fairfield for speed limitations and horsepower.)

Weight

Approximately 700 lbs (315kg)

Note: Specific models will change weights.

S10B4 Model Formula

Oil

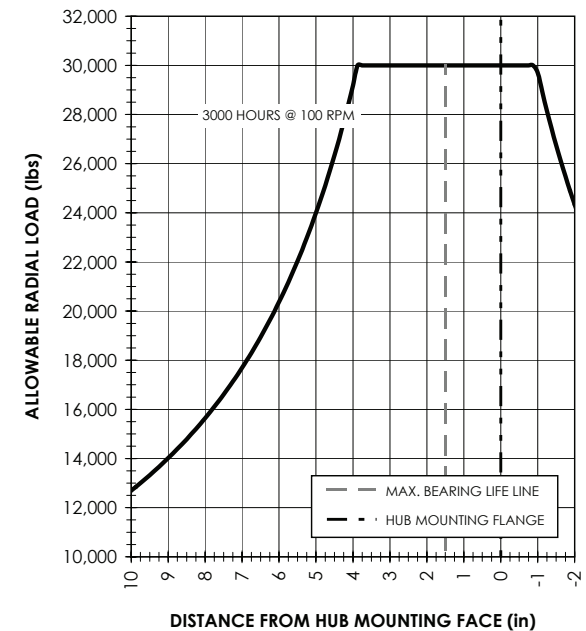
Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 150 oz.(4.68quarts)

Conditions of Bearing Curve

Note: Contact Fairfield for Conditions of Bearing Curve.

Bearing Curve



S- Torque Hub Spindle Output

10- Series

	Spindle		Hub	
	Flange Mounting Dia.	B.C.	Mounting Dia.	B.C.
B4	9.500 9.494	(12) 3/4 - 16 12.000 B.C.	14.300 14.290	(16) 3/4-10 16.312 B.C.

Reduction

44 – 44.8:1
59 – 58.4:1
70 – 70.7:1
81 – 81.3:1
99 – 99.0:1
124 – 124.2:1

Input
4 – 14T, 12/24 Spline

Motor Mount

4 – S.A.E. "C" (5.005/5.001) Pilot 2 Bolt and 4 Bolt

Special Features
0 – Not Available

Studs
0 – Not Included

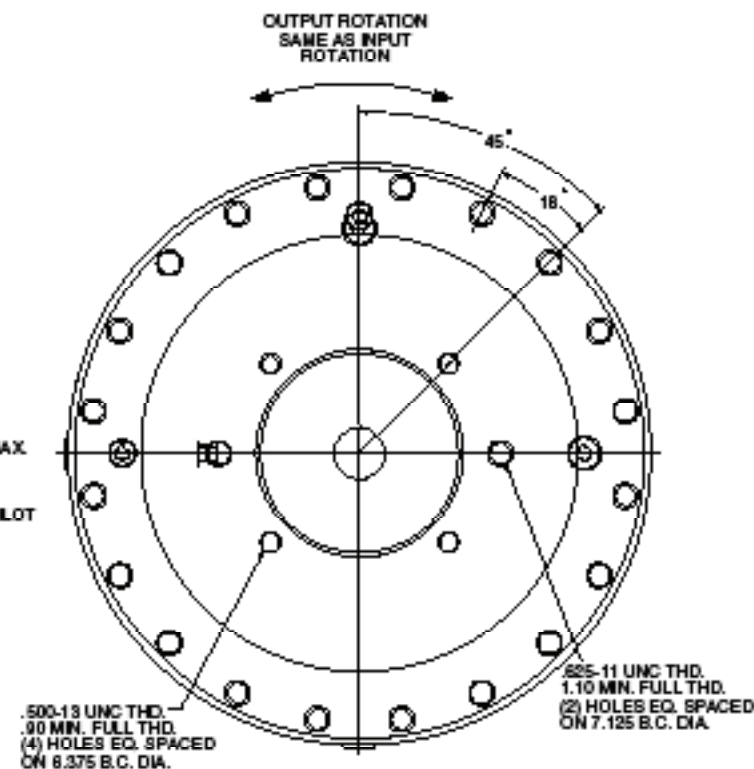
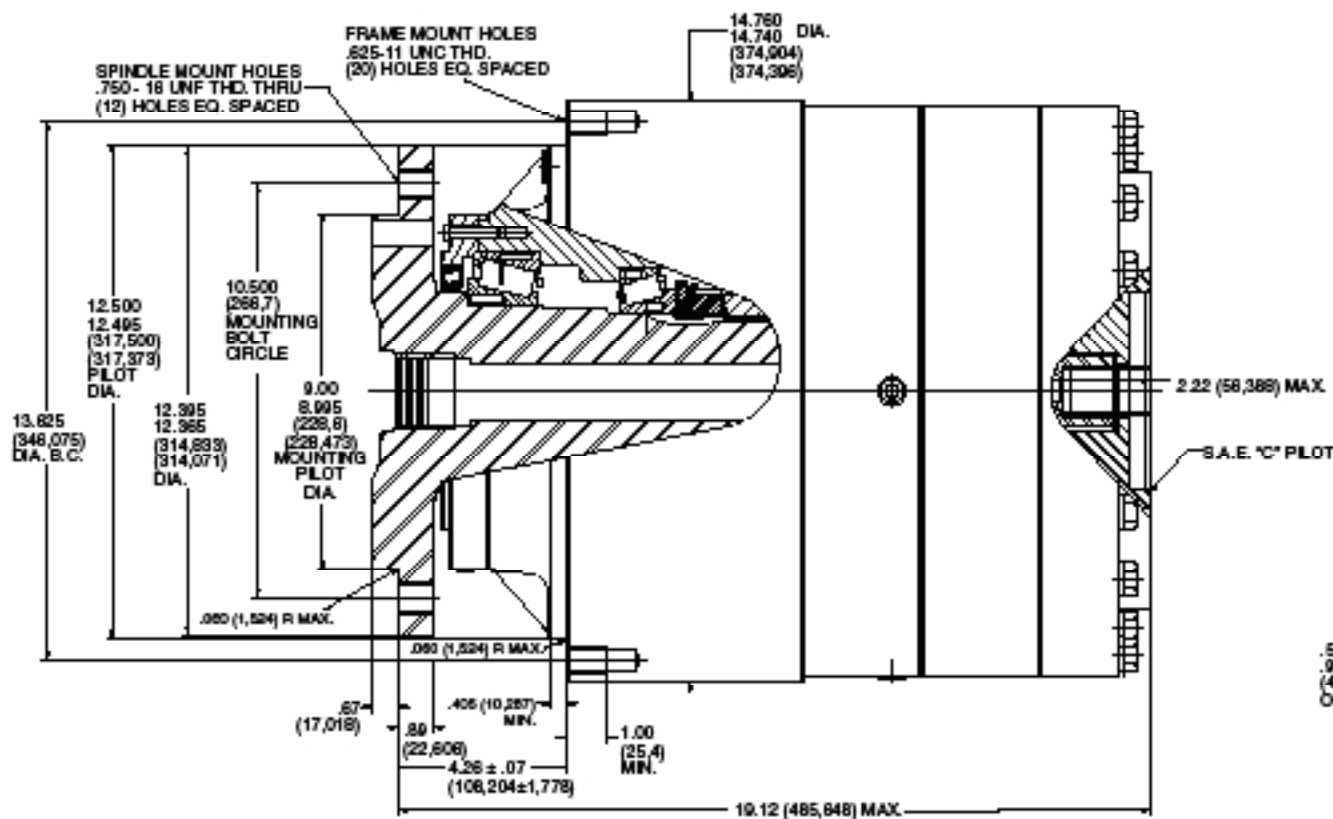
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12 Series

S12B2

Application Sheet

TORQUE-HUB.
Planetary Final Drives



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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

S12B2

Performance Data

Continuous	Intermittent	Peak
125,000 lb-in	250,000 lb-in	Contact Fairfield
10,417 ft-lb	20,833 ft-lb	
14,112 Nm	28,227 Nm	
1,440 Kg-m	2,880 Kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative. Note: Oil level and type will vary with specific model and application.

Speed Limitations

Input Speed: 5,000 RPM Maximum Intermittent

Weight

Approximately 580 lbs (263 kg)

Note: Specific models will change weights.

S12B2 Model Formula

Oil

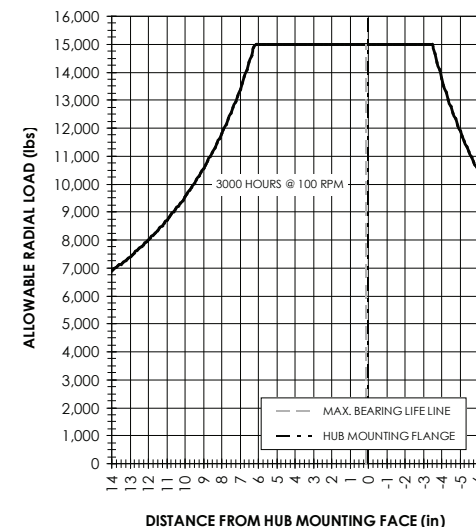
Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 123 oz.

Conditions of Bearing Curve

Contact Fairfield for Conditions of Bearing Curve.

Bearing Curve



S - Torque Hub Spindle Output

12 - Series

	Spindle		Hub	
	Flange Mounting Dia.	B.C.	Mounting Dia.	B.C.
B2	9.000 8.995	(12) 3/4 - 16 10.500 B.C.	12.500 12.495	(20) 5/8-11 13.625 B.C.

S 12 B2 0 0 0 4 4 20

Reduction

20 – 20.25:1
29 – 29.16:1
40 – 39.37:1

Input

4 – 14T, 12/24 Spline
5 – 13T, 8/16 Spline

Motor Mount

4 – S.A.E. "C" (5.005/5.001) Pilot 2-Bolt and 4-Bolt
5 – S.A.E. "D" (6.005/6.001) Pilot 4-Bolt

Special Features

0 – Not Included
Z – V-Ring Seal

Special Features

0 – Not Included

Studs

0 – Not Included

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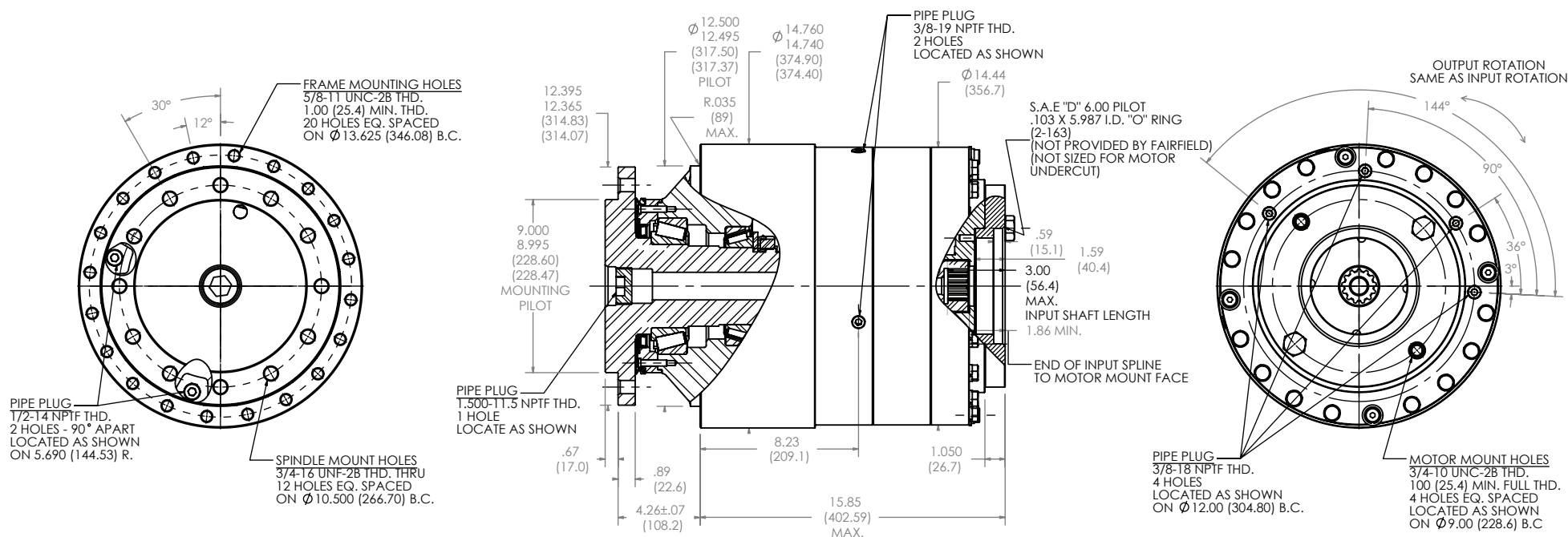
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16 Series

S16B2

Application Sheet

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Planetary Final Drives



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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

S16B2

Performance Data

Continuous	Intermittent	Peak
160,000 in-lbs	320,000 in-lbs	
13,333 ft-lbs	26,667 ft-lbs	Contact Fairfield
18,079 N-m	36,158 N-m	
1,843 kg-m	3,686 kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 4,000 RPM Maximum Intermittent

Contact Fairfield for speed limitations and horsepower.

Weight

Approximately 575lbs (261kg)

Note: Specific models will change weights.

S16B2 Model Formula

S - Torque-Hub Shaft Output

16 - Series

	Spindle		Hub	
	Flange Mounting Diameter	B.C.	"Mounting Diameter"	B.C.
B2	9.000/8..995	(12) 3/4-16 10.500 B.C.	12.500/12.495	(20) 5/8-11 13.625 B.C.

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume: 123oz (3637.11cc)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

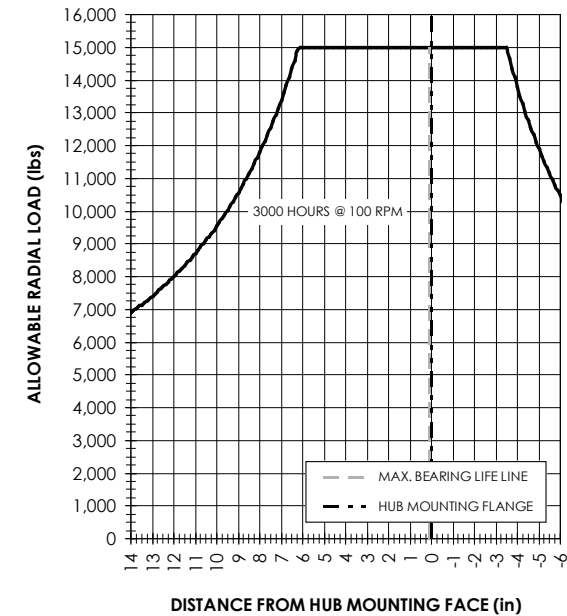
Life = 3,000 hours B10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{\left(\frac{10}{3} \right)}$$

Bearing Curve



S 16 B2 0 0 Z 4 4 40

Motor Mount

4 - SAE "C" (5.005/5.001) Pilot (2 & 4 bolt)
5 - SAE "D" (6.005/6.001) Pilot (4 bolt)

Special Features

0 - Not Included
Z - V-ring Seal

Studs

0 - Not Included

Special Features

0 - Not Included

Reduction
20 -20.25
29 - 29.16
40 - 39.37

Input
4 - 14T, 12/24 spline
5 - 13T, 8/16 spline

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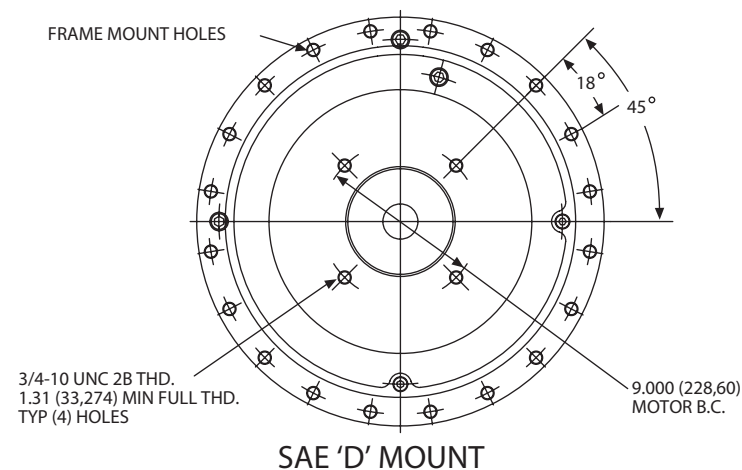
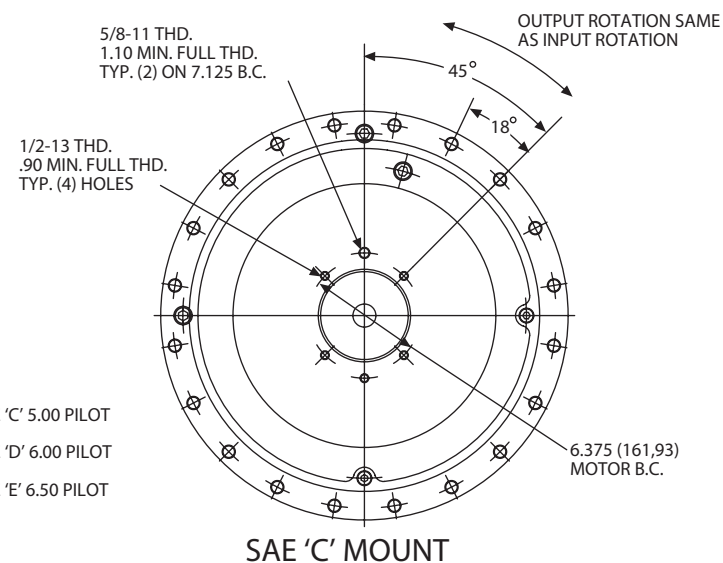
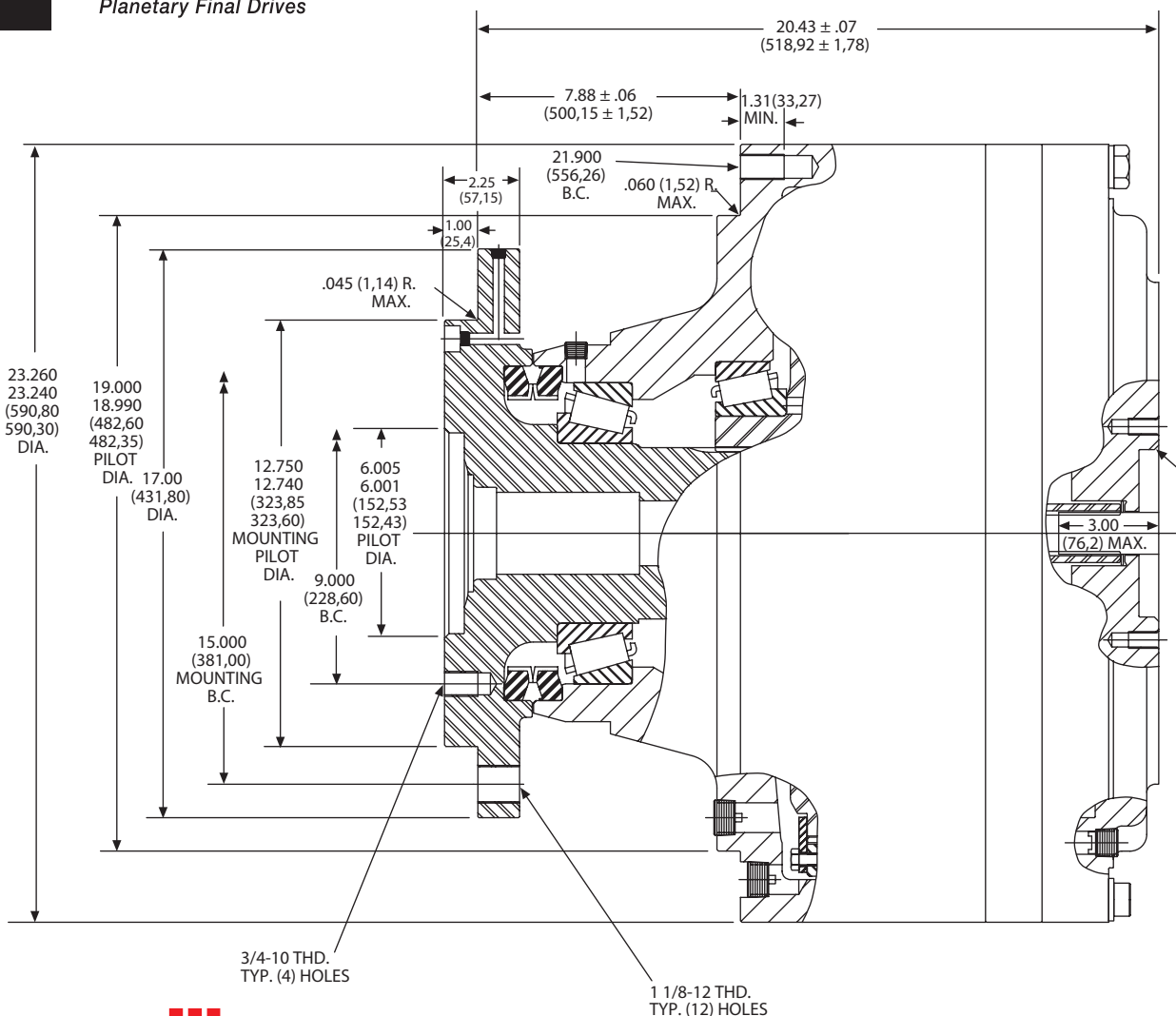
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20 Series

S20B1

Application Sheet

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Planetary Final Drives



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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

S20B1

Performance Data

Continuous	Intermittent	Peak
250,000 lb-in	500,000 lb-in	600,000 lb-in
20,833 lb-ft	41,667 lb-ft	50,000 lb-ft
28,227 Nm	56,453 Nm	67,800 Nm
2,880 kg-m	5,760 kg-m	6,900 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 2000-2500 RPM Maximum Intermittent

(Contact Fairfield for specific speed information.)

Weight

Approximately 1,350 lbs (608 kg)

Note: Specific models will change weights.

S20B1 Model Formula

S – Torque-Hub® Spindle Output

20 – Series

	Spindle		Hub	
	Flange Mounting Dia.	B.C.	Mounting Dia.	B.C.
B1	12.750 12.740	(12) 1 1/8-12 15.000 B.C.	19.000 18.990	(20) 3/4-10 21.900 B.C.

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 256 oz. (7,573 cm³)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

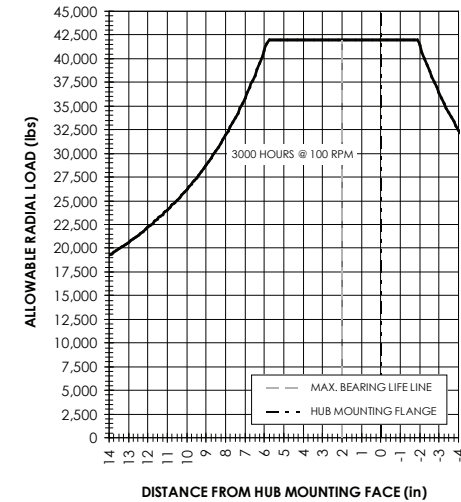
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



S 20 B1 5 4 4 62 Z Y

Special Feature
Y – Seal Boot

Special Feature
Z – Blank

Reduction
27 – 27.2:1
37 – 37.6:1
54 – 54.2:1
62 – 62.2:1
86 – 86.3:1
116 – 116.3:1

Input
4 – 14T, 12/24 Spline
5 – 13T, 8/16 Spline

Internal Gear

4 – Reduction 27:1 & 54:1
5 – Reduction 37:1 & 62:1
9 – Reduction 86:1 & 116:1

Motor Mount

4 – S.A.E. "C" (5.005/5.001) Pilot (2 & 4 Bolt)
5 – S.A.E. "D" (6.005/6.001) Pilot (4 Bolt)
9 – S.A.E. "D" pilot (with "E" Bolt)
E – S.A.E. "E" (6.505/6.501) Pilot 4 Bolt

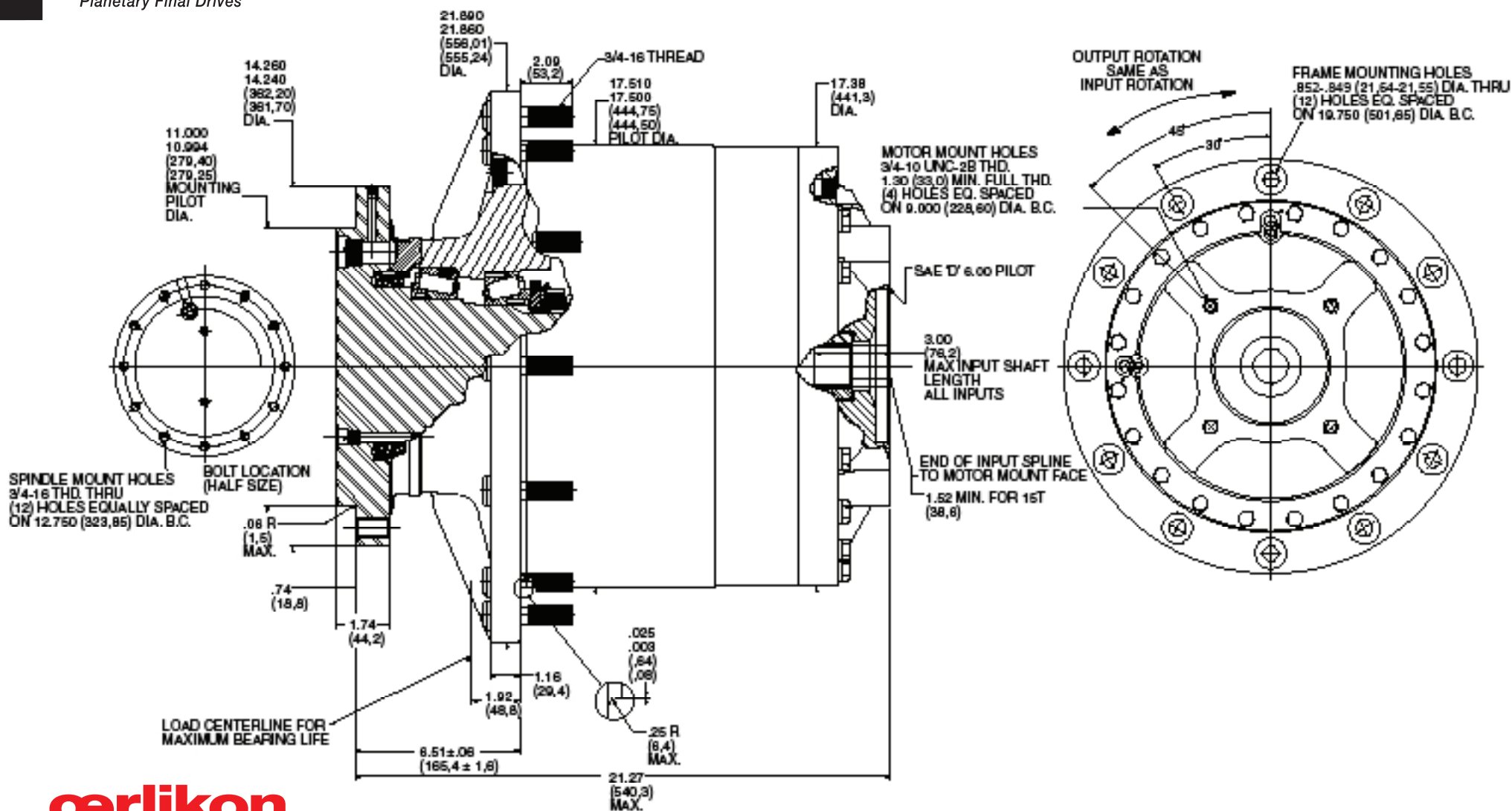
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25 Series

S25B4

Application Sheet

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Planetary Final Drives



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Before final design request a certified print from Fairfield.

NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

S25B4

Performance Data

Continuous	Intermittent	Peak
200,000 lb-in	400,000 lb-in	Contact Fairfield
16,666 ft-lb	33,333 ft-lb	
22,600 Nm	45,200 Nm	
2,300 Kg-m	4,600 Kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 3,000 RPM Maximum Intermittent

Weight

Approximately 780 lbs (354 kg)

Note: Specific models will change weights.

S25B4 Model Formula

S- Torque Hub Spindle Output

25- Series

	Spindle		Hub	
	Flange Mounting Dia.	B.C.	Mounting Dia.	Flange B.C.
B4	11.000 10.994	(12) 3/4-16 12.750 B.C.	17.510 17.500	(12).852-.848 19.750 B.C.

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 228 oz. (7.12 quarts)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

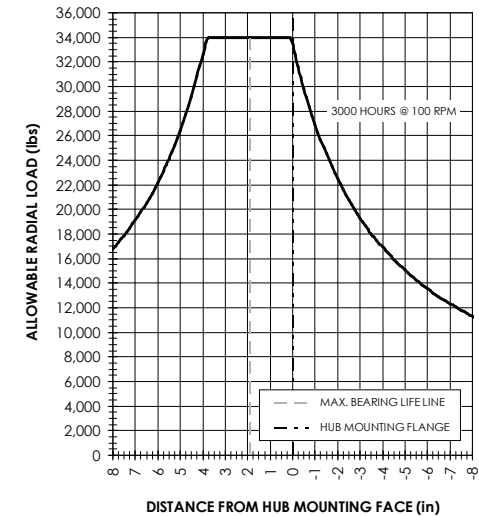
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



S 25 B 4 0 5 5 5 2 9

Reduction

19 – 18.95:1

29 – 29.08:1

36 – 36.00:1

Input Cover Side

5 – 13t, 8/16 Spline

Motor Mount Cover Side

5 – S.A.E. "D" (6.005/6.001) Pilot

Input Spindle Side

0 – Not Included

5 – 13T, 8/16 Spline

Studs

0 – Not Included

1 – 3/4 - 16 thd. by 2 - 17-32 inch

8 - 3/4 -16 thd. by 3- 1/4 inch

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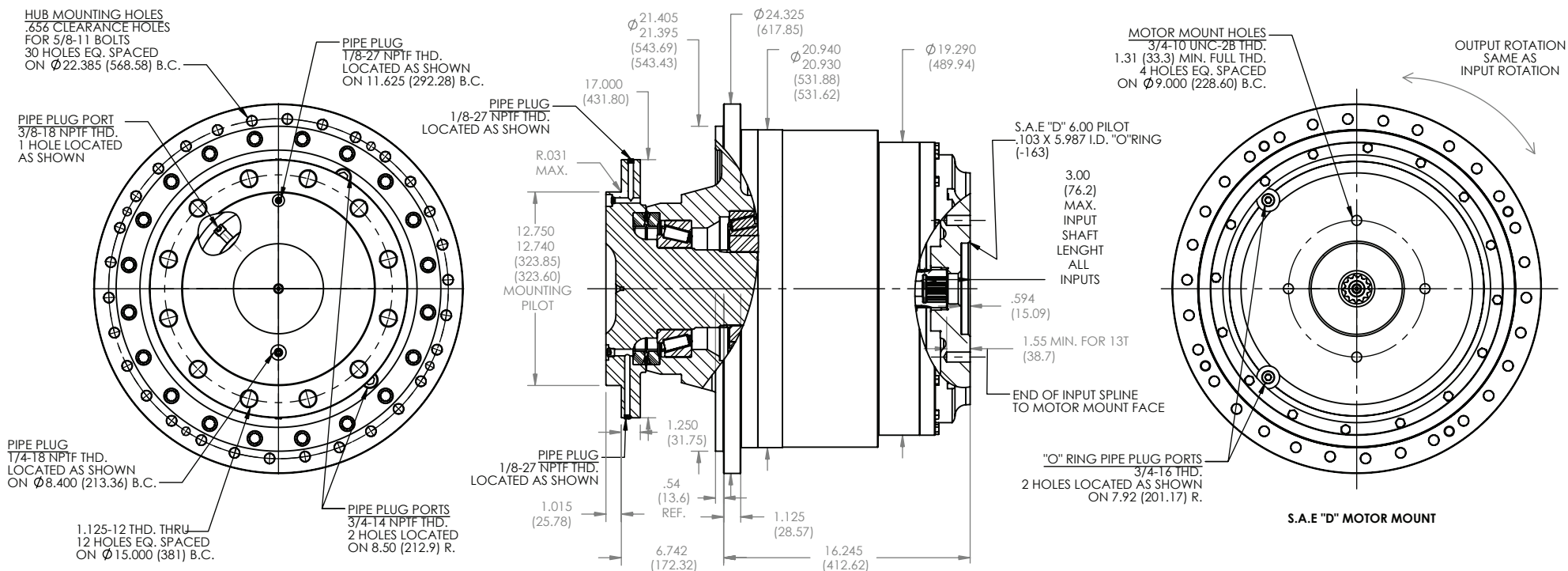
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40 Series

S40B1

Application Sheet

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Planetary Final Drives



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Before final design request a certified print from Fairfield.

NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

S40B1

Performance Data

Continuous	Intermittent	Peak
400,000 in-lbs	800,000 in-lbs	Contact Fairfield
33,333 ft-lbs	66,667 ft-lbs	
45,198 N-m	90,395 N-m	
4,607 kg-m	9,215 kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 3,000 Rpm Maximum Intermittent

Contact Fairfield for speed limitations and horsepower.

Weight

Approximately 1,400lbs (636kg)

Note: Specific models will change weights.

S40B Model Formula

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume: 500oz (14785cc)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

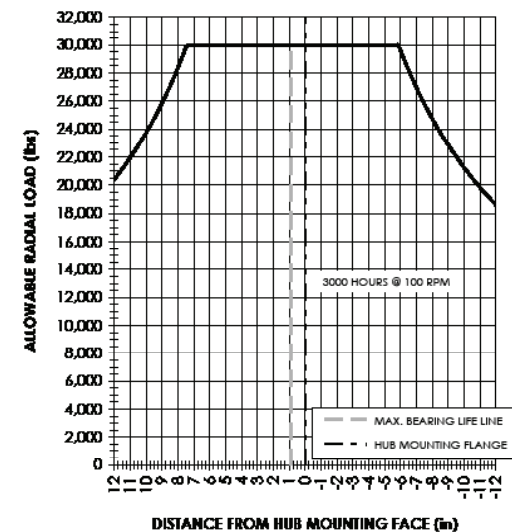
Life = 3,000 hours B10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{\left(\frac{10}{3} \right)}$$

Bearing Curve



S - Torque-Hub Shaft Output

40 - Series

	Spindle		Hub	
	Flange Mounting Diameter	B.C.	Mounting Diameter	B.C.
B1	12.750/12.740	(12) 1.125 - 12 15.000 B.C.	20.94/20.93	(30) .660/.650 Holes 22.385 B.C.

Reduction

25 - 24.95

40 - 39.71

Input
5 - 13T, 8/16 spline

Motor Mount

5 - SAE "D" (6.005/6.001) Pilot (4 bolt)

Input Spindle Side
0 - Not Included

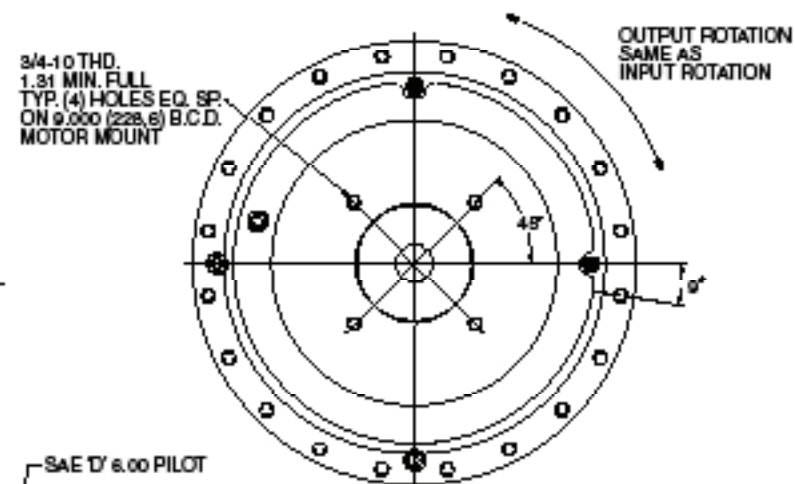
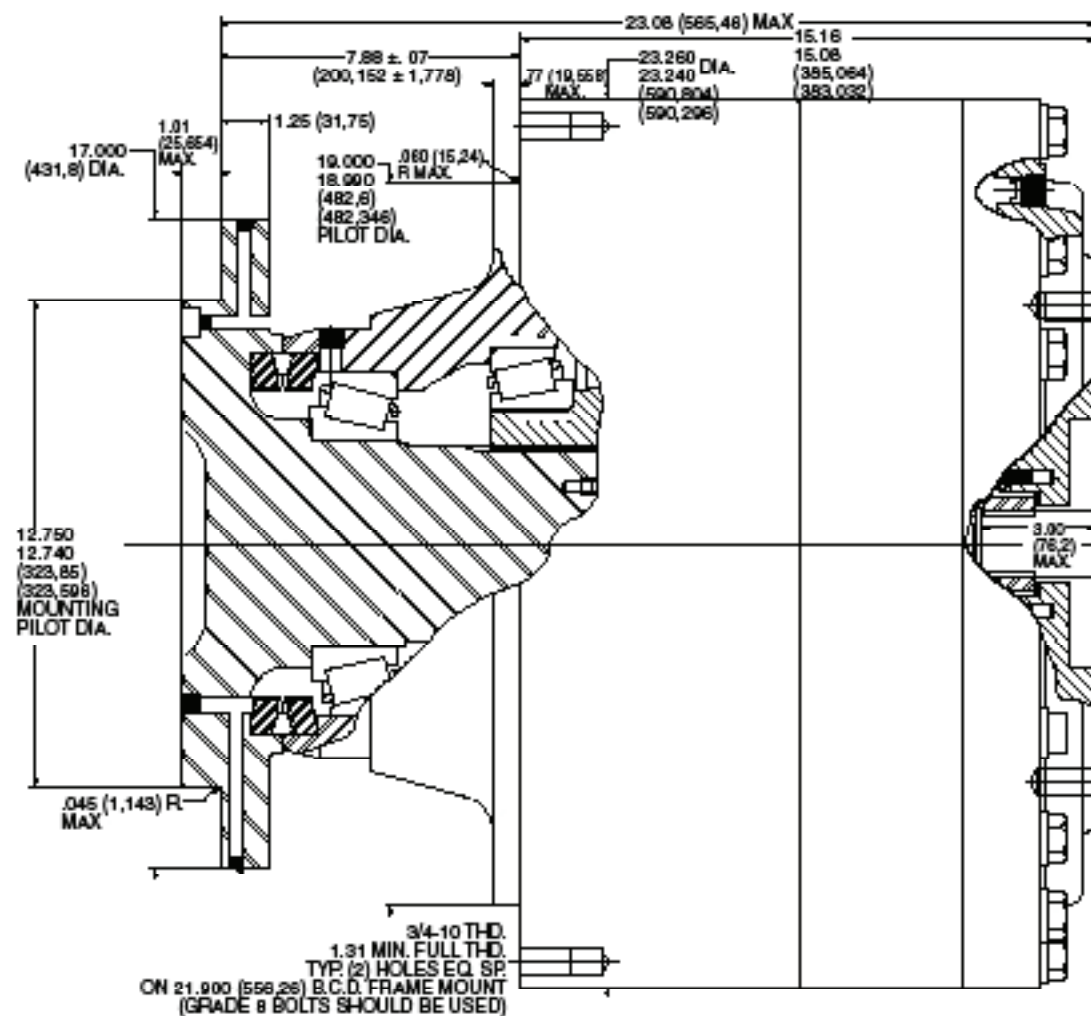
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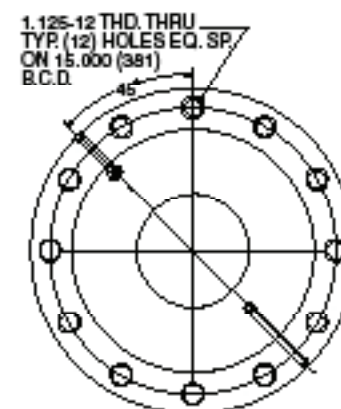
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SAE 'D' MOTOR MOUNT



SPINDLE END VIEW

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MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

S50B1

Performance Data

Continuous	Intermittent	Peak
500,000 lb-in	1,000,000 lb-in	1,250,000 lb-in
41,667 lb-ft	83,333 lb-ft	104,167 ft-lb
56,453 Nm	112,906 Nm	141,250 Nm
5,760 kg-m	11,520 kg-m	14,375 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 3,000 RPM Maximum Intermittent

(Contact Fairfield for specific speed and horsepower information.)

Weight

Approximately 1,460 lbs (660kg)

Note: Specific models will change weights.

S50B1 Model Formula

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

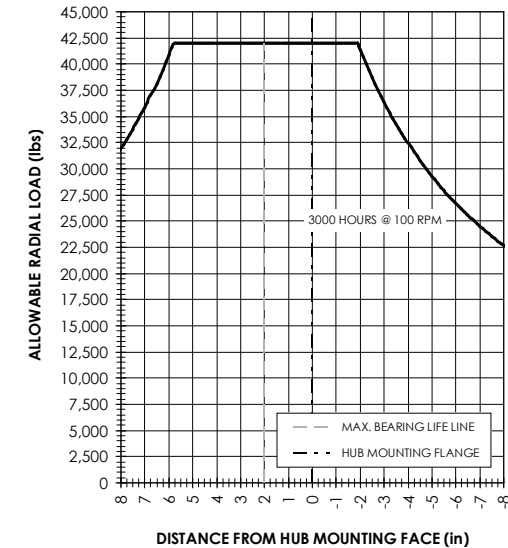
Approximate Volume 500oz. (15.6quarts)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

Note: Contact Fairfield for Bearing Curve.

Bearing Curve



S – Torque-Hub® Spindle Output

50 – Series

	Spindle		Hub	
	Flange Mounting Dia.	B.C.	Mounting Dia.	B.C.
B1	12.750 12.740	(12) 1 1/8-12 15.000 B.C.	19.000 18.990	(20) 3/4-10 21.900 B.C.

Note: Other models available. Please contact Fairfield.

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S 50 B1 0 5 5 40 R V

Special Features

V – Viton Seals
Y – Seal Boot

Special Features

R – Redesigned Input Carrier

Reduction

25 – 24.95:1
40 – 39.71:1

Input Cover Side

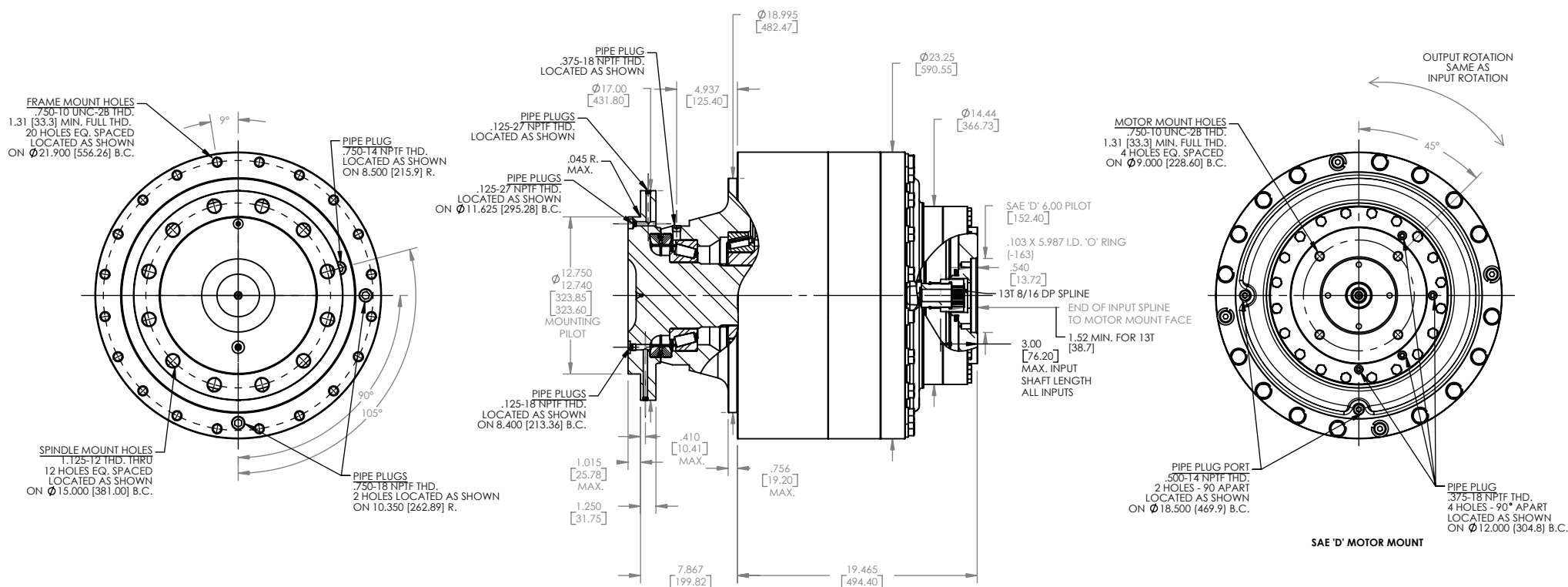
5 – 13T, 8/16 Spline
9 – 15T, 8/16 Spline

Input Spindle Side

0 – Not Included
5 – 13T, 8/16 Spline

Motor Mount Cover Side

E – S.A.E. "E" (6.505/6.502) Pilot 4 Bolt (9.000 B.C.) and 4 bolt (12.500 B.C.)
5 – S.A.E. "D" (6.005/6.002) Pilot 4 Bolt (9.000 B.C.)



S50B1 (T)

Performance Data

Continuous	Intermittent	Peak
500,000 lb-in	1,000,000 lb-in	1,250,000 lb-in
41,667 lb-ft	83,333 lb-ft	104,167 ft-lb
56,453 Nm	112,906 Nm	141,250 Nm
5,760 kg-m	11,520 kg-m	14,375 kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 3,000 RPM Maximum Intermittent

(Contact Fairfield for specific speed and horsepower information.)

Weight

Approximately 1,460 lbs (660kg)

Note: Specific models will change weights.

Model Formula

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

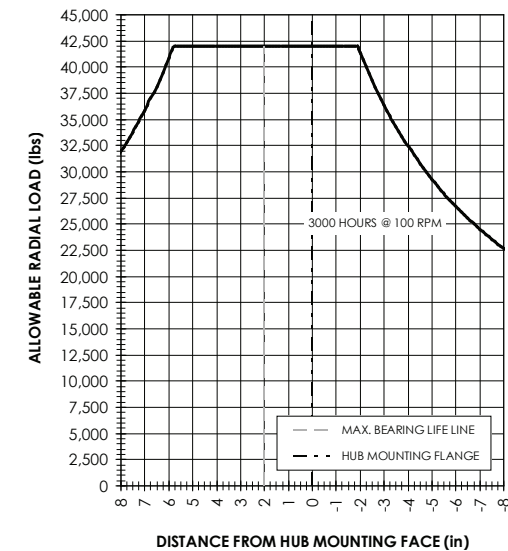
Approximate Volume 500oz. (15.6quarts)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

Note: Contact Fairfield for Bearing Curve.

Bearing Curve



S – Torque-Hub® Spindle Output

50 – Series

	Spindle		Hub	
	Flange Mounting Dia.	B.C.	Mounting Dia.	B.C.
B1	12.750 12.740	(12) 1 1/8-12 15.000 B.C.	19.000 18.990	(20) 3/4-10 21.900 B.C.

Note: Other models available. Please contact Fairfield.

S 50 B1 0 5 5 94 Z V

Special Features

V – Viton Seals

Y – Seal Boot

Special Features

Z – Blank

R – Redesigned Input Carrier

Reduction

94 - 93.59:1

103 - 102.92:1

135 - 134.77:1

149 - 148.90:1

182 - 181.84:1

214 - 214.41:1

289 - 289.29:1

Input Cover Side

5 – 13T, 8/16 Spline

Input Spindle Side

0 – Not Included

5 – 13T, 8/16 Spline

Motor Mount Cover Side

E – S.A.E. "E" (6.505/6.502) Pilot 4 Bolt (9.000 B.C.) and 4 bolt (12.500 B.C.)

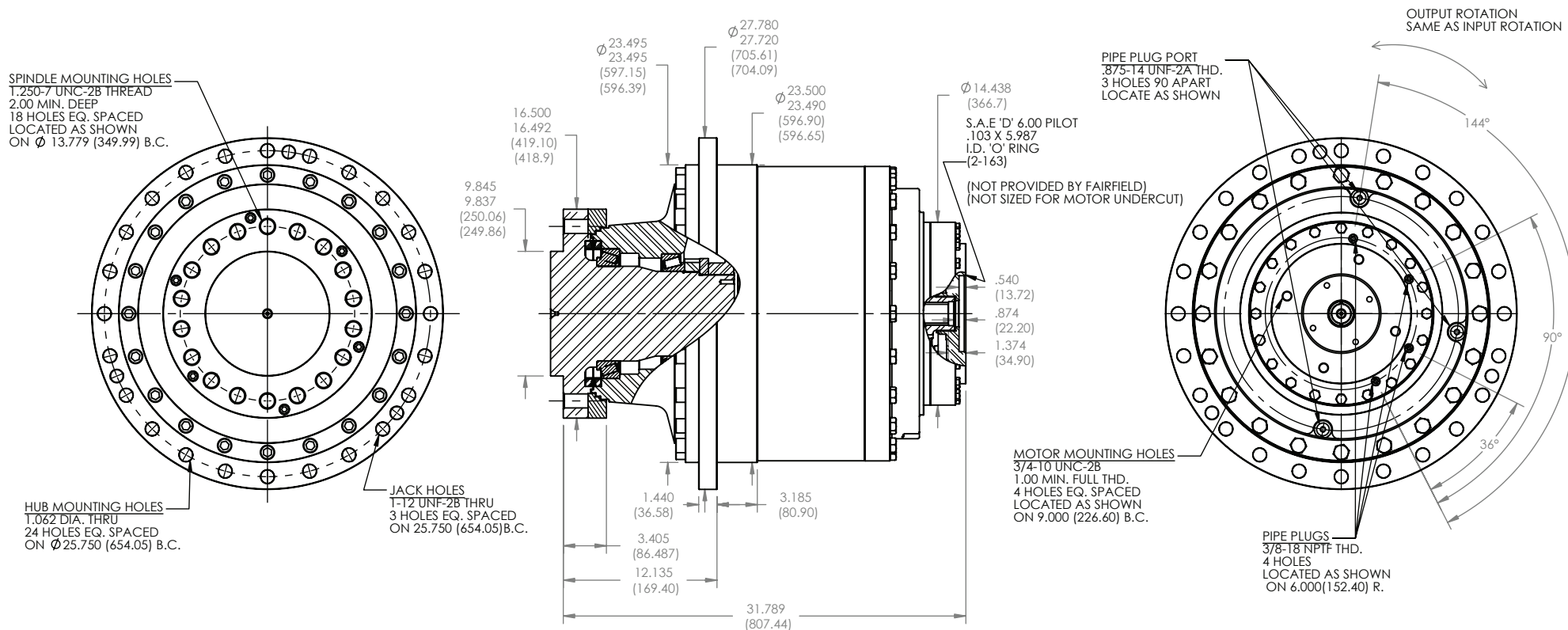
5 – S.A.E. "D" (6.005/6.002) Pilot 4 Bolt (9.000 B.C.)

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S80B2

Performance Data

Continuous	Intermittent	Peak
800,000 in-lbs	1,600,000 in-lbs	
66,667 ft-lbs	133,333 ft-lbs	Contact Fairfield
90,395 N-m	180,791 N-m	
9,215 kg-m	18,429 kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 4,000 RPM Maximum Intermittent

Weight

Approximately 575lbs (261kg)

Note: Specific models will change weights.

S80B Model Formula

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume: 660oz (19,516cc)

Note: Oil level and type will vary with specific model and application.

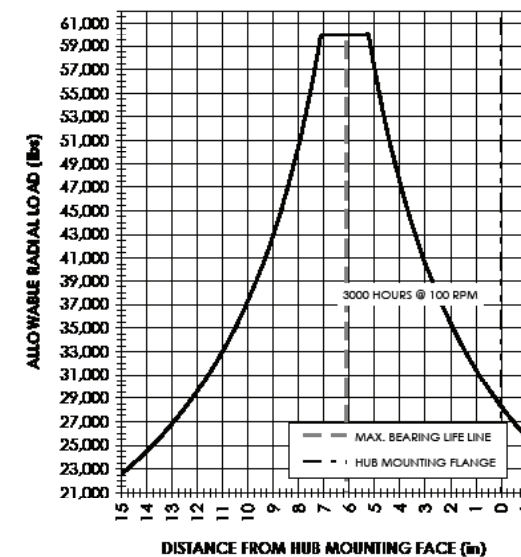
Conditions of Bearing Curve

Life = 3,000 hours B10
Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{\left(\frac{10}{3} \right)}$$

Bearing Curve



S - Torque-Hub Shaft Output

80 - Series

	Spindle		Hub	
	Flange Mounting	B.C.	Mounting Diameter	B.C.
B2	9.845/9.837	(18) 1.25-7 13.779 B.C.	23.500/23.493	(24) 1.072/1.052 25.750 B.C.

Input

5 - 13T, 8/16 Spline
 9 - 15T, 8/16 Spline (144:1 ONLY)
 L - 19T, 8/16 Spline (36:1 ONLY)

Ratio

36 - 35.63
 134 - 133.6
 144 - 143.76
 192 - 192.4
 260 - 259.8

Motor Mount

5 - SAE "D" (6.005/6.001) Pilot (4 bolt)
 E - SAE "E" (6.505/6.501) Pilot (4 bolt)

Special Features

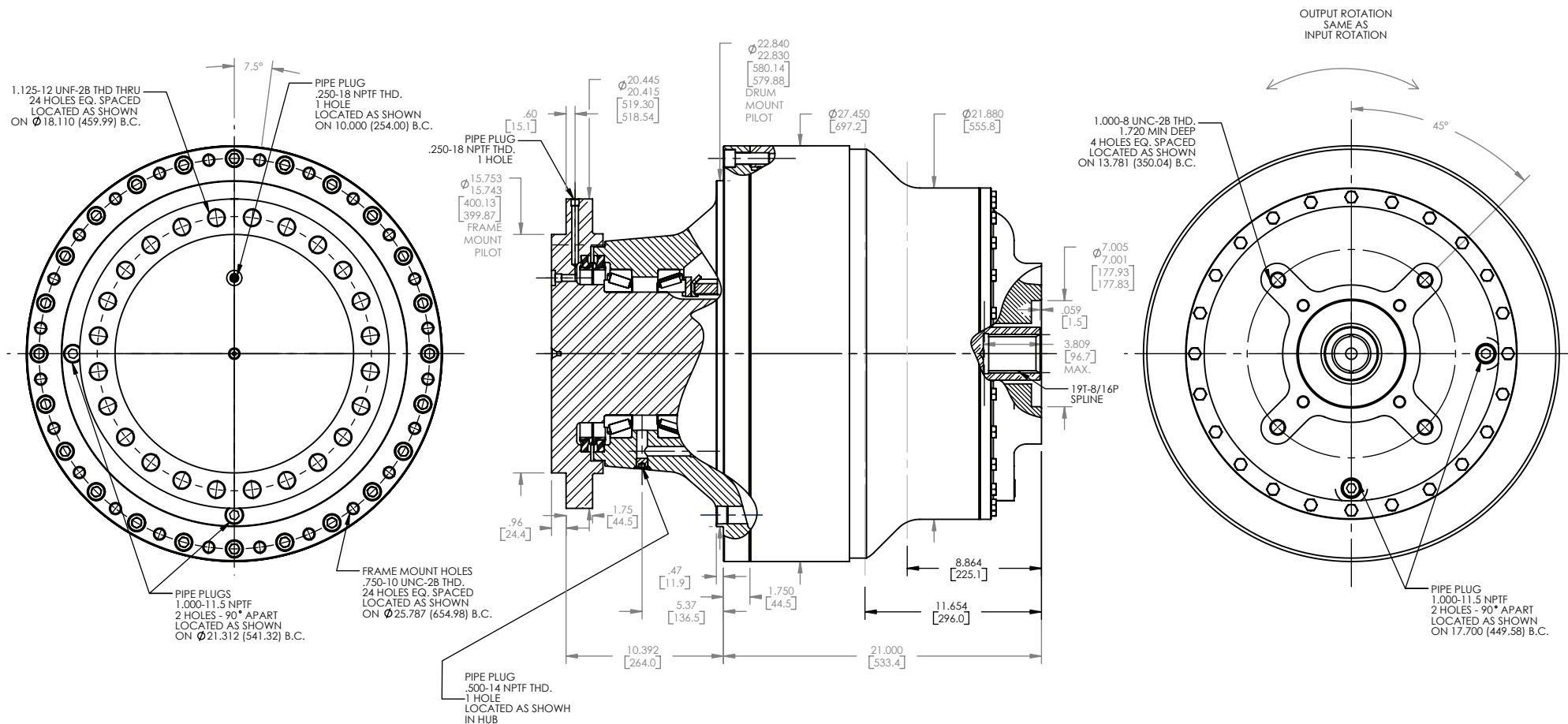
0 - Not Included

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S90B1

Performance Data

Continuous	Intermittent	Peak
1,470,000 lb-in	2,941,000 lb-in	
122,500 lb-ft	245,000 lb-ft	Contact Fairfield
166,110 Nm	332,333 Nm	
16,905 kg-m	33,821 kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative. Note: Oil level and type will vary with specific model and application.

Speed Limitations

Maximum Intermittent Input RPM: 2000 RPM

Weight

Approximately 2410 lbs (1093kg)

Note: Specific models will change weights.

S90B1 Model Formula

Oil

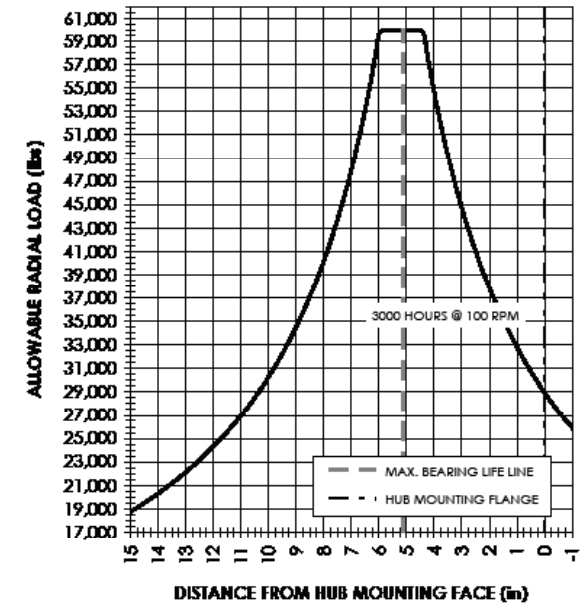
Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 960 oz. (30 quarts)

Conditions of Bearing Curve

Note: Contact Fairfield for conditions of Bearing Curve.

Bearing Curve



S - Torque Hub Spindle Output

90 - Series

	Spindle		Hub	
	Flange Mounting Dia.	B.C.	Mounting Dia.	Flange B.C.
B1	15.753 15.743	(24) 1 1/8-12 18.110 B.C.	22.840 22.830	(24) 3/4-10 25.787 B.C.

Reduction
26 – 26.218:1

Input Cover Side
L – 19T, 8/16 Spline

Motor Mount Cover Side
F – S.A.E. "F" (7.005/7.000) Pilot

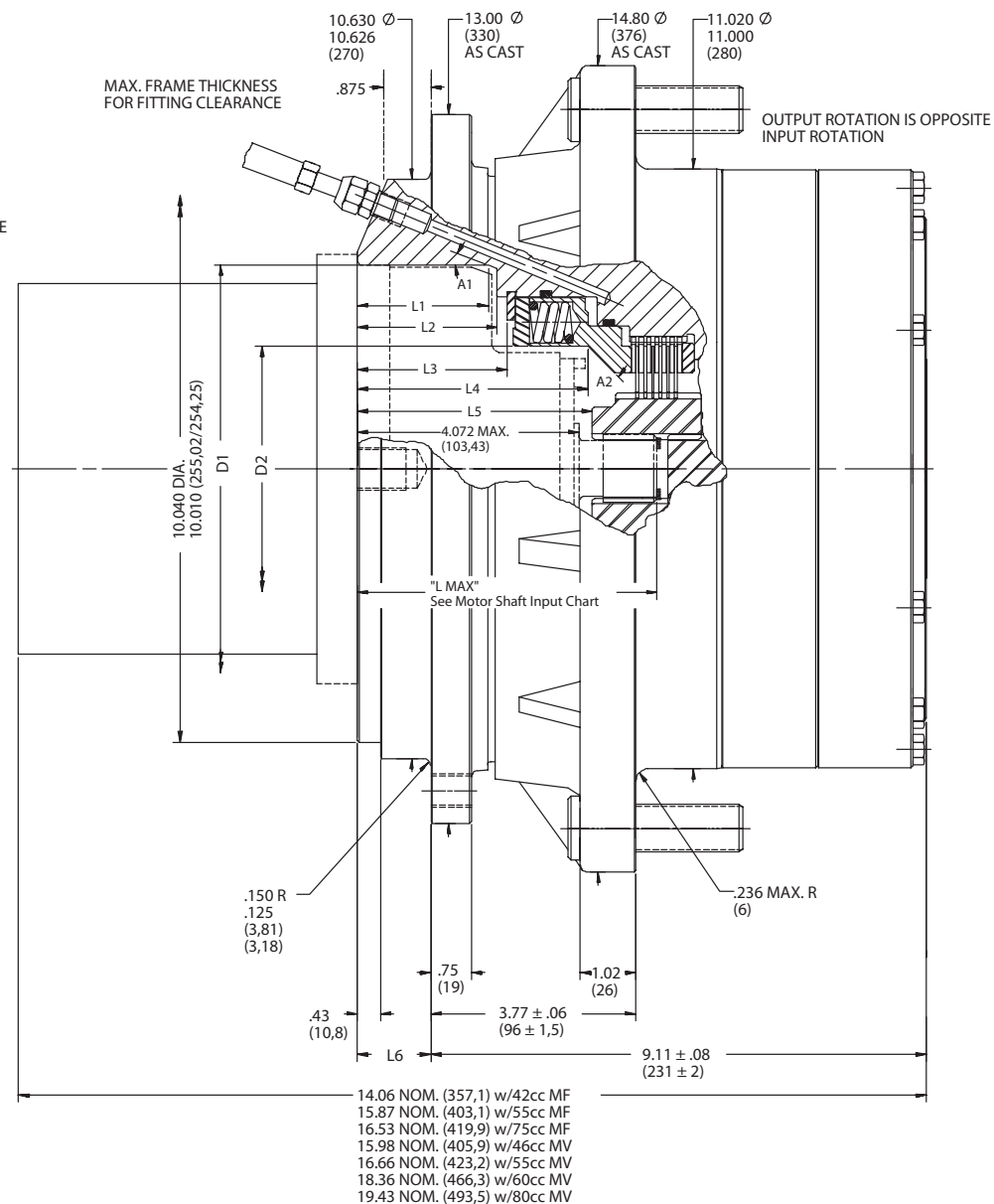
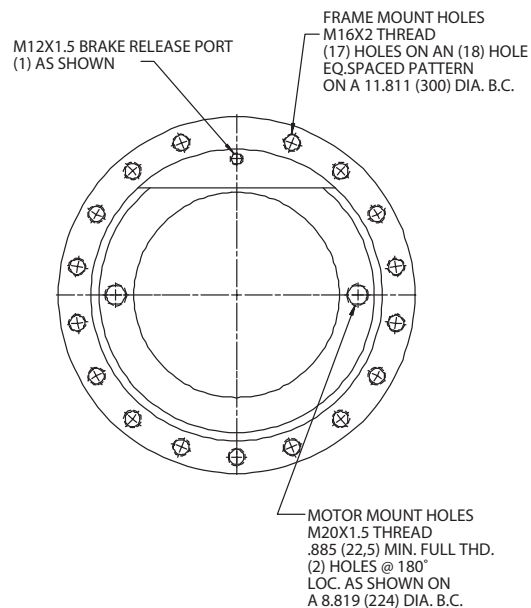
Special Options
O – None

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CW12

Application Sheet

TORQUE-HUB®
Planetary Final Drives



	D1	D2	L1 MIN.	L2 MIN.	L3 MIN.	L4 MIN.	L5 MIN.	L6 NOM.	A1	A2
CW12A11	6.303 ± .002 (160,09 ± .05)	4.495 (114,17)	DA	DA	2.389 (60,68)	3.842 (97,58)	3.894 (98,91)	1.00 (25,4)	DA	45°
CW12A12	7.484 ± .002 (190,09 ± .05)	4.495 (114,17)	2.395 (60,83)	2.545 (64,64)	2.774 (69,69)	4.198 (106,63)	4.265 (108,33)	1.35 (32,29)	20°	45°
CW12A14	7.484 ± .002 (190,09 ± .05)	4.495 (114,17)	2.760 (70,1)	2.910 (73,91)	3.114 (79,05)	4.568 (116,03)	4.502 (114,35)	1.72 (43,69)	20°	45°

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Catalog prints are representative of the units.
Before final design request a certified print from Fairfield.

NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

CW12

Performance Data

Continuous	Intermittent	Peak
53,000 lb-in 6,000 Nm	106,000 lb-in 12,000 Nm	Contact Fairfield

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Units with Brake: 5,000 RPM Maximum Intermittent (periods of 30 minutes or less)

Units without Brake: 6,000 RPM Maximum Intermittent (periods of 30 minutes or less)

Weight

Approximately 205 lbs (93 kg)

Note: Specific models will change weights. Designed for use with cartridge style hydraulic motors.

CW12 Model Formula

Oil

Fill to half full with EP-90 oil on most applications.

Volume of Oil:

62 oz. (1,835 cm³) for CW12 units with brake included
84 oz. (2,485 cm³) for CW12 units without brake

Note: Oil volume will vary with specific model and application.

Conditions of Bearing Curve

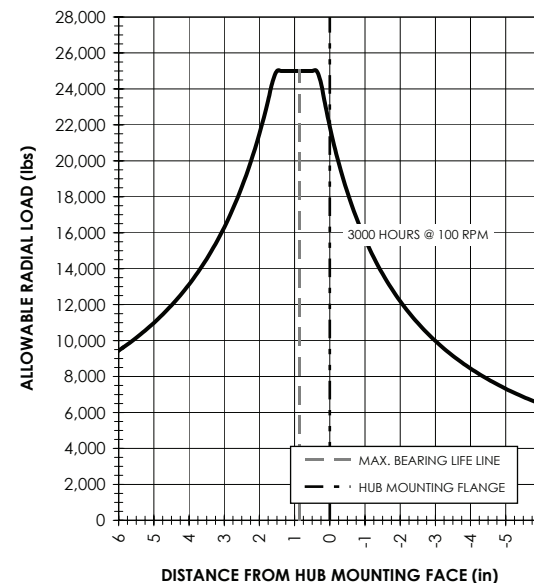
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right)^x \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



CW 12 A1 1 H B 8 035

CW – Compact Wheel Drive

Frame Size

Output Torque Capacity

12 – 12,000 Nm

Housing/Spindle Configuration
(Contact Fairfield)

Hydraulic Motor Cavity Configuration

1 – 46cc (MV), 55cc (MF), 42cc (MF), 60cc (MV)

2 – 55cc (MV), 75cc (MF)

4 – 80cc (MV)

7 – SAE "B" motor adapter

8 – SAE "C" motor adapter

Wheel Studs

0 – Not Included (.930/.928 thru hole)

H – M22 x 1.5

Motor Shaft Input

4 – 14T, 12/24 (55cc) - L Max = 5.180 or 5.542

8 – 15T, 16/32 (46cc) - L Max = 5.042

B – W35x2x16x9g (80cc) - L Max = 5.955

A – W30x2x14x9g (60cc) - L Max = 5.042

Input Brake

0 – Not Included

A – 2,940 lb-in (332 Nm) STATIC

130 psi (9 bar) FULL RELEASE

B – 4,410 lb-in (498 Nm) STATIC

190 psi (13 bar) FULL RELEASE

C – 5,390 lb-in (609 Nm) STATIC

230 psi (16 bar) FULL RELEASE

G – 3,430 lb-in (388 Nm) STATIC

150 psi (10 bar) FULL RELEASE

Note: 3,000 PSI (207 Bar) maximum pressure for all brakes listed.

Ratios

018 – 18.20:1

022 – 21.67:1

027 – 27.44:1

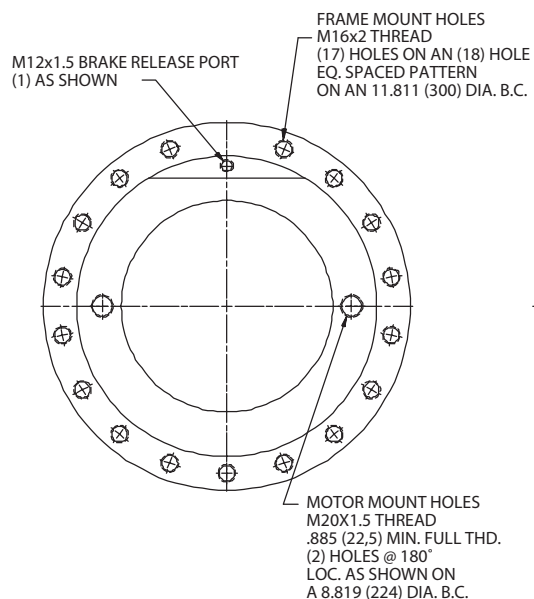
035 – 35.27:1

042 – 42.43:1

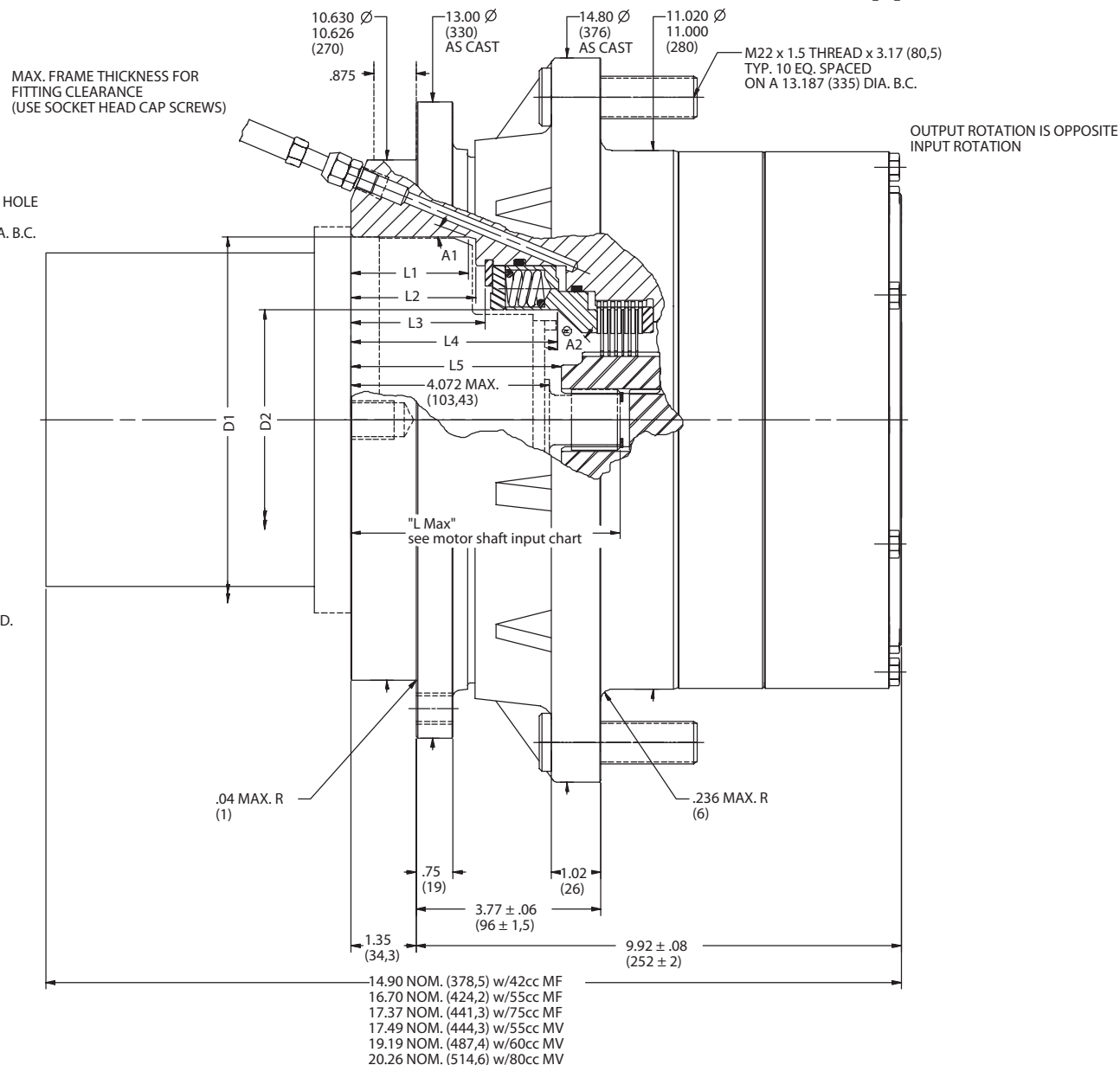
051 – 50.69:1

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	D1	D2	L1 MIN.	L2 MIN.	L3 MIN.	L4 MIN.	L5 MIN.	L6 NOM.	A1	A2
CW18A11	6.303 ± .002 (160,09 ± .05)	4.495 (114,17)	DA	DA	2.389 (60,68)	3.842 (97,58)	3.894 (98,91)	1.00 (25,4)	DA	45°
CW18A12	7.484 ± .002 (190,09 ± .05)	4.495 (114,17)	2.395 (60,83)	2.545 (64,64)	2.774 (69,69)	4.198 (106,63)	4.265 (108,33)	1.35 (32,29)	20°	45°
CW18A14	7.484 ± .002 (190,09 ± .05)	4.495 (114,17)	2.760 (70,1)	2.910 (73,91)	3.114 (79,05)	4.568 (116,03)	4.502 (114,35)	1.72 (43,69)	20°	45°



CW18

Performance Data

Continuous	Intermittent	Peak
80,000 lb-in 9,000 Nm	160,000 lb-in 18,000 Nm	Contact Fairfield

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Units with Brake: 5,000 RPM Maximum Intermittent
(periods of 30 minutes or less)

Units without Brake: 6,000 RPM Maximum Intermittent
(periods of 30 minutes or less)

Weight

Approximately 220 lbs (100 kg)

Note: Specific models will change weights. Designed for use with cartridge style hydraulic motors.

CW18 Model Formula

Oil

Fill to half full with EP-90 oil on most applications

Volume of Oil:

64 oz. (1,894 cm³) for CW18 units with brake included

82 oz. (2,426 cm³) for CW18 units without brake

Note: Oil volume will vary with specific model and application.

Conditions of Bearing Curve

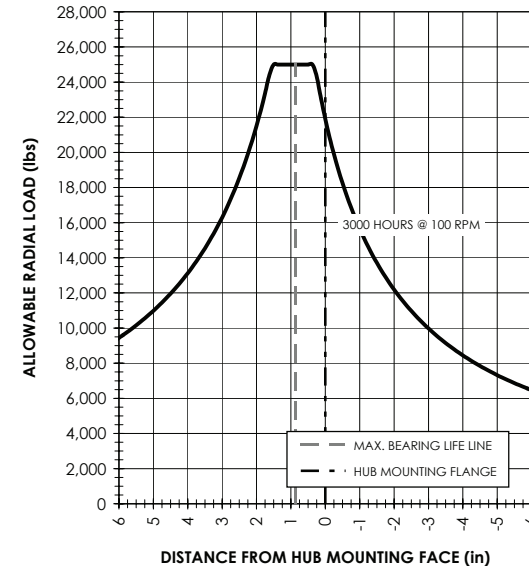
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right)^x \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



CW 18 A1 2 H B 4 051

CW – Compact Wheel Drive

Frame Size

Output Torque Capacity

18 – 18,000 Nm

Housing/Spindle Configuration
(Contact Fairfield)

Hydraulic Motor Cavity Configuration

1 – 60cc (MV), 55cc (MF), 42cc (MF)

2 – 55cc (MV), 75cc (MF)

4 – 80cc (MV)

7 – SAE "B" motor adapter

8 – SAE "C" motor adapter

Wheel Studs

0 – Not Included (.930/.928 thru hole)

H – M22 x 1.5

Motor Shaft Input

4 – 14T, 12/24 (55cc) - L Max = 5.180 or 5.542

8 – 15T, 16/32 (46cc) - L Max = 5.042

B – W35x2x16x9g (80cc) - L Max = 5.955

A – W30x2x14x9g (60cc) - L Max = 5.042

Input Brake

0 – Not Included

A – 2,940 lb-in (332 Nm) STATIC
92 psi (6.3 bar) INITIAL RELEASE
123 psi (8.5 bar) FULL RELEASE

B – 4,410 lb-in (498 Nm) STATIC
138 psi (9.5 bar) INITIAL RELEASE
184 psi (12.7 bar) FULL RELEASE

C – 5,390 lb-in (609 Nm) STATIC
168 psi (11.6 bar) INITIAL RELEASE
225 psi (15.5 bar) FULL RELEASE

G – 3,430 lb-in (388 Nm) STATIC
107 psi (7.4 bar) INITIAL RELEASE
143 psi (9.9 bar) FULL RELEASE

Note: 3,000 PSI (207 Bar) maximum pressure for all brakes listed.

Ratios

026 – 25.86:1

036 – 36.05:1

042 – 42.00:1

051 – 50.69:1

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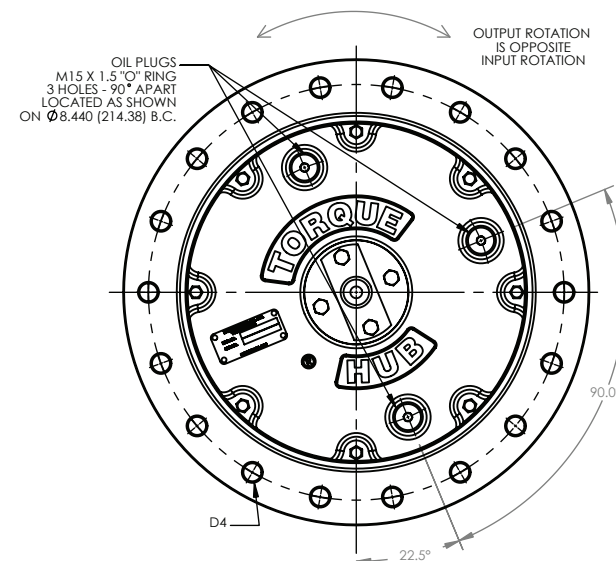
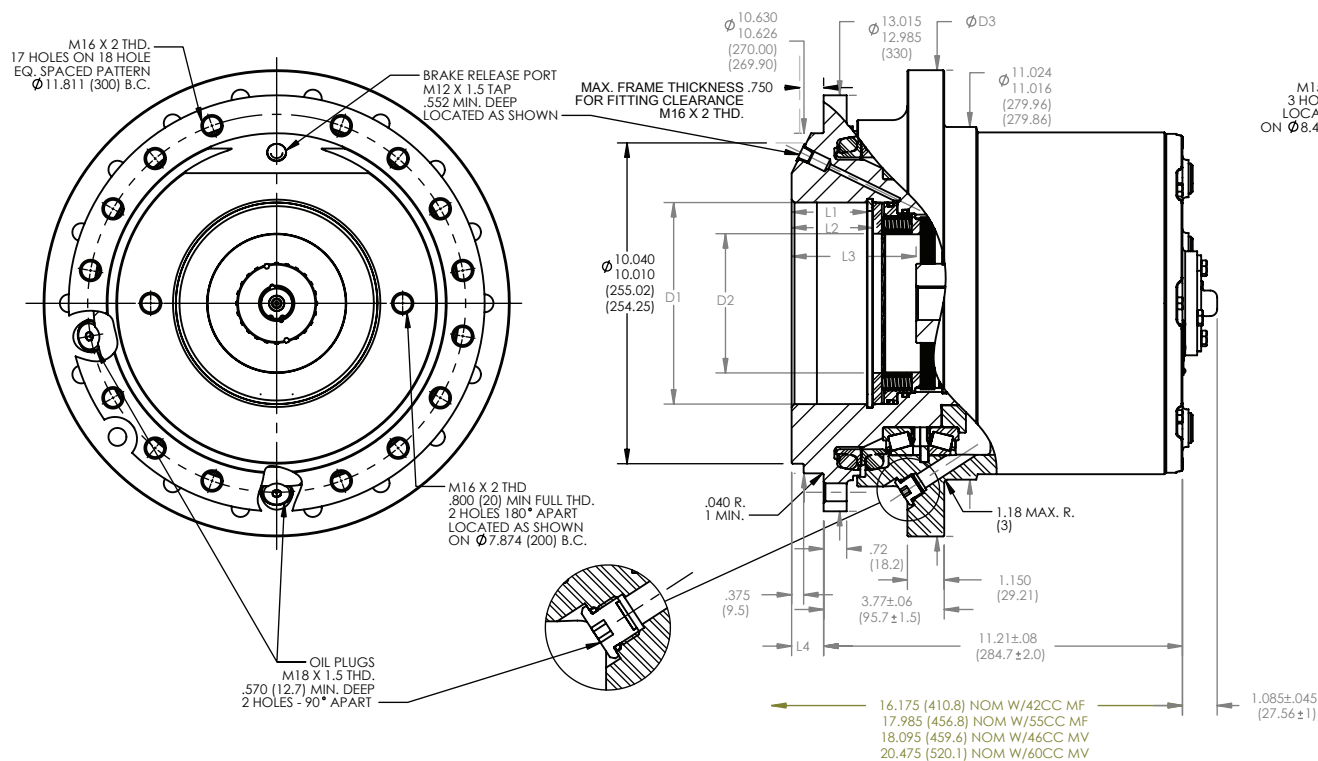
TORQUE-HUB[®]

Planetary Final Drives

CT Series

CT18C

Application Sheet



	D1	D2	D3	D4	L1 MIN.	L2 MIN.	L3 MIN.	L4 MIN.
CT18C11	4.003 \pm .002 (101.68 \pm .05)	4.315 (109.60)	14.570 \pm .015 (370.08 \pm .38)	M16X2 THREAD (18) HOLES EQ. SPACED ON 12.990 (330) DIA. B.C.	2.343 (59.18)	2.498 (63.45)	3.865 (98.17)	.995 (25.27)
CT18C17	4.003 \pm .002 (101.68 \pm .05)	N/A	14.570 \pm .015 (370.08 \pm .38)	M16X2 THREAD (18) HOLES EQ. SPACED ON 12.990 (330) DIA. B.C.	N/A	N/A	.85 (22.59)	.995 (25.27)
CT18C31	6.303 \pm .002 (160.68 \pm .05)	4.315 (109.60)	14.800 (375.92)	.875-14 UNF-2B THD. 10 HOLES EQ. SPACED ON 13.187 (334.95) DIA. B.C.	2.343 (59.18)	2.498 (63.45)	3.865 (98.17)	.995 (25.27)
CT18C37	4.003 \pm .002 (101.68 \pm .05)	N/A	14.800 (375.92)	.875-14 UNF-2B THD. 10 HOLES EQ. SPACED ON 13.187 (334.95) DIA. B.C.	N/A	N/A	.85 (22.59)	.995 (25.27)
CT18C38	5.003 \pm .002 (127.08 \pm .05)	N/A	14.800 (375.92)	.875-14 UNF-2B THD. 10 HOLES EQ. SPACED ON 13.187 (334.95) DIA. B.C.	N/A	N/A	1.314 (33.38)	.995 (25.27)

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Catalog prints are representative of the units.
Before final design request a certified print from Fairfield.

NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

CT18C1

Performance Data

Continuous	Intermittent	Peak
80,000 lb-in 9,000 Nm	160,000 lb-in 18,000 Nm	Contact Fairfield

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Units with Brake: 5,000 RPM Maximum Intermittent
(periods of 30 min or less)

Units without Brake: 6,000 RPM Maximum Intermittent
(periods of 30 min or less)

Weight

Approximately 235 lbs (107 kg)

Note: Specific models will change weights. Designed for use with cartridge-style hydraulic motors.

CT18C11 Model Formula

Oil

Fill to half full with EP-90 oil on most applications.

Volume of Oil:

64 oz. (1,894 cm³) for CT18 units with brake included

82 oz. (2,426 cm³) for CT18 units without brake

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

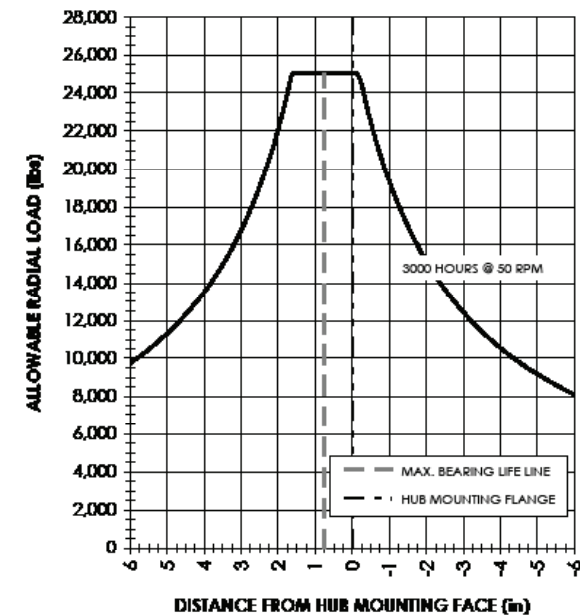
Life = 3000 hours B-10

Speed = 50 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life} = 3000 \left(\frac{50 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



CT – Compact Track Drive

Frame Size

Output Torque Capacity

18 – 18,000 Nm

Housing/Spindle Configuration
(Contact Fairfield)

Hydraulic Motor Cavity Configuration

1 – 46cc (MV), 55cc (MF), 42cc (MF), 60cc(MV)

7 – SAE "B" Mount Input

8 - SAE "C" Motor Mount

Wheel Studs

0 – Not Included

H - M22 x 1.5

(CT18C3 only)

Input Brake

0 – Not Included

A – 2,625 lb-in (297 Nm) STATIC
180 psi (12 bar) FULL RELEASE

B – 3,500 lb-in (395 Nm) STATIC
240 psi (17 bar) FULL RELEASE

C – 2,920 lb-in (330 Nm) STATIC
200 psi (14 bar) FULL RELEASE

D – 1,750 lb-in (198 Nm) STATIC
120 psi (8 bar) FULL RELEASE

G – 2,040 lb-in (230 Nm) STATIC
140 psi (10 bar) FULL RELEASE

Note: 3,000 psi (207 bar) maximum pressure for all brakes listed.

Motor Shaft Input

4 – 14T, 12/24 (55cc) L Max = 5.180

8 – 15T, 16/32 (42/46cc) L Max = 5.042

A – W30 x 2 x 14 x 9g (60cc) L Max = 5.042

Special Features

D – Input Disengage

Z – Blank

Ratios

064 – 64.21:1

070 – 70.22:1

078 – 77.95:1

085 – 85.20:1

095 – 94.53:1

112 – 112.14:1

136 – 135.71:1

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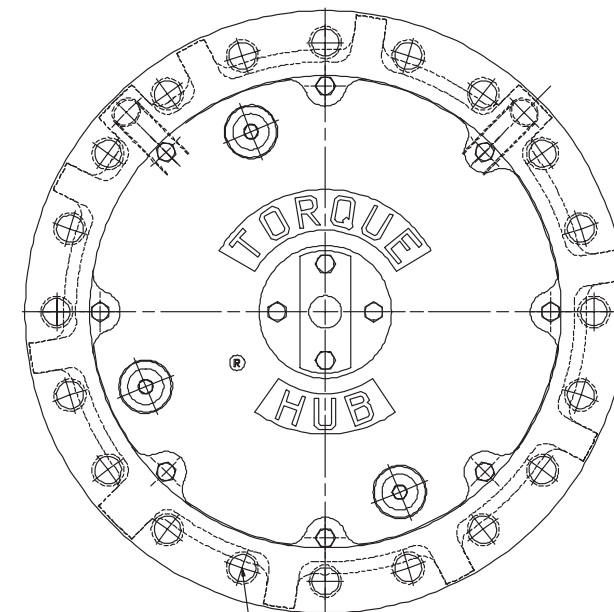
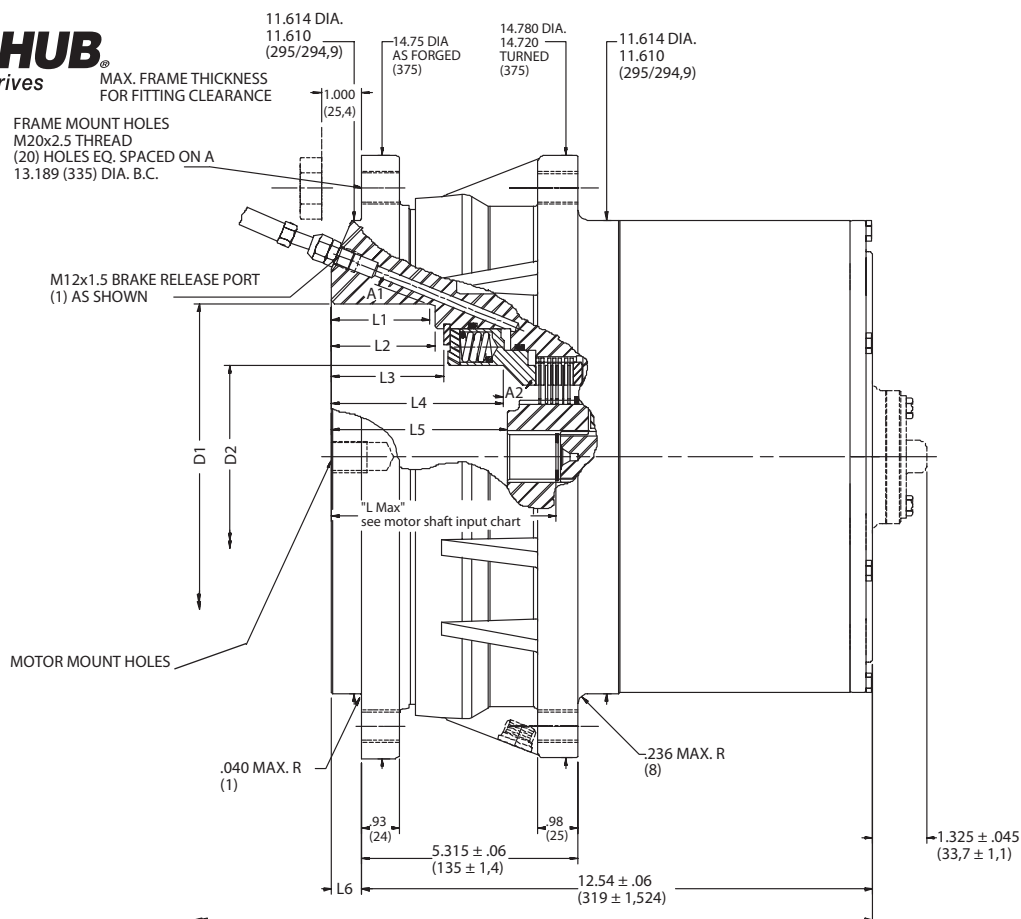
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Planetary Final Drives



WHEEL MOUNT HOLES
M20x2.5 THREAD
(20) HOLES EQ. SPACED ON A
13.189 (335) DIA. B.C.

	D1	D2	L1 MIN	L2 MIN	L3 MIN	L4 MIN	L5 MIN	L6 NOM	A1	A2	MOTOR MOUNT HOLES
CT26C11	6.303 ± .002 (160,09 ± .05)	4.495 (114,17)	N/A	N/A	2.384 (60,55)	3.838 (98,91)	3.894 (98,91)	.75 (19,05)	N/A	45°	M16 X 2 THREAD .787 (20) MIN. FULL THD. 2 HOLES @ 180° 7.874 (200) DIA. B.C.
CT26C12	7.484 ± .002 (190,09 ± .05)	4.495 (114,17)	2.395 (60,83)	2.545 (64,64)	2.744 (69,69)	4.198 (106,63)	4.265 (108,33)	.75 (19,05)	20°	45°	M20 X 2.5 THREAD .885 (22.5) MIN. FULL THD. 2 HOLES @ 180° 8.819 (224) DIA. B.C.
CT26C14	7.484 ± .002 (190,09 ± .05)	4.495 (114,17)	2.760 (70,10)	2.910 (73,91)	3.114 (79,09)	4.568 (116,03)	4.502 (114,35)	1.11 (28,19)	20°	45°	M20 X 2.5 THREAD .885 (22.5) MIN. FULL THD. 2 HOLES @ 180° 8.819 (224) DIA. B.C.
CT26C17	4.003 ± .002 (101,68 ± .05)	N/A	N/A	N/A	N/A	N/A	.85 (22,59)	1.02 (25,02)	N/A	N/A	.500 - 13 UNC THREAD .63 (16) MIN. FULL THD. 4 HOLES EQ. SPACED 5.750 (146,05) DIA. B.C.
CT26C18	5	N/A	N/A	N/A	N/A	N/A	1	1.35	N/A	N/A	1/2 - 13 UNC-28 THD. 4 HOLES EQ. SPACED ON A 6.375 (161,93) DIA. B.C.
CT26C19	7.484 ± .002 (190,09 ± .05)	4.495 (114,17)	2.980 (75,69)	3.155 (80,14)	3.334 (84,68)	4.788 (121,62)	4.722 (119,94)	1.343 (34,11)	20°	45°	M20 X 2.5 THREAD .885 (22.5) MIN. FULL THD. 2 HOLES @ 180° 8.819 (224) DIA. B.C.

NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

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CT26C

Performance Data

Continuous	Intermittent	Peak
115,000 lb-in 13,000 Nm	230,000 lb-in 26,000 Nm	Contact Fairfield

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Units with Brake: 5,000 RPM Max. Intermittent
(periods of 30 min or less)

Units without Brake: 6,000 RPM Max. Intermittent
(periods of 30 min or less)

Weight

Approximately 285 lbs (130 kg)

Note: Specific models will change weights.

CT26 Model Formula

CT – Compact Track Drive

Frame Size/ Output Torque Capacity

26 – 230,000 lb-in (26,000 Nm)

Housing/Spindle Configuration

(Contact Fairfield.)

Hydraulic Motor Cavity Configuration

1 – 60cc (MV), 55cc (MF), 42cc (MF)

2 – 55cc (MV), 75cc (MF)

4 – 80cc (MV), Bent Axis

7 – SAE 'B' Motor Mount

8 – SAE 'C' Motor Mount

9 – 80cc (MV) Long Shaft

Note: Designed for use with cartridge-style hydraulic motors.

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Volume of Oil:

94 oz. (2,781 cm³) for units with brake

106 oz. (3,136 cm³) for units without brake

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

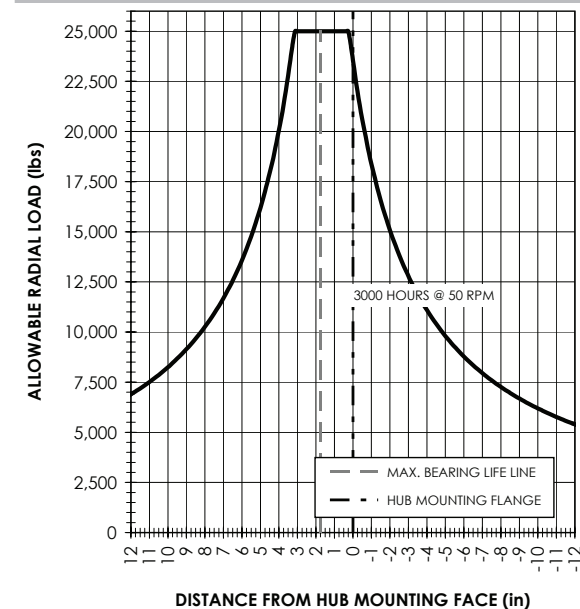
Life = 3000 hours B-10

Speed = 50 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3000 \left(\frac{50 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



CT 26 C1 2 0 A 4 131 D _

Special Features

V – Viton Seals in Gear Package & Brake

Special Features

D – Input Disengage

Z – Blank

Motor Shaft Input

4 – 14T, 12/24 (55cc, 75cc) L Max = 5.180 or 5.542

8 – 15T, 16/32 (42cc, 46cc) L Max = 5.042

A – W30x2x14x9g (60cc) L Max = 5.042

B – W35x2x16x9g (80cc) L Max = 5.955

Reduction

051 – 50.90:1

059 – 59.03:1

071 – 70.91:1

080 – 79.66:1

085 – 85.14:1

096 – 95.62:1

110 – 110.04:1

124 – 123.55:1

131 – 131.11:1

202 – 201.61:1

Wheel Studs

0 – Not Included

Input Brake

0 – Not Included

A – 2,940 lb-in (332 Nm) STATIC

123 PSI (8,5 Bar) FULL RELEASE PRESSURE

B – 4,410 lb-in (498 Nm) STATIC

184 PSI (12,7 Bar) FULL RELEASE PRESSURE

C – 5,390 lb-in (609 Nm) STATIC

225 PSI (15,5 Bar) FULL RELEASE PRESSURE

G – 3,430 lb-in (388 Nm) STATIC

143 PSI (9,9 Bar) FULL RELEASE PRESSURE

Note: 3,000 PSI (207 Bar) Maximum Pressure for all brakes listed.

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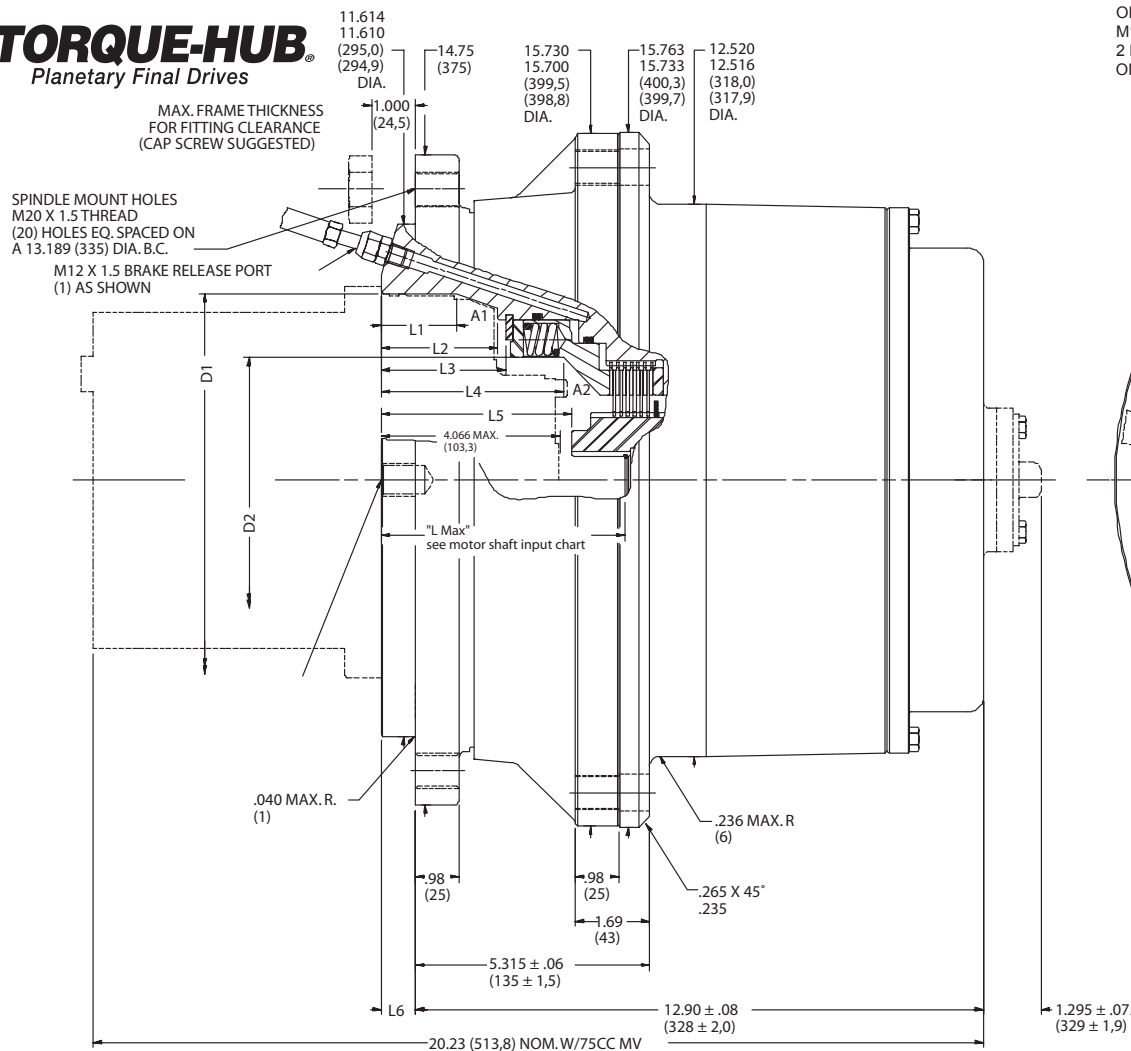
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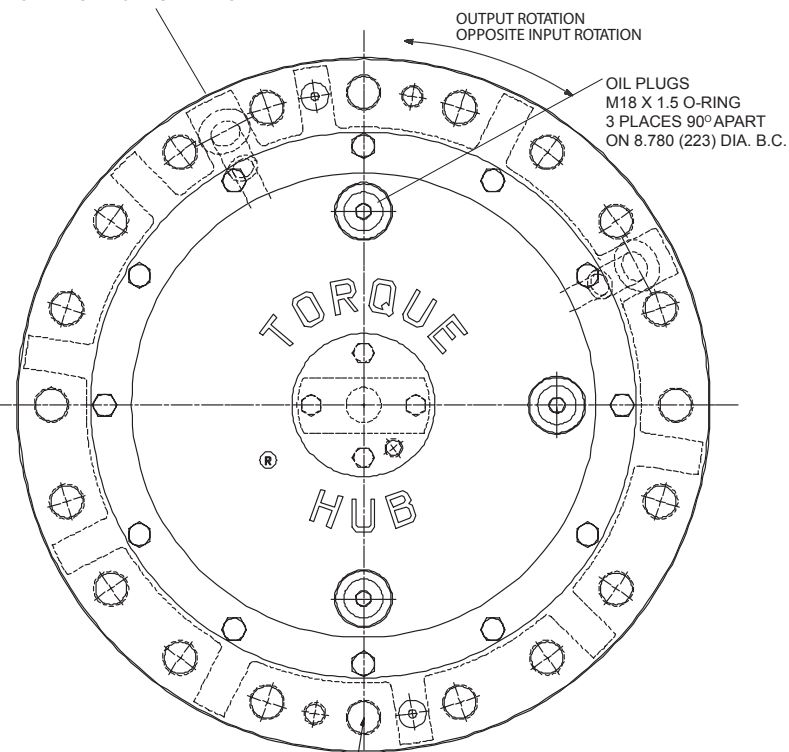
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TORQUE-HUB®

Planetary Final Drives



OIL PLUGS
M18 X 1.5 O-RING
2 PLACES 90° APART
ON RIB SIDE OF HUB FLANGE



HUB MOUNT HOLES
M20 X 1.5 THREAD
(20) HOLES EQ. SPACED
ON A 14.173 (360) DIA. B.C.

	D1	D2	L1 MIN	L2 MIN	L3 MIN	L4 MIN	L5 MIN	L6 NOM	A1	A2	MOTOR MOUNT HOLES
CT35A11 & 15	6.303 ± .002 (160,09 ± .05)	5.545 (140,84)	N/A	N/A	2.533 (64,85)	3.738 (94,95)	3.894 MIN (99)	.79 (20,01)	N/A	45°	M16 X 2 THREAD .800 (20.3) MIN. FULL THD. 2 HOLES @ 180° 7.874 (200) DIA. B.C.
CT35A12	7.484 ± .002 (190,09 ± .05)	5.545 (140,84)	N/A	2.625 (66,68)	2.824 (71,74)	4.102 (104,19)	4.265 (108,33)	.79 (20,01)	N/A	45°	M20 X 1.5 THREAD .885 (22.5) MIN. FULL THD. 2 HOLES @ 180° 10.040 (255) DIA. B.C.
CT35A13	8.468 ± .002 (215,09 ± .05)	5.545 (140,84)	1.705 (43,31)	2.625 (66,68)	2.824 (71,74)	4.102 (104,19)	4.625 (117,46)	.79 (20,01)	20°	45°	M20 X 1.5 THREAD .785 (20.2) MIN. FULL THD. 2 HOLES @ 180° 10.040 (255) DIA. B.C.
CT35A14	7.484 ± .002 (190,09 ± .05)	5.545 (140,84)	N/A	2.990 (75,95)	3.194 (81,13)	4.472 (113,59)	4.495 (114,17)	1.15 (29,21)	N/A	45°	M20 X 1.5 THREAD .885 (22.5) MIN. FULL THD. 2 HOLES @ 180° 8.819 (224) DIA. B.C.
CT35A18	SAE C MOTOR PILOT 5.005/5.001						1.015 (25,78)	1.175 (44,45)	N/A	N/A	1/2 -13 UNC-28 THREAD .830 (16) MIN. FULL THD. 4 HOLES EQ. SPACED 6.375 (161,93) DIA. B.C.

NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

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Before final design request a certified print from Fairfield.

CT Series
CT35A
Application Sheet

CT35A

Performance Data

Continuous	Intermittent	Peak
154,892 lb-in 17,500 Nm	309,785 lb-in 35,000 Nm	Contact Fairfield

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Units with Brake: 5,000 RPM Max. Intermittent
(periods of 30 min or less)

Units without Brake: 6,000 RPM Max. Intermittent
(periods of 30 min or less)

Weight

Approximately 335 lbs (152 kg)

Note: Specific models will change weights.

CT35 Model Formula

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Volume of Oil:

133 oz. (3,935 cm³) for units with brake

145 oz. (4,290 cm³) for units without brake

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

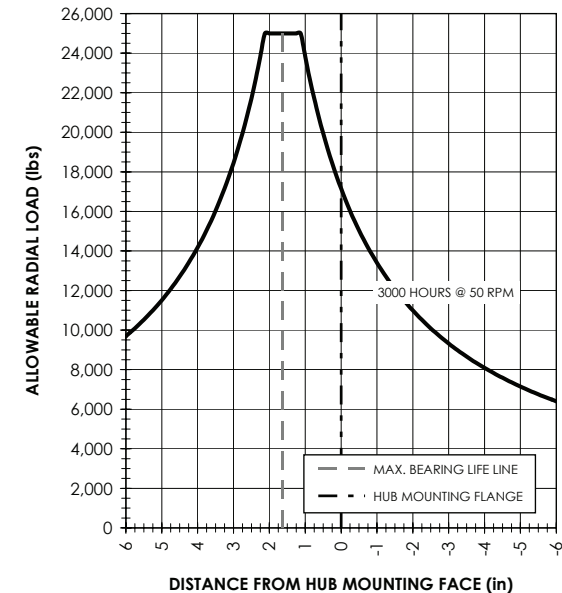
Life = 3000 hours B-10

Speed = 50 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3000 \left(\frac{50 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



CT – Compact Track Drive

Frame Size/ Output Torque Capacity
35 – 320,000 lb-in (35,000 Nm)

Housing/Spindle Configuration
(Contact Fairfield.)

Hydraulic Motor Cavity Configuration

1 – 46cc (MV), 55cc (MF), 42cc (MF)

2 – 55cc (MV), 75cc (MF)

3 – 75cc (MV)

4 – 80cc (MV) – Bent Axis

Designed for use with cartridge-style hydraulic motors.

Motor Shaft Input

4 – 14T, 12/24 (55cc, 75cc) L Max = 5.180 or 5.542

8 – 15T, 16/32 (42cc, 46cc) L Max = 5.042

A – W30x2x14x9g (60cc) L Max = 5.042

B – W35x2x16x9g (80cc) L Max = 5.955

Special Features

V – Viton Seals in Gear Package & Brake

Special Features

D – Input Disengage (optional)
Z – Blank

Reduction

063 – 63.49:1

069 – 68.67:1

079 – 78.71:1

085 – 85.11:1

095 – 94.54:1

110 – 110.07:1

117 – 117.10:1

136 – 136.29:1

Wheel Studs

0 – Not Included

Input Brake

D – 3,250 lb-in (367 Nm) STATIC

110 PSI (8 Bar) FULL RELEASE PRESSURE

E – 4,335 lb-in (490 Nm) STATIC

140 PSI (10 Bar) FULL RELEASE PRESSURE

F – 5,960 lb-in (673 Nm) STATIC

200 PSI (14 Bar) FULL RELEASE PRESSURE

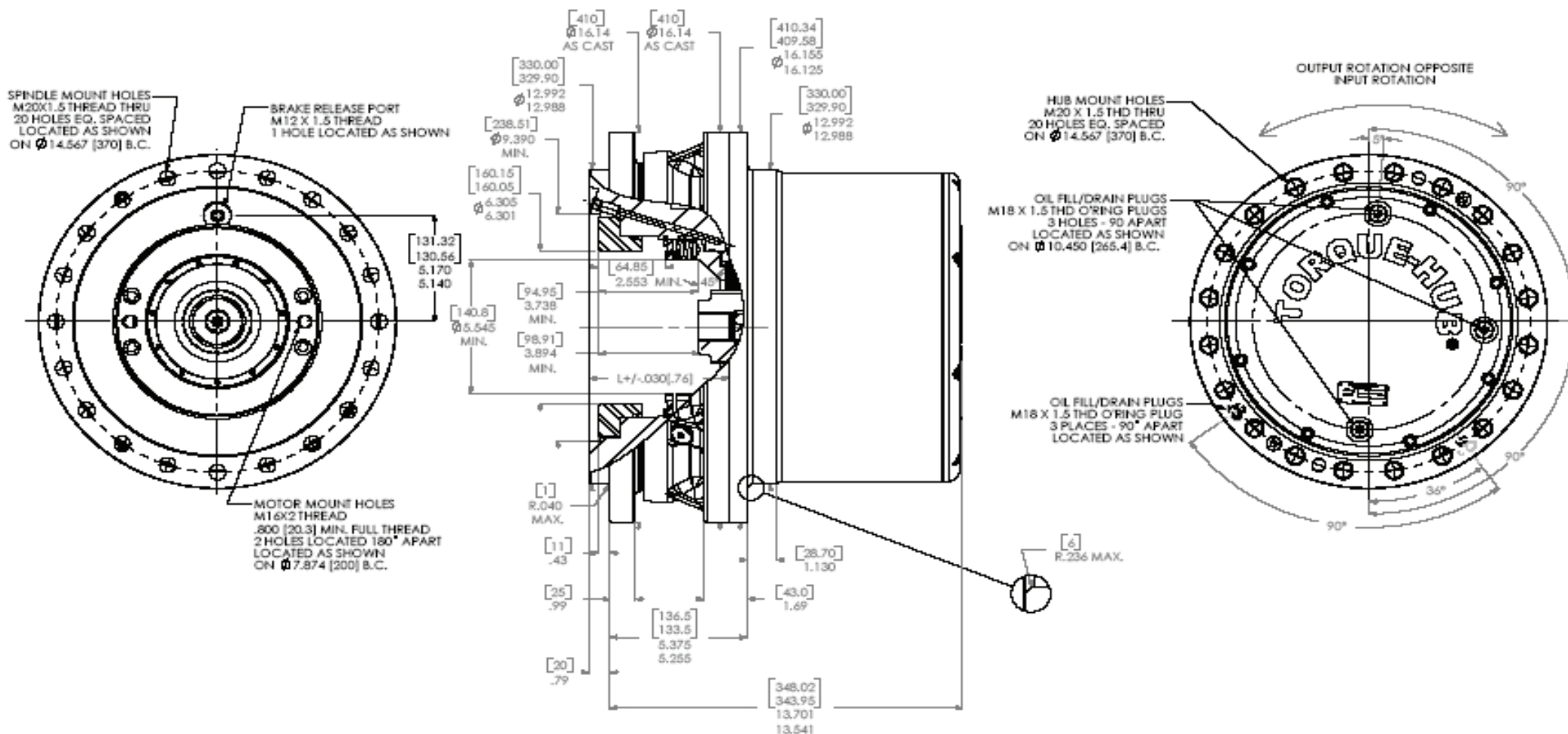
Note: 3,000 PSI (207 Bar) Maximum Pressure for all brakes listed.

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CT Series

CT50**Application Sheet**
TORQUE-HUB.
 Planetary Final Drives

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NOTE: MM SHOWN IN ()
 MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
 FAIRFIELD BRAKE AVAILABLE

CT50

Performance Data

Continuous	Intermittent	Peak
221,250 lb-in 25,000 Nm	442,500 lb-in 50,000 Nm	Contact Fairfield

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Units with Brake: 5,000 RPM Maximum Intermittent
(periods of 30 minutes or less)

Units without Brake: 6,000 RPM Maximum Intermittent
(periods of 30 minutes or less)

Weight

Approximately 420 lbs (190 kg)

Note: Specific models will change weights.

CT45 Model Formula

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Volume of Oil: 160 oz. (4,706 cm³) for units without brake
144 oz. (4,235 cm³) for units with brake

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

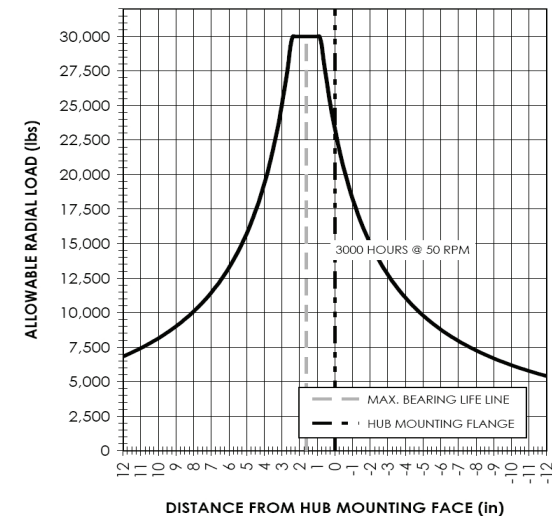
Life = 3000 hours B-10

Speed = 50 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3000 \left(\frac{50 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



CT 50 A1 1 0 D A 119

CT – Compact Track Drive

Frame Size

Output Torque Capacity

50 – 442,500 lb-in (50,000 Nm)

Housing/Spindle Configuration

Hydraulic Motor Cavity Configuration

1 – 42cc (MF), 55cc (MF), 46cc (MV), 60cc (MV)

2 – 55cc (MV), 75cc (MF)

4 – 80cc (MV)

8 – SAE 'C' Motor Mount

9 – SAE 'A' Motor Mount

A – A2FE90

Wheel Stud Configuration

0 – Not Included

Motor Shaft Input

4 – 14T, 12/24 (55cc, 75cc)

7 – 21T 16/32 (HMF7502)

8 – 15T, 16/32 (42cc, 46cc)

A – W30x2x14x9g (60cc)

B – W35x2x16x9g (80cc)

D – W40x2x18x9g (MV80CC, A2FE90)

Static Input Brake

0 – Not Included

D – 3,250 lb-in (367 Nm) STATIC

110 psi (8 bar) FULL RELEASE

E – 4,335 lb-in (490 Nm) STATIC

140 psi (10 bar) FULL RELEASE

F – 5,960 lb-in (673 Nm) STATIC

200 psi (14 bar) FULL RELEASE

H – 2818 lb-in (318Nm) STATIC

Reduction

070 – 69.94:1

077 – 77.17:1

087 – 86.69:1

096 – 95.62:1

107 – 107.38:1

119 – 118.89:1

131 – 131.11:1

147 – 147.19:1

169 – 169.30:1

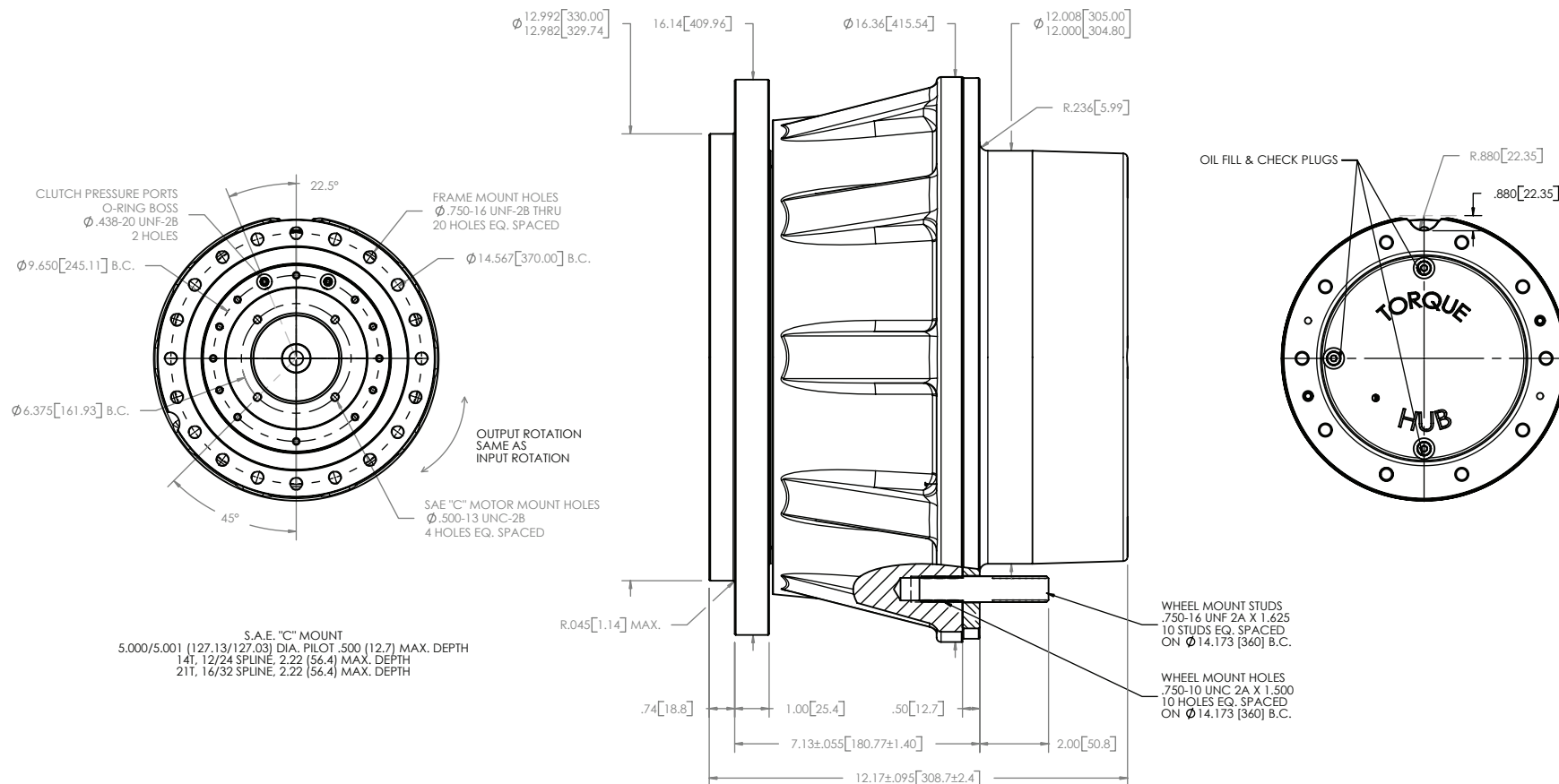
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Note: 3,000 PSI (207 Bar) Maximum Pressure for all brakes listed.

TORQUE-HUB®

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Please refer to Fairfield Brake Literature
for brake operating conditions or contact Fairfield.

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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

W9T

Performance Data

Continuous	Intermittent	Peak
90,000 lb-in	180,000 lb-in	Contact Fairfield
7,500 lb-ft	15,000 lb-ft	
10,168 Nm	20,336 Nm	
1,036 kg-m	2,072 kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative. Please refer to brake operating conditions.

Speed Limitations

Input Speed: 3,750 RPM Maximum Intermittent (30 minutes or less)

(Contact Fairfield for specific speed information.)

Weight

Approximately 375 lbs (170kg) without Brake

Note: Specific models will change weights.

W9T Model Formula

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 96 oz. (3 quarts)

Note: Oil level and type will vary with specific model and application.

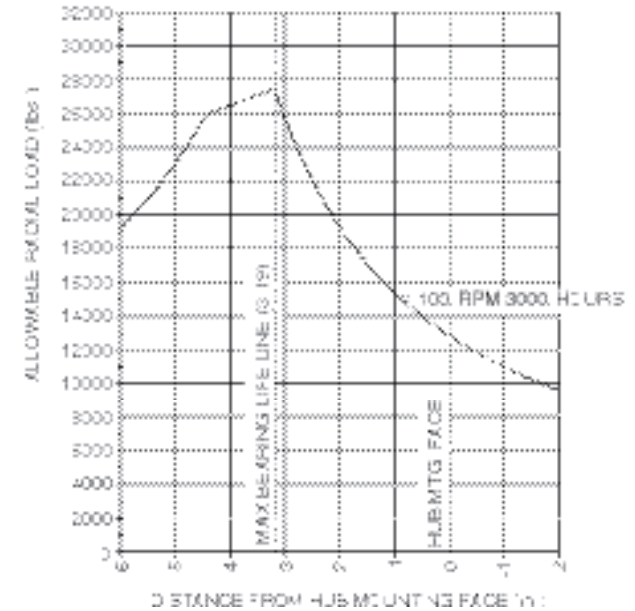
Conditions of Bearing Curve

Life = 3,000 hours B-10
Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



W – Torque-Hub® Wheel Drive

9 – Series Two Speed

Spindle			Hub	
Motor Mount	Flange Holes	Mounting Dia.	Motor B.C.	
T1 SAE "C"	(20) 3/4-16 Holes on a 14.567 B.C.	12.992 12.982	(10) .750-10 Holes on a 14.173 Dia. B.C.	Note: 3.46:1/1:1 2 Speed Module
T3 SAE "C"	(20) 3/4-16 Holes on a 14.567 B.C.	12.992 12.982	(10) .750-10 Holes on a 14.173 Dia. B.C.	
				Note: 4.09:1/1:1 2 Speed Module

Input
4 – 14T, 12/24 Spline

Reduction
35 – 34.90:1
(See overall range in chart below)

Motor Mount / Input Ratio
E - 3.46:1 'C' Mount 4 bolt
F - 4.09:1 'C' Mount 4 bolt

Studs
0 – Not Included
U – 3/4-16 x 2.00 Inch (1.625 Thd. Length)

Input Rating		
MAX. INPUT TORQUE	4,000 lb-in (452 Nm)	
MAX. INPUT SPEED	3750 RPM	
MIN. BRAKING TORQUE	4,000 lb-in (452 Nm)	
MIN. SHIFT PRESSURE	400 psi (27,6 bar)	
MAX. SHIFT PRESSURE	1500 psi (103,4 bar)	
Reduction		
SPEED SPLIT	PRESSURE HIGH SPEED	PRESSURE LOW SPEED
3.46:1	34.90:1	120.82:1
4.09:1	34.90:1	142.79:1
PRESSURE BOTH SPEEDS		NEUTRAL
PRESSURE NEITHER SPEEDS		BRAKE

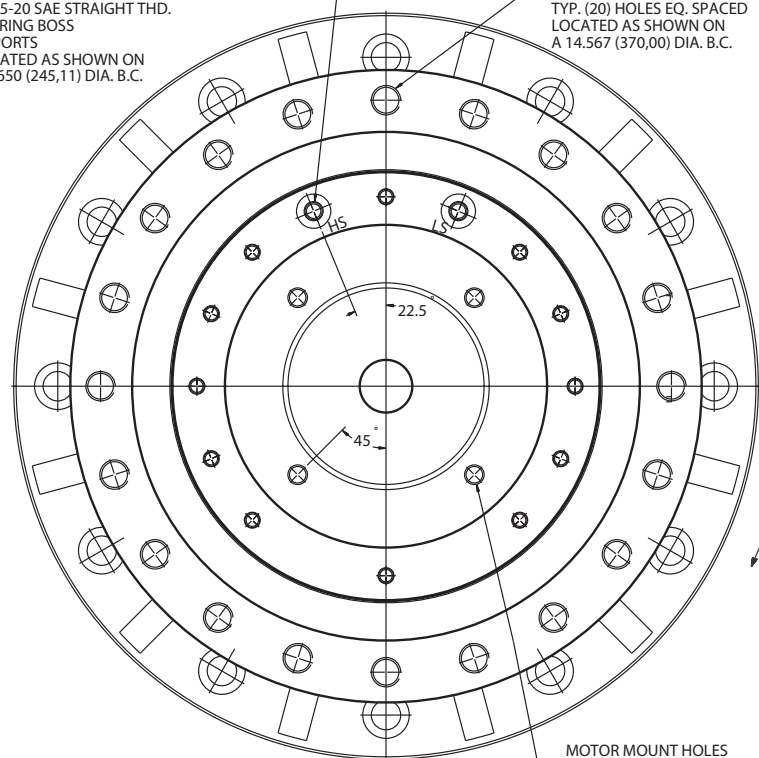
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PRESSURE PORTS
.4375-20 SAE STRAIGHT THD.
"O"-RING BOSS
(2) PORTS
LOCATED AS SHOWN ON
A 9.650 (245,11) DIA. B.C.

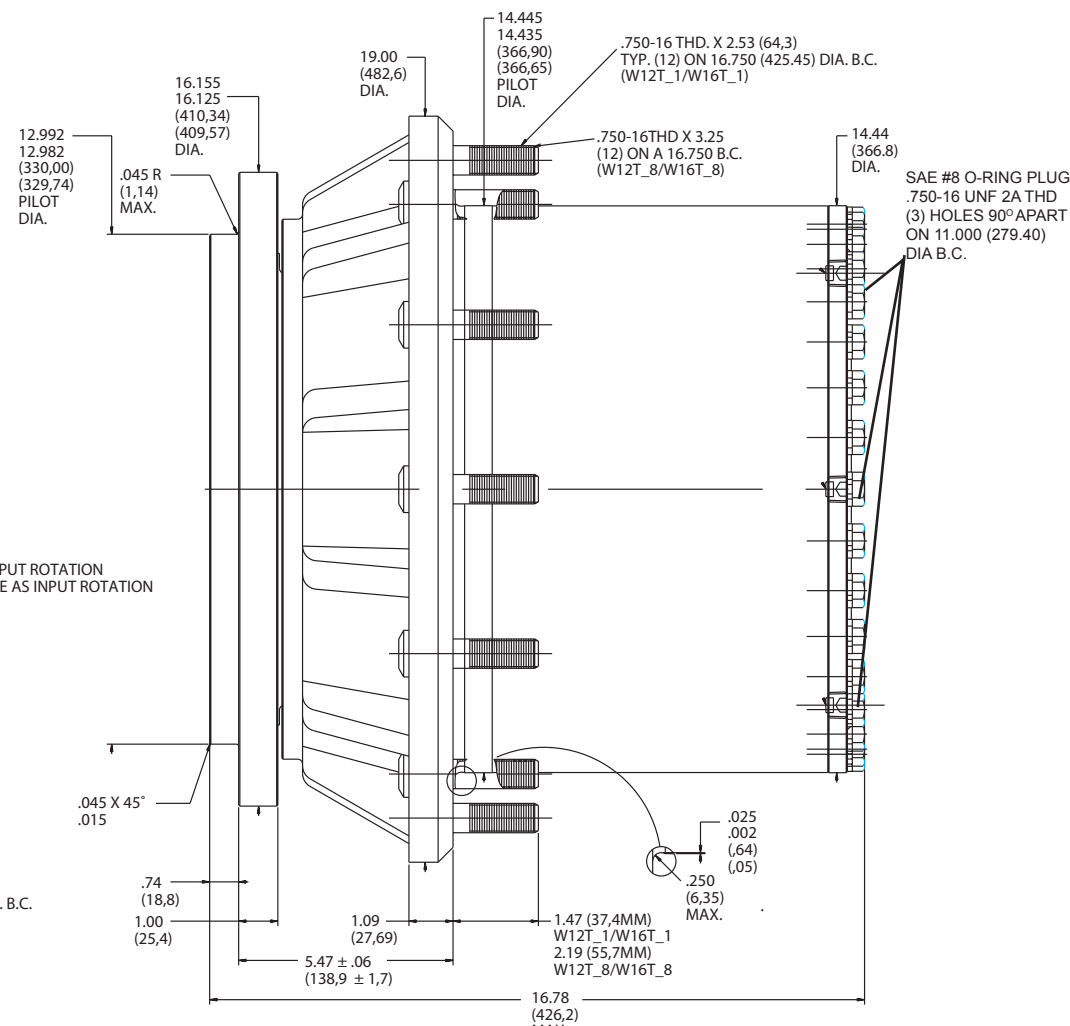
SPINDLE MOUNT HOLES
.750-16 UNF-2B THD THRU.
TYP. (20) HOLES EQ. SPACED
LOCATED AS SHOWN ON
A 14.567 (370,00) DIA. B.C.



S.A.E. "C" MOUNT

MOTOR MOUNT HOLES
.500-13 UNC-2B THD.
.91 (23,1) MIN. FULL THD.
TYP. (4) HOLES ON 6.375 (161,93) DIA. B.C.

OUTPUT ROTATION
SAME AS INPUT ROTATION



Please refer to Fairfield Brake Literature
for brake operating conditions or contact Fairfield.

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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

W12T

Performance Data

Continuous	Intermittent	Peak
125,000 in-lb	250,000 in-lb	300,000 in-lb
10,417 ft-lb	20,833 ft-lb	25,000 ft-lb
14,113 Nm	28,227 Nm	33,900 Nm
1440 Kg-m	2880 Kg-m	3450 Kg-m

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative. Please refer to brake operating conditions.

Speed Limitations

Input Speed: 3,750 RPM Maximum Intermittent (30 minutes or less)

(Please contact Fairfield for speed limitations and horsepower.)

Weight

Approximately 568 lbs (258 kg)

Note: Specific models will change weights.

W12T Model Formula

W - Torque-Hub® Wheel Drive

12 - Two Speed

Spindle			Hub
Motor Mount	Frame Mount	Mounting Dia.	B.C.
T1 SAE "C"	(20) 3/4-16 Holes on a 14.567 B.C.	12.992 12.982	(12) .850/.848 Holes on a 16.750 Dia. B.C. Note: 3.46:1/1:1 2 Speed
T2 SAE "C"	(20) 3/4-16 Holes on a 14.567 B.C.	12.992 12.982	(12) .850/.848 Holes on a 16.750 Dia. B.C. Note: 4.09:1/1:1 2 Speed

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 169.6 oz. (5.3 quarts)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

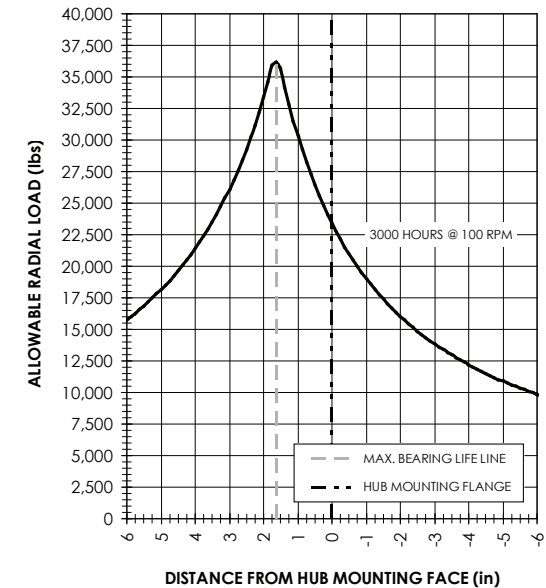
Life = 3,000 hours B-10

Speed = 100 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



W 12 T1 8 E 4 40

Reduction

20 - 20.25:1

29 - 29.16:1

40 - 39.34:1

Input
4 - 14t, 12/24 Spline

Motor Mount / Input Ratio
E - 3.46:1 'C' Mount 4 bolt
F - 4.09:1 'C' Mount 4 bolt

Studs

0 - Not Included

1 - 3/4-16 by 2.53 Inch (Use with .850/.848 Flange Hole On Cast Iron Hub)

8 - 3/4-16 by 3.25 Inch (Use with .850/.848 Flange Hole On Cast Iron Hub)

Input Rating

MAX. INPUT TORQUE	4,000 lb-in (452 Nm)
MAX. INPUT SPEED	3750 RPM
MIN. BRAKING TORQUE	4,000 lb-in (452 Nm)
MIN. SHIFT PRESSURE	400 psi (27.6 bar)
MAX. SHIFT PRESSURE	1500 psi (103.4 bar)

Reduction

SPEED SPLIT	PRESSURE HIGH SPEED	PRESSURE LOW SPEED
3.46:1	20.25:1	70.07:1
4.09:1	20.25:1	82.84:1
3.46:1	29.16:1	100.89:1
4.09:1	29.16:1	119.26:1
3.46:1	39.34:1	136.19:1
4.09:1	39.34:1	160.90:1
PRESSURE BOTH SPEEDS	NEUTRAL	
PRESSURE NEITHER SPEEDS	BRAKE	

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PRESSURE PORTS _____
.4375-20 SAE STRAIGHT THD.
"O" RING BOSS
(2) PORTS LOCATED
AS SHOWN ON 9.650 (245,11)
DIA. B.C.

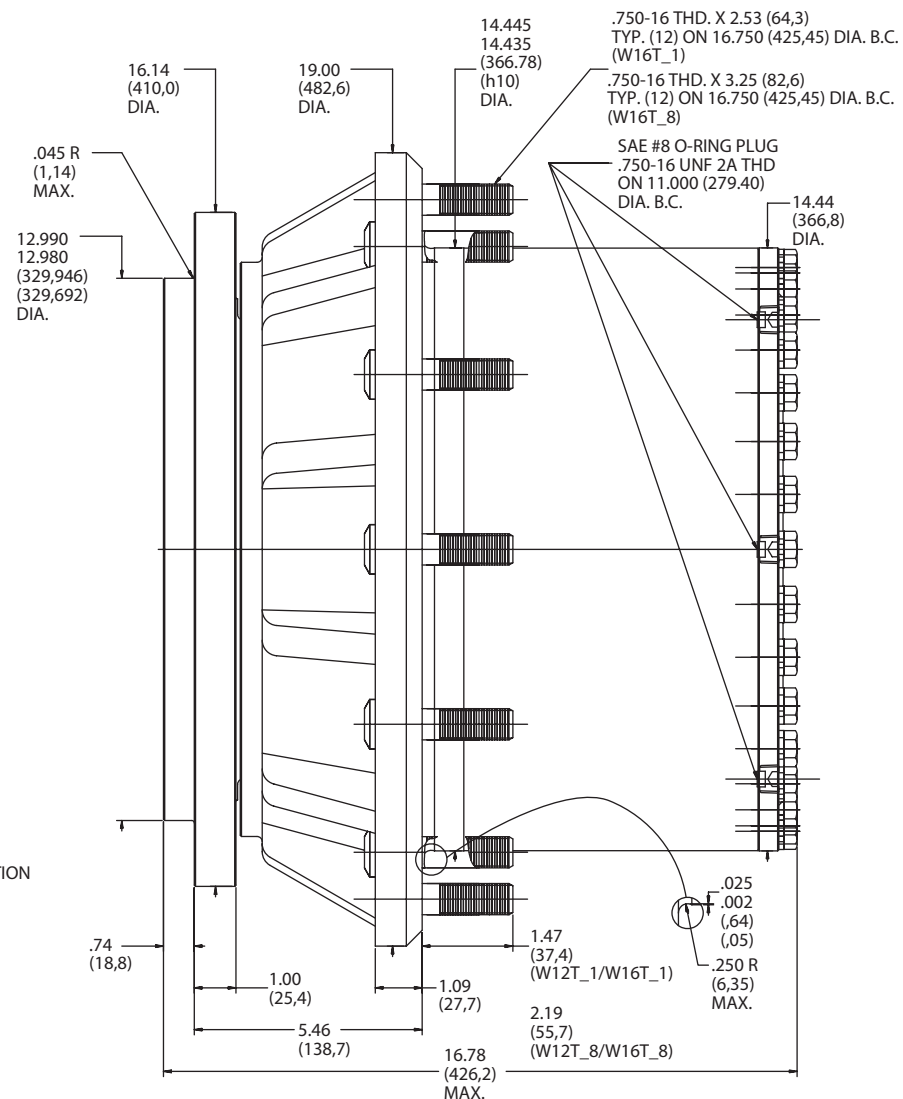
FRAME MOUNT HOLES
.750-16 UNF-2B THD. THRU
TYP. (20) HOLES EQ. SPACED
LOCATED AS SHOWN ON
14.567 (370.00) DIA. B.C.

MOTOR MOUNT HOLES
.500-13UNC-2B .91 (23.1 mm) MIN FULLTHD.
TYP. (4) HOLES ON
6.375 (161.93) DIA. B.C.

Please refer to Fairfield Brake Literature for brake operating conditions.

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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

W16T

Performance Data

Continuous	Intermittent	Peak
160,000 lb-in	320,000 lb-in	Contact
13,333 ft-lb	26,667 ft-lb	Fairfield
18,077 Nm	36,154 Nm	
1,920 Kg-m	3,840 Kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 3,750 RPM Maximum Intermittent

(Please contact Fairfield for speed limitations and horsepower.)

Weight

Approximately 596 lbs (270kg)

Note: Specific models will change weights.

W16T Model Formula

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 160 oz.(5.0 quarts)

Note: Oil level and type will vary with specific model and application.

Conditions of Bearing Curve

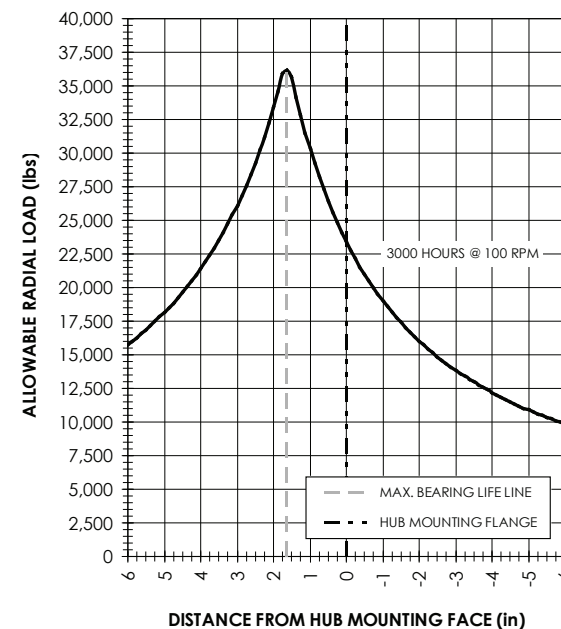
Life = 3000 hours B-10

Speed = 50 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{100 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



W- Torque Hub Wheel Drive

16- Series

	Spindle			Hub
	Motor Pilot	Frame Mount	Mounting Dia.	B.C.
T1	SAE "C"	(20) 3/4-16 Holes on a 14.567 B.C.	12.990 12.980	(12) .850/.848 Holes on a 16.750 Dia. B.C. Note: 3.46:1/1:1 2 Speed Module
T2	SAE "C"	(20) 3/4-16 Holes on a 14.567 B.C.	12.992 12.982	(12) .850/.848 Holes on a 16.750 Dia. B.C. Note: 4.09:1/1:1 2 Speed Module

W 16 T1 8 E 4 40

Studs

0 – Not Included

1 – 3/4-16 by 2.53 Inch (use w/ .850/.848 Flange Hole on cast Iron Hub)

8 – 3/4-16 by 3.53 Inch (use w/ .850/.848 Flange Hole on cast Iron Hub)

Motor Mount / Input Ratio

E – 3.46:1 'C' Mount 4 Bolt

F – 4.09:1 'C' Mount 4 Bolt

Reduction

20 – 20.25:1

29 – 29.16:1

40 – 39.34:1

Input

4 – 14T, 12/24 Spline

Input Rating

MAX. INPUT TORQUE	4,000 lb-in (452 Nm)
MAX. INPUT SPEED	3750 RPM
MIN. BRAKING TORQUE	4,000 lb-in (452 Nm)
MIN. SHIFT PRESSURE	400 psi (27.6 bar)
MAX SHIFT PRESSURE	1500 psi (103.4 bar)

Reduction

SPEED SPLIT	PRESSURE HIGH SPEED	PRESSURE LOW SPEED
3.46:1	20.25:1	70.07:1
4.09:1	20.25:1	82.84:1
3.46:1	29.16:1	100.89:1
4.09:1	29.16:1	119.26:1
3.46:1	39.34:1	136.19:1
4.09:1	39.34:1	160.90:1
PRESSURE BOTH SPEEDS		NEUTRAL
PRESSURE NEITHER SPEEDS		BRAKE

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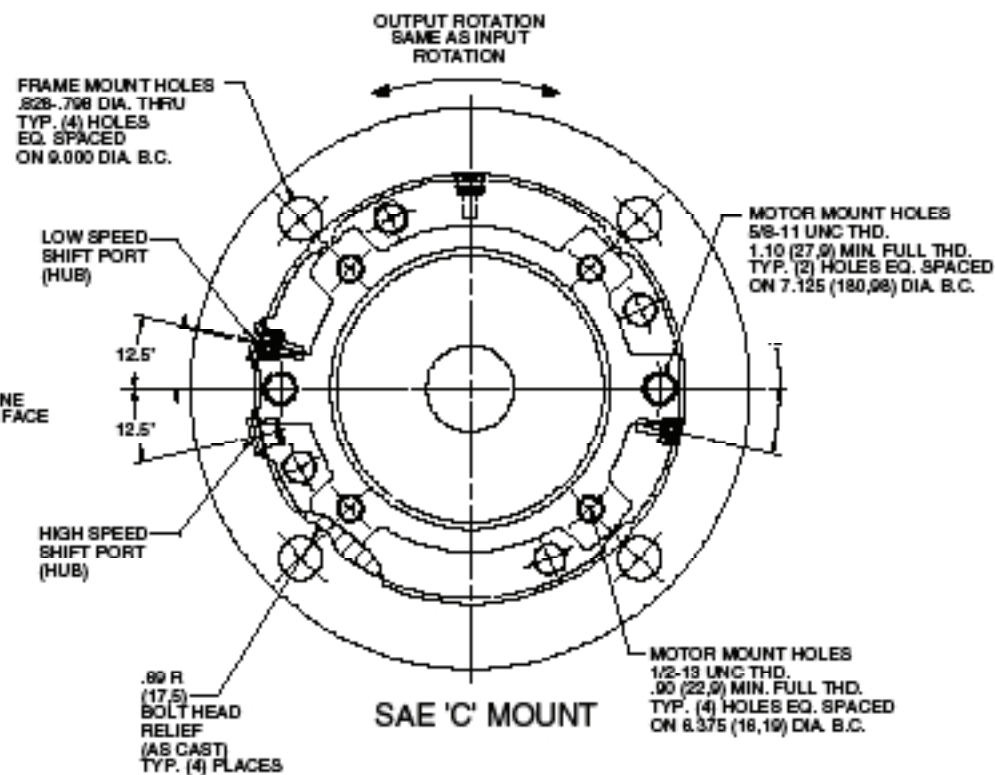
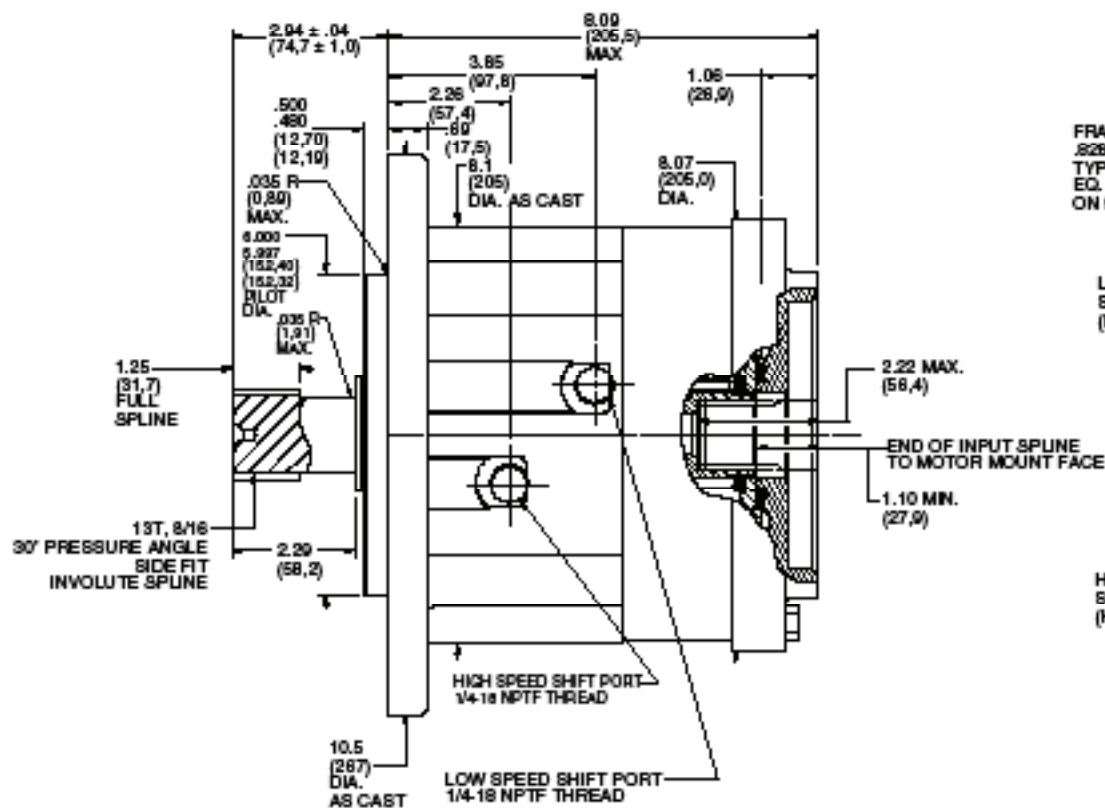
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NOTE: MM SHOWN IN ()
MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

T2A5

Performance Data (Input Torque)

Continuous	Intermittent	Peak
2,500in-lb	Contact Fairfield	
210 ft-lb	(Input Torque)	
282 Nm		
28.75 kg-m		

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 3,500 RPM Maximum Intermittent
Horsepower: 40

(Contact Fairfield for specific speed information.)

Weight

Approximately 85 lbs (38kg)

Note: Specific models will change weights.

T2A5 Model Formula

T – Torque-Hub® Two Speed

2 – Series

	Hub		Spindle	
	Mounting Dia.	Flange Holes	Spline or Key	Shaft Dia.
A5	<u>6.000</u> 5.997 Shaft Side	(4) .828/.798 9.000 B.C.	13T, 8/16 Spline	<u>1.750</u> 1.740
A6	<u>6.000</u> 5.997 Shaft Side	(4) .828/.798 9.000 B.C.	14T, 12/24 Spline	<u>1.250</u> 1.240

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume: 23oz.

Note: Oil level and type will vary with specific model and application.

NOTE: To allow the shift spline to disengage and engage properly there must be no load or rotation during the shift.

Min Shift Pressure 50 psi

Max Shift Pressure 1500 psi

Bearing Curve

Note: No radial load allowable on output shaft.

T 2 A 5 D 4 4 S D

Special Features

D – Disengage Position with Only One Speed
(4:1)
(Spline Removed from Input Gear)

Special Features

S – Spring Shift
H – Spring Shift (Heavy Duty)

Reduction

3 – 3.46:1

4 – 4.09:1

Input

4 – 14T, 12/24 Spline

Input Motor Mount

C – S.A.E. "C" (5.005/5.001) Pilot 4 Bolt

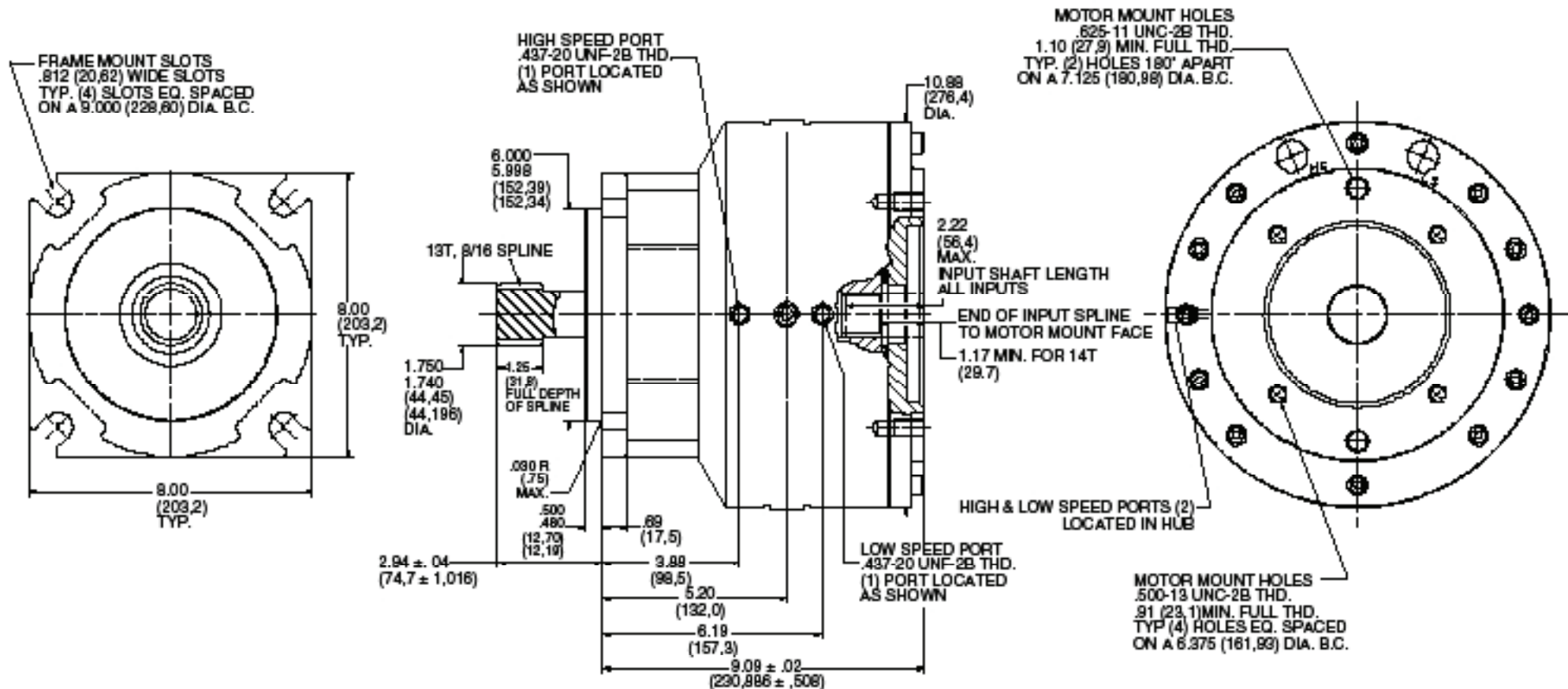
D - S.A.E. "D" (6.005/6.001) Pilot 4 Bolt

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T2B1

Performance Data

Maximum Input Torque: 4,000 lb-in.
Minimum Braking Torque: 4,000 lb-in.

Minimum Shift Pressure: 400 psi
Maximum Shift Pressure: 1,500 psi

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume: 22 oz.

Note: Oil level and type will vary with specific model and application.

Speed Limitations

Input Speed: 3,750 RPM Maximum Intermittent

Note: Forced cooling may be required to meet thermal requirements of the transmission.

Weight

Approximately 150 lbs (68 kg)

Note: Specific models will change weights.

T2B1 Model Formula

T 2 B 1 C 4 4

T – Torque-Hub® Two Speed

2 – Series

	Hub		Shaft	
B1	Mounting Dia.	Flange Holes	Spline or Key	Shaft Dia.
	6.000 5.998	(4) .812 on a 9.000 B.C.	13T, 8/16 Spline	1.750 1.740

Reduction

3– 3.46:1

4– 4.09:1

Input

4 – 14T, 12/24 Spline

5 – 13T, 8/16 Spline

Input Motor Mount

C – S.A.E. "C" (5.005/5.001) Pilot 4-bolt

D – S.A.E. "D" (6.005/6.001) Pilot 4 Bolt

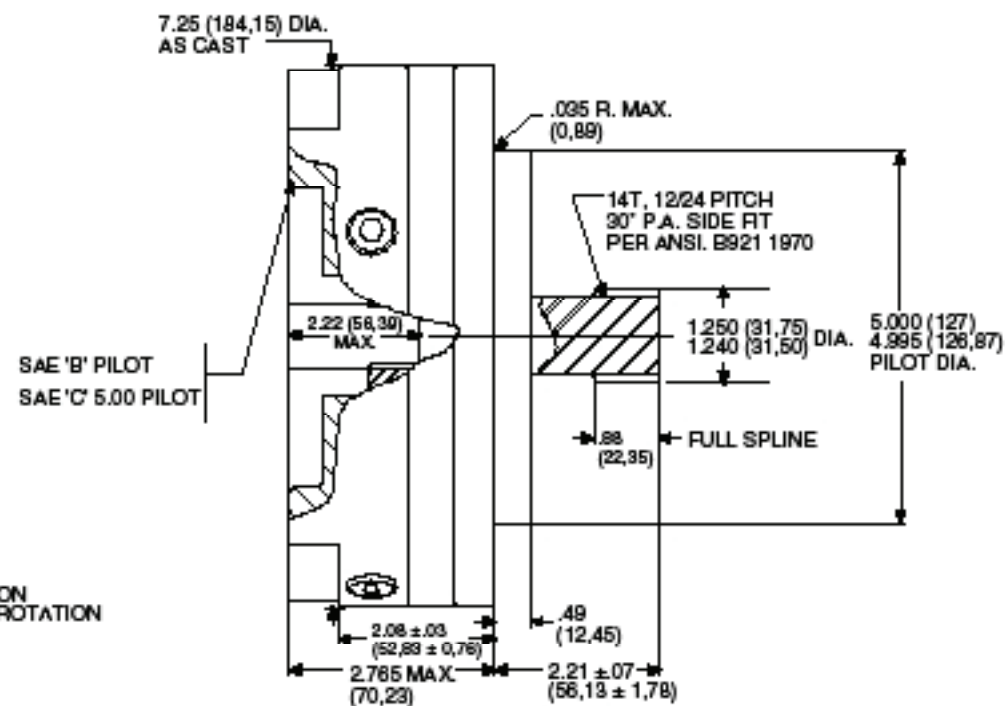
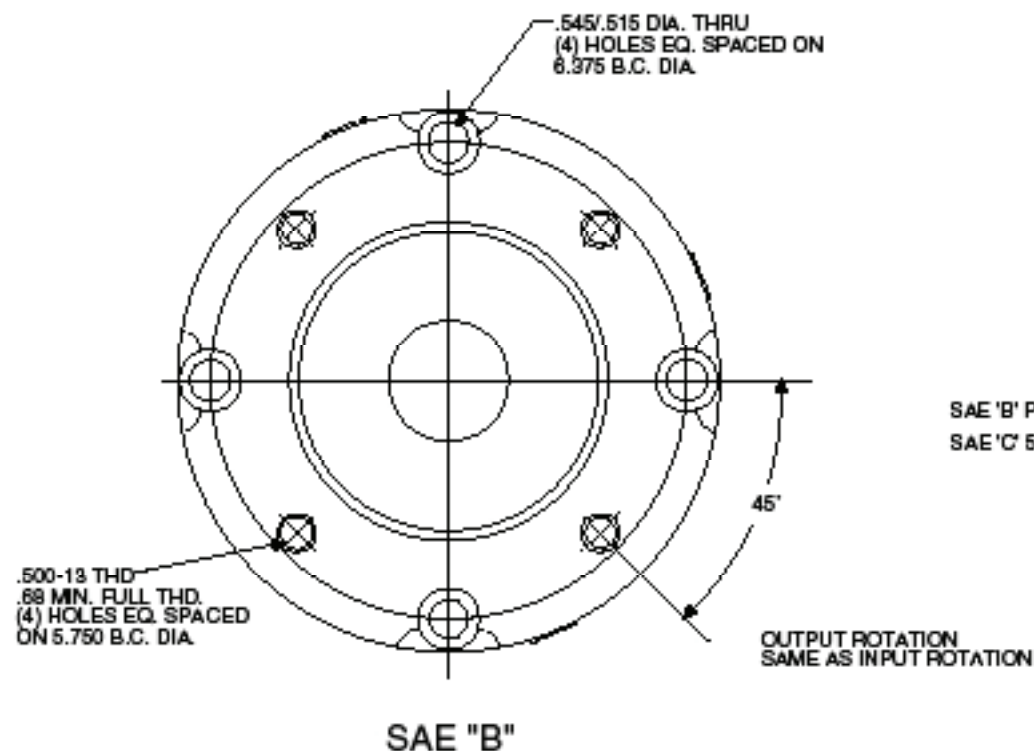
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MOTOR CAVITY DIMENSIONS VARY WITH MODEL

OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

G07

Performance Data

Continuous	Intermittent	Peak
6,000 lb-in	12,000 lb-in	Contact Fairfield
500 lb-ft	1000 lb-ft	
677 Nm	1354 Nm	
69.1 kg-m	138.2 kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 4,000 RPM Maximum Intermittent

(Contact Fairfield for specific speed information.)

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 8 oz.

Note: Oil level and type will vary with specific model and application.

Weight

Approximately 25 lbs (11.3kg) without Brake

Note: Specific models will change weights.

Bearing Curve

No Radial Load allowable on Output Shaft.

G07 Model Formula

G – Torque-Hub® Gear Head

07 – Series

Input Motor Mount

3 – S.A.E. "B" (4.005/4.001) Pilot 4-Bolt

4 – S.A.E. "C" (5.005/5.001) Pilot 4-Bolt

G 07 3 4 4 4

Reduction
4 – 3.600:1

Output Spline
4 – 14T, 12/24 Spline

Output Pilot and Mount
4 – S.A.E. "C" (5.005/5.001) Pilot 4-Bolt

Input Spline
3 – 13T, 16/32 Spline
4 – 14T, 12/24 Spline

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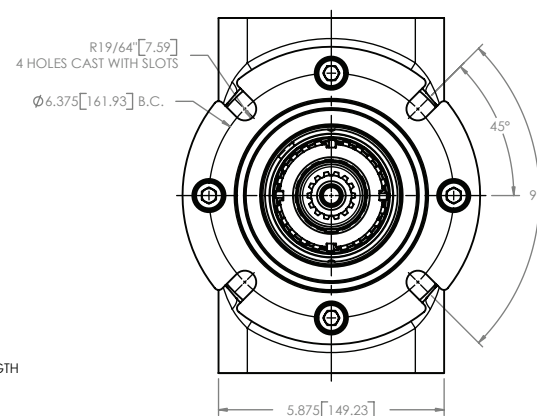
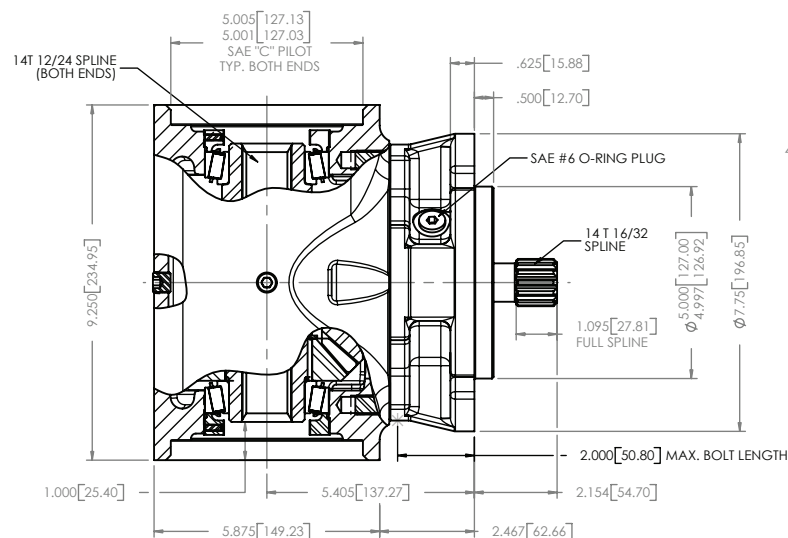
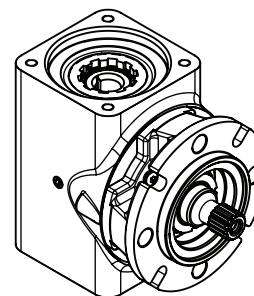
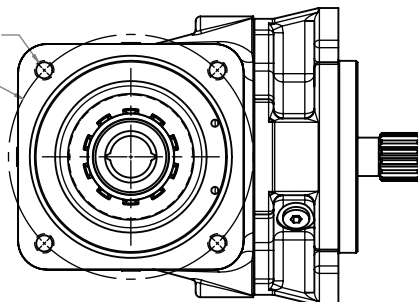
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Ø .500-13 UNC THREAD
0.750 [19.05] MIN. THREAD
4 HOLES EQ. SPACED

Ø 6.375 [161.93] B.C.



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OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

RA701

Performance Data (Input Torque)

Continuous	Intermittent	Peak
3,700lb-in 308ft-lb 418Nm 42.6Kg-m	Contact Fairfield	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed RPM: 3,400 RPM
Continuous Horsepower: 40 hp
Intermittent Peak: Contact Fairfield

Oil

Use 90 weight gear lube with EP additive on most applications.

For Slow Speed: 1/3 Full. Light duty application, box may be placed in any position.
For High Speed: High speed, heavy duty application, position box so that mesh point of gears is not totally submerged in lubricant.

Note: Oil level and type will vary with specific model and application.

RA 701 - (2) S.A.E. "C" (5.005/5.001) Input Pilots
 4 - Bolts, 14T, 12/24 Input Spline S.A.E. "C"
 (5.000/4.997) Output Pilot 4 - Slot, 14T, 12/24 Output
 Spline Without Lip Seal.
 Ratio = 1:1

RA 702 - RA701 with output lip seal

Ratio = 1:1

RA 703 - (2) S.A.E. "C" (5.005/5.001) Input Pilots
 4 - Bolts, 14T, 12/24 Input Spline S.A.E. "D"
 (6.000/5.997) Output Pilot 4 - Slot, 13T, 8/16 Output
 Spline With Lip Seal.
 Ratio = 1:1

RA 705 - (2) S.A.E. "C" (5.005/5.001) Input Pilots
 4 - Bolts, 14T, 12/24 Input Spline S.A.E. "C"
 (5.000/4.997) Output Pilot 4 - Slot, 14T, 12/24 Output
 Spline Without Lip Seal. With Speed-O-Meter Pick Up
 Ratio = 1:1

RA 706 - (2) S.A.E. "C" (5.005/5.001) Input Pilots
 4 - Bolts, 14T, 12/24 Input Spline S.A.E. "D"
 (6.000/5.997) Output Pilot 4 - Slot, 13T, 8/16 Output
 Spline Without Lip Seal.
 Ratio = 1:1

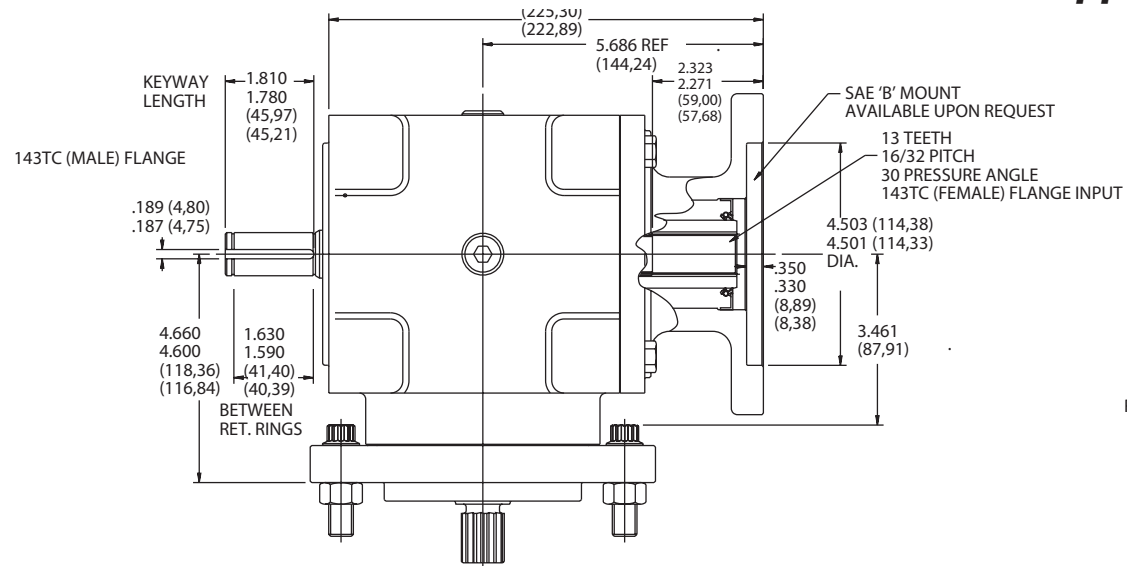
RA 707 - RA702 with Speed-O-Meter Pick Up

Ratio = 1:1

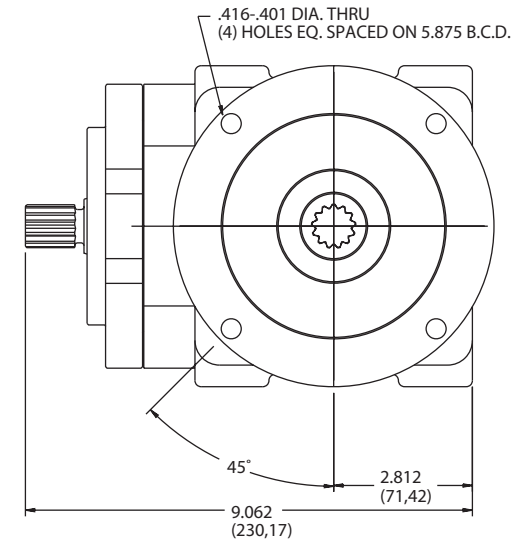
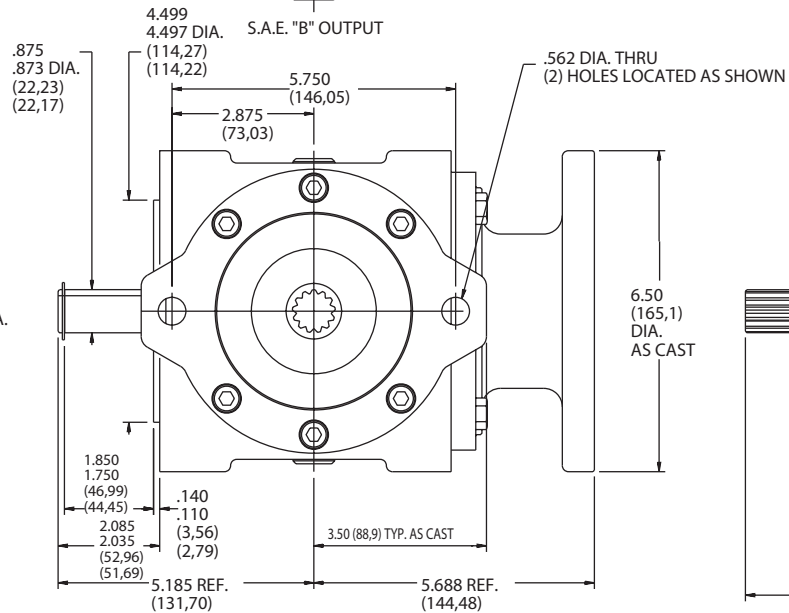
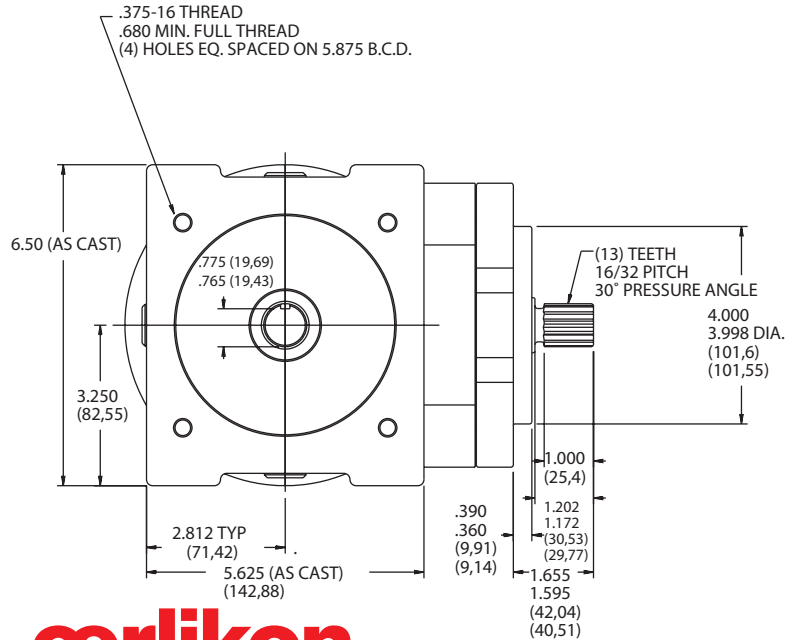
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RATIO 1.53:1



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OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

RA708

Performance Data (Input Torque)

Continuous	Intermittent	Peak
1,200lb-in 100ft-lb 135Nm 14Kg-m	Contact FairField	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Weight

Approximately 55 lbs (25 kg)

Speed Limitations

Input Speed RPM: 3,700 RPM
Continuous Horsepower: 30hp
Reduction: 1.53:1

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 25 oz.

For Slow Speed: Light duty application, box may be placed in any position.

For High Speed: High speed, heavy duty application, position box so that mesh point of gears is not totally submerged in lubricant.

Note: Oil level and type will vary with specific model and application.

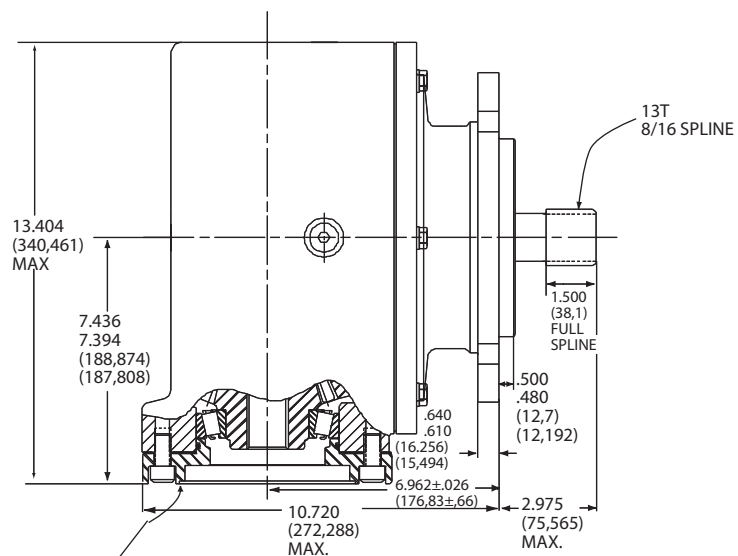
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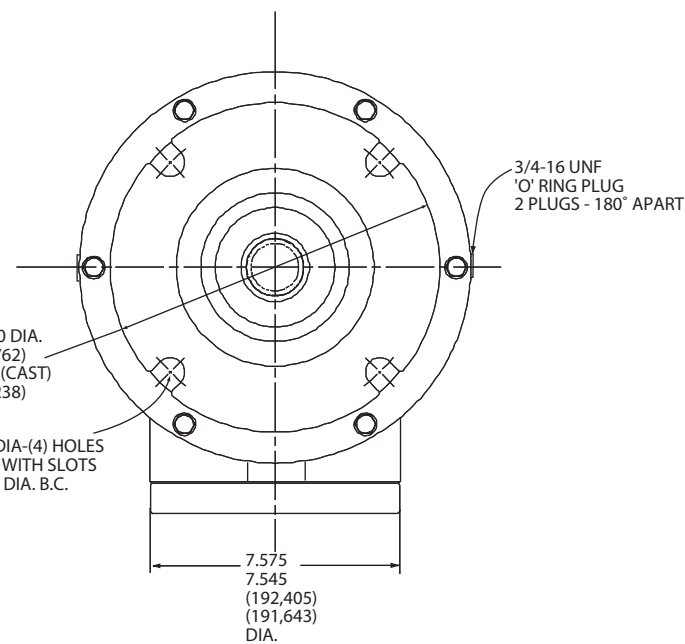
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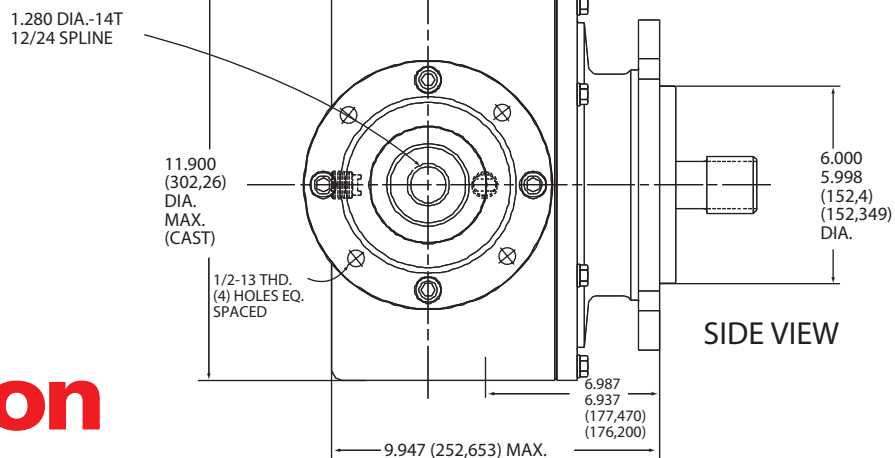
TOP VIEW



S.A.E. "C" MOUNT (5.00 DIA.)
(2-159 "O" RING NOT PROVIDED BY FAIRFIELD)
(NOT SIZED FOR MOTOR UNDERCUT)



FRONT VIEW



SIDE VIEW

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FAIRFIELD BRAKE AVAILABLE

RA10

Performance Data (Input Torque)

Continuous	Intermittent	Peak
3,700lb-in 308 ft-lb 418 Nm 42 Kg-m	Contact Fairfield	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Weight

Approximately 158 lbs (71.7 kg)

Speed Limitations

Input Speed RPM: 3,000 RPM

Oil

Use 90 weight gear lube with EP additive on most applications.

Approximate Volume 87oz.

For Slow Speed: 1/3 - 1/2 full. Light duty application, box may be placed in any position.

For High Speed: High speed, heavy duty application, position box so that mesh point of gears is not totally submerged in lubricant.

Note: Oil level and type will vary with specific model and application.

RA10 Model Formula

RA 10 A1 4 C 5 D 3

RA – Torque-Hub® Right Angle Box

10 –Series

A1– Standard Housing

Reduction
3 – 2.78 : 1

Output Pilot & Mount
D – S.A.E. "D" (6.000/5.998)
Pilot (4) 7/8 Slots on 9.000
B.C.

Output Spline
5 – 13T, 8/16 Spline

Input Motor Mount
C– S.A.E. "C" (5.005/5.001) Pilot 4-bolt

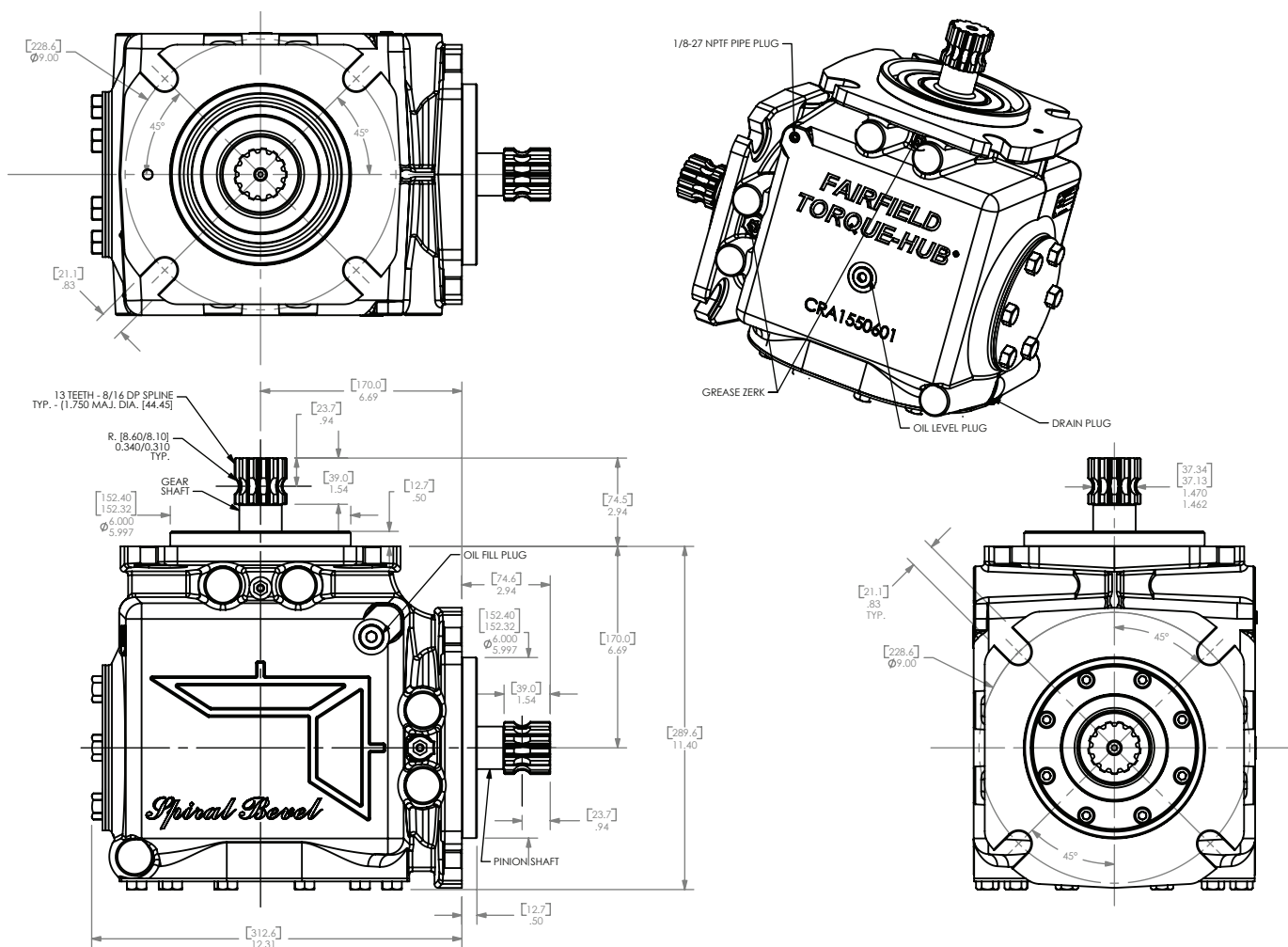
Input Spline
4 – 14T, 12/24 Spline
5 – 13T, 8/16 Spline

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FAIRFIELD BRAKE AVAILABLE

RA15

Performance Data (Output Torque)

Continuous	Intermittent	Peak
12,250 in-lbs	24,500 in-lbs	Contact Fairfield
1,021 ft-lbs	2,042 ft-lbs	
1,384 N-m	2,768 N-m	
141 kg-m	282 kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Weight

Approximately 150lbs (68kg)

Note: Specific models will change weights.

Speed Limitations

Input Speed: 3,000 RPM Maximum Intermittent

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Contact Fairfield

Note: Oil level and type will vary with specific model and application.

RA15 Model Formula

RA 15 A1 5 M 5 D 0 14

RA - Right Angle Drive

15 - 15 Series

A1 - Standard Housing

Input

A - 20T, 12/24 Spline
5 - 13T, 8/16 Spline
6 - 2.25" Shaft with 5/8" key
B - 13T, 8/16 Spline with seal reversed

Reduction

10 - 1.00
11 - 1.08
14 - 1.36

Output Option

0 - No secondary output
T - 13T, 8/16 ext. spline
S - 20T, 12/24 ext. spline
3 - SAE "B" female connection
6 - 2.25" shaft with 5/8" key

Output Pilot and Mount

D - SAE "D" (6.000/5.998) Pilot
(4) .83 (21.1) Slots on 9.000 B.C.

Output

A - 20T, 12/24 Spline
5 - 13T, 8/16 Spline
B - 13T, 8/16 Spline with seal reversed

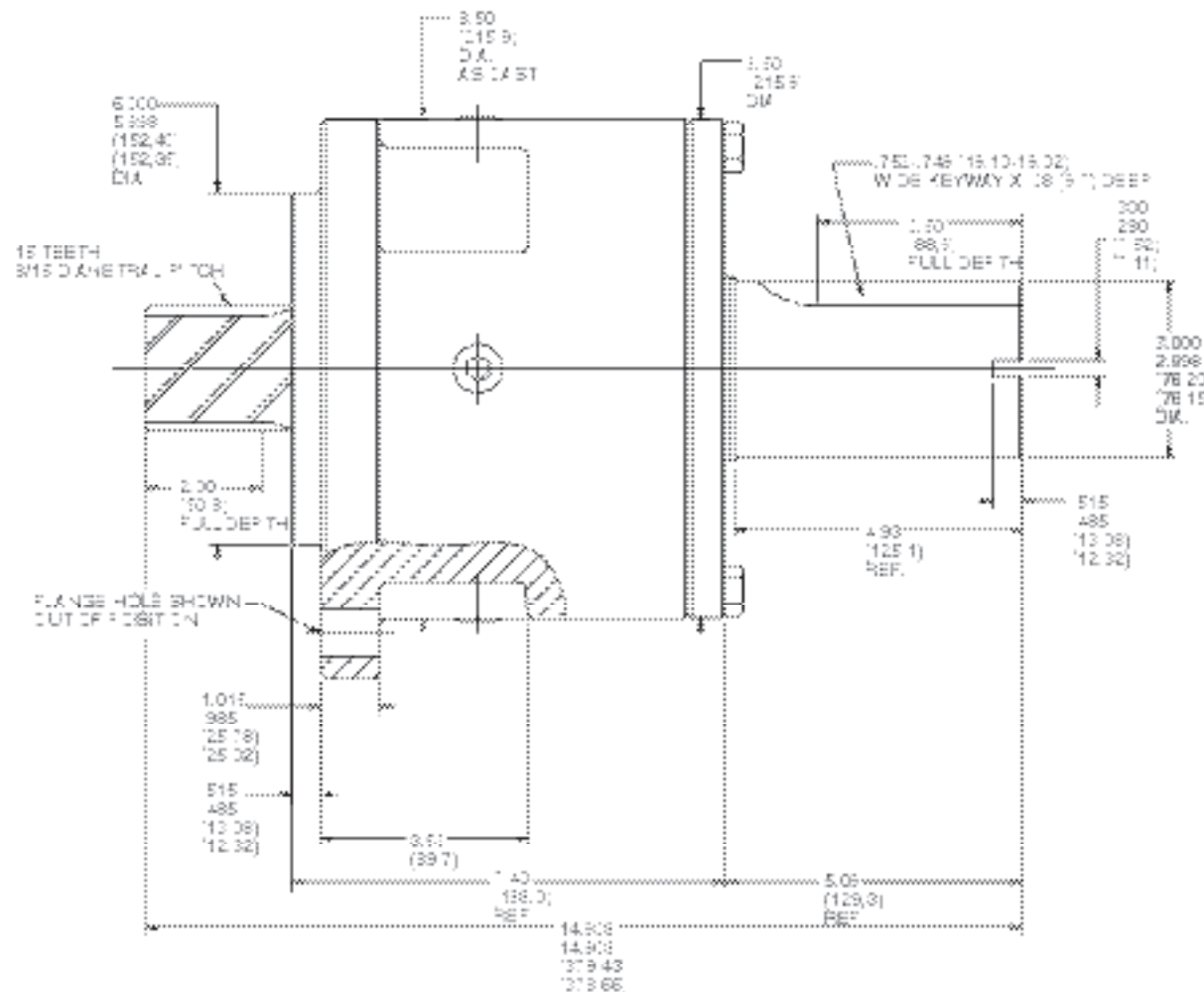
Input Pilot and Mount

M - SAE "D" (6.005/5.998) Male, (4) 7/8 Slots on 9.000 B.C.
F - SAE "D" (6.001/6.003) Female, (4) 7/8 Slots on 9.000 B.C.

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FAIRFIELD BRAKE AVAILABLE

IA15

Performance Data

Please contact Fairfield.

Weight

Approximately 75 lbs (34kg) without Brake

Note: Specific models will change weights.

Oil

Fill to half full with 90 weight gear lube with EP additive on most applications.

Approximate Volume 23oz.

Note: Oil level and type will vary with specific model and application.

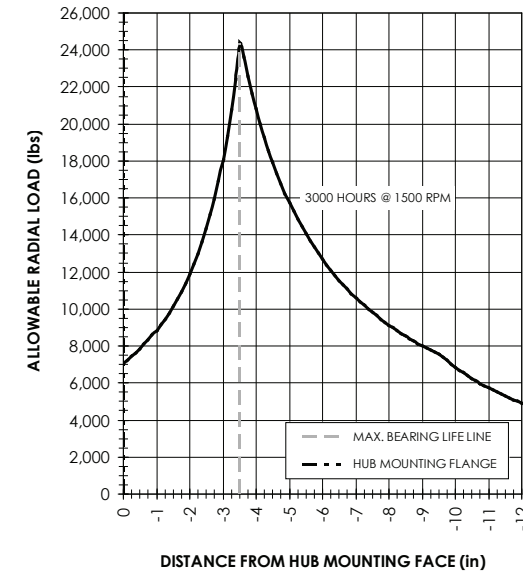
Conditions of Bearing Curve

Life = 3,000 hours B-10
Speed = 1,500 RPM output

To adjust for loads and speeds other than shown on curve:

$$\text{Adjusted Life (hrs)} = 3,000 \left(\frac{1500 \text{ RPM}}{\text{Speed (Adjusted)}} \right) \times \left(\frac{\text{Load (Curve)}}{\text{Load (Adjusted)}} \right)^{10/3}$$

Bearing Curve



IA15 Model Formula

I A 1 5 A _

I – Input Drive Adapter Series

Special Features

	Hub	
A1	Mounting Dia.	Flange Holes
	6.000	(4) 13/16 Holes
	5.997	on a 9.000 B.C.

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Output Pilot

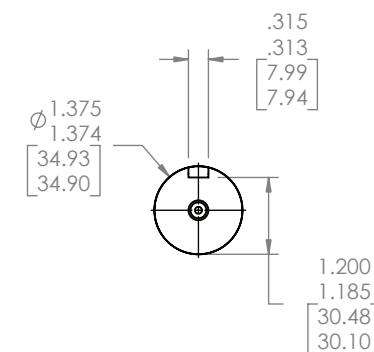
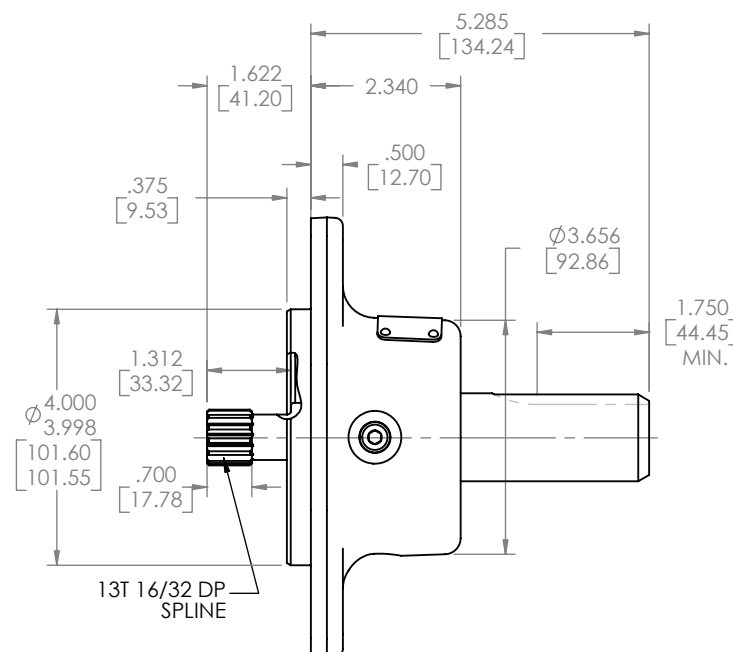
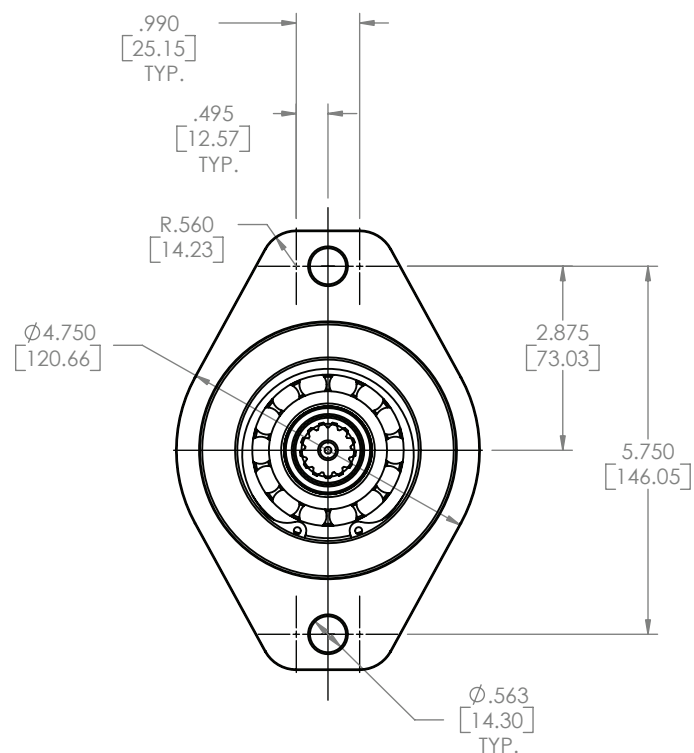
5 – S.A.E. "D" (3.000/2.998) Pilot 4 Bolt
(13/16 Dia. Hole on 9.000 B.C.)

Shaft Configuration

A-Input: – .75 Keyway on (3.000/2.998 Dia. Shaft)
Output: – 13T, 8/16 Spline
B-Input: – .75 Keyway on (3.000/2.998 Dia. Shaft)
Output: – 16T, 8/16 Spline
D-Input: – 1.00 Keyway on (4.500/4.498 Dia. Shaft)
with shear overload protection
Output: – 16T, 8/16 Spline

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OTHER MODELS ALSO AVAILABLE
FAIRFIELD BRAKE AVAILABLE

IAB

Performance Data (Input Torque)

Continuous	Intermittent	Peak
1,850 in-lbs	3,700 in-lbs	
154 ft-lbs	308 ft-lbs	Contact Fairfield
209 N-m	418 N-m	
21 kg-m	43kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 3,000 RPM Maximum Intermittent

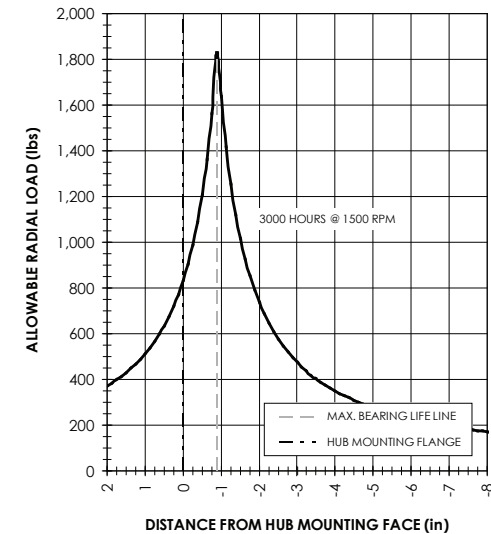
Weight

Approximately 9lbs (4kg)

Oil

Share oils with unit to which it mounts

Bearing Curve



IAB Model Formula

IA B 01 01 01

IA - Input Adapter

B- SAE B Output Mount

Bearing Set
01 - 2 Ball Bearings

Shaft

01 - Output: SAE B sline (13T 16/32)
Input: 1.375" dia., 5/32 x 5/16 keyway

Housing

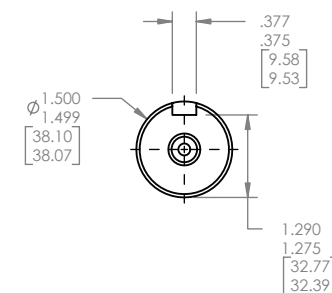
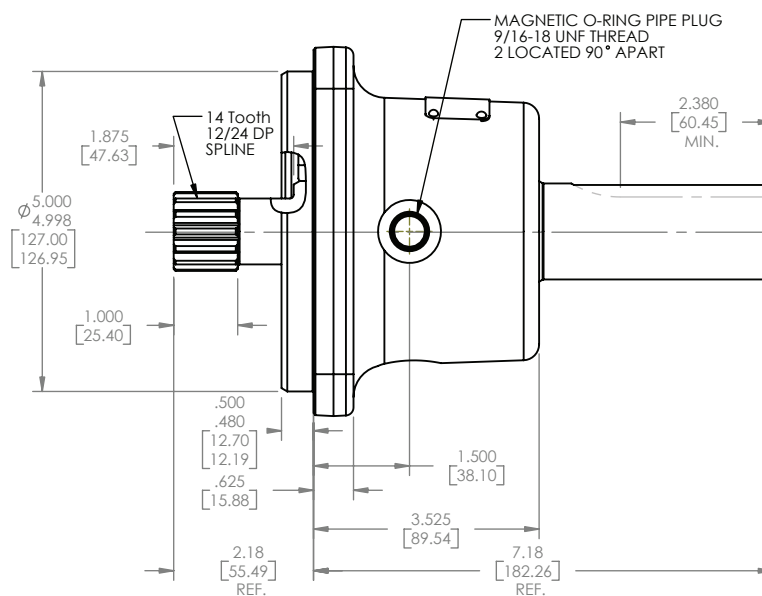
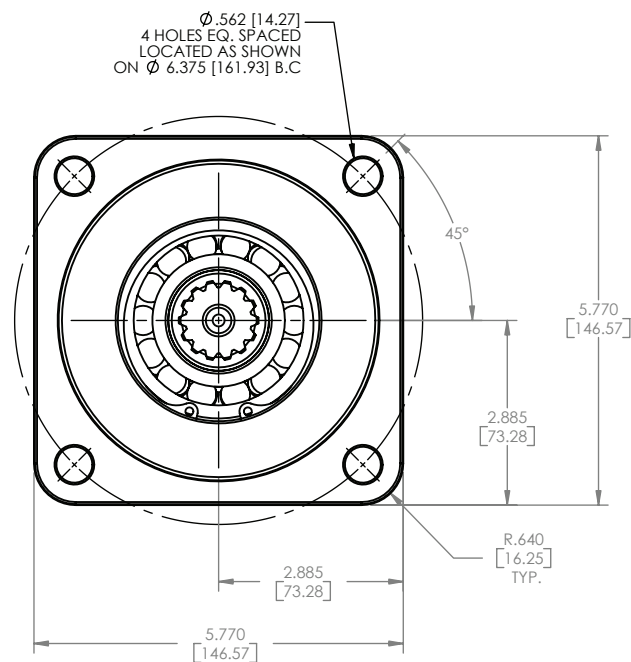
01 - SAE B output (4" dia. pilot)

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FAIRFIELD BRAKE AVAILABLE

IAC

Performance Data (Input Torque)

Continuous	Intermittent	Peak
5,700 in-lbs	11,400 in-lbs	Contact Fairfield
475 ft-lbs	950 ft-lbs	
644 N-m	1,288 N-m	
66 kg-m	131 kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 3,000 RPM Maximum Intermittent

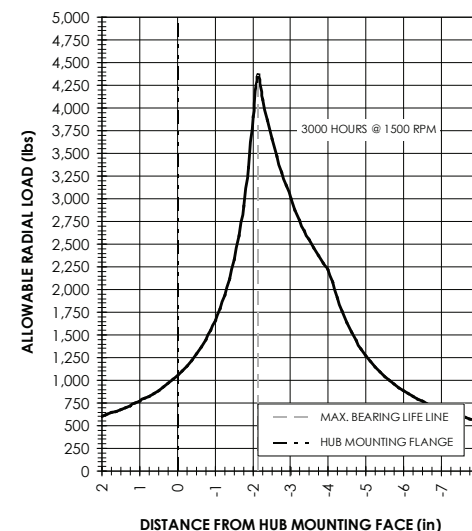
Weight

Approximately 15lbs (7kg)

Oil

Share oils with unit to which it mounts

Bearing Curve



IAC Model Formula

IA C 01 01 01

IA - Input Adapter

C - SAE C Output Mount

Bearing Set

01 - 1 Spherical and 1 Ball Bearing

02 - 2 Ball Bearings

Shaft

01 - Output: SAE C Spline (14T 12/24)

Input: 1.500" dia., 3/16 x 3/8 keyway

Housing

01 - SAE C output (5" dia. Pilot)

02 - SAE C output with 4 recesses

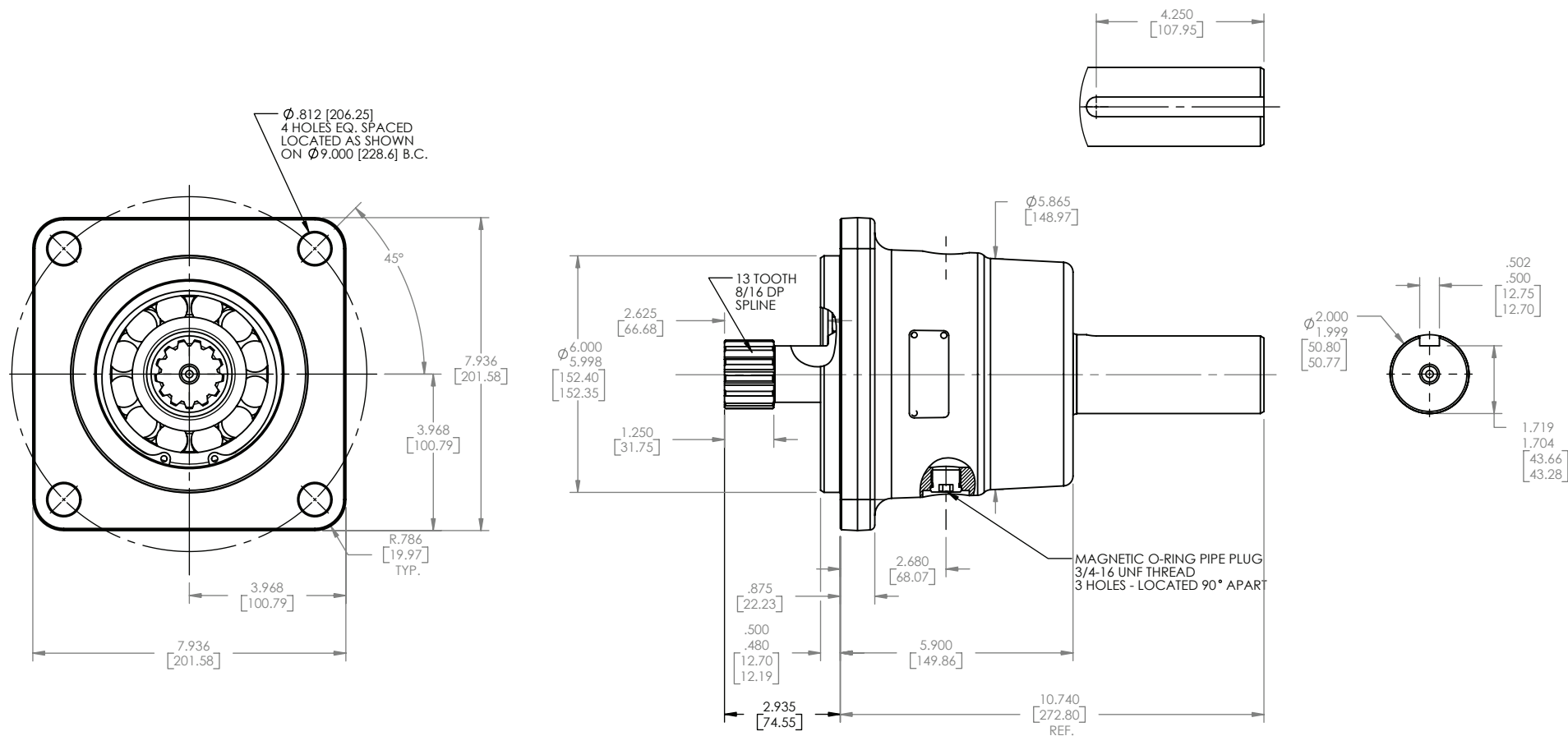
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FAIRFIELD BRAKE AVAILABLE

IAD

Performance Data (Input Torque)

Continuous	Intermittent	Peak
15,000 in-lbs	30,000 in-lbs	Contact Fairfield
1,250 ft-lbs	2,500 ft-lbs	
1,695 N-m	3,390 N-m	
173 kg-m	346 kg-m	

For ultimate torque and horsepower capacities, contact a Torque-Hub® representative.

Speed Limitations

Input Speed: 3,000 RPM Maximum Intermittent

Weight

Approximately

IAD Model Formula

IA D 01 01 01

IA - Input Adapter

D - SAE D Output Mount

Bearing Set

01 - 1 Spherical and 1 Ball Bearing

Shaft

01 - Output: SAE D spline (13T 8/16)

Input: 2.000" dia., 1/4 x 1/2 keyway

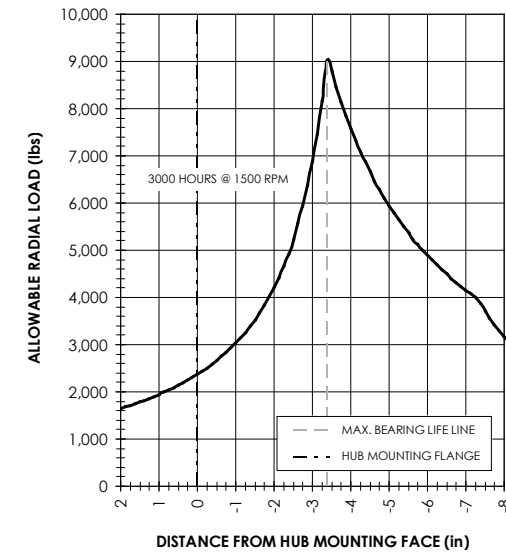
Housing

01 - SAE D output (6" dia. pilot)

Speed Limitations

Share oils with unit to which it mounts

Bearing Curve



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APPENDIX

The Appendix of the Torque-Hub® Catalog contains application worksheets used by our Application Engineers. We've included two copies of each of the forms; all forms can be easily torn out of the catalog so that you may fax them directly to Applications Engineering at (765) 772-4011.

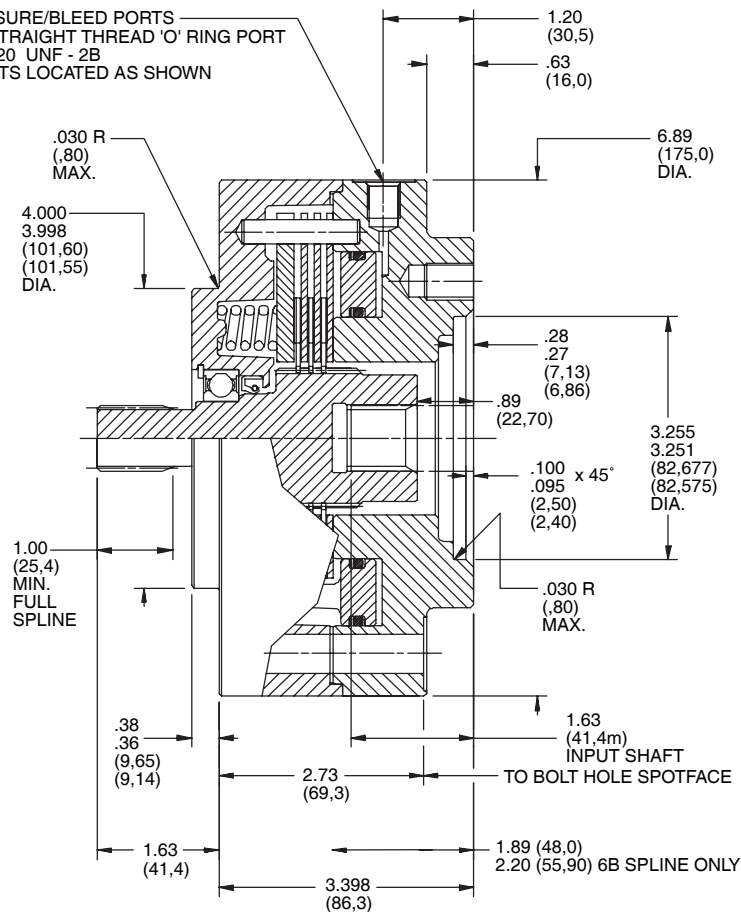
The following list shows the worksheets, in order of appearance, that are available in the Appendix.

APPLICATION WORKSHEETS

Form F100 (Wheel Drive).....	2 copies
Form F200 (Shaft Output)	2 copies
Form F300 (Swing Drive)	2 copies
Form F400 (Track Drive)	2 copies
Form F500 (Winch Drive)	2 copies
Form F600 (Duty Cycle)	2 copies
Form F700 (Cutter Drum).....	2 copies
Form F800 (Parking Brake).....	2 copies

STATIC BRAKES

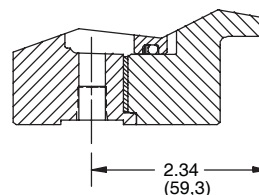
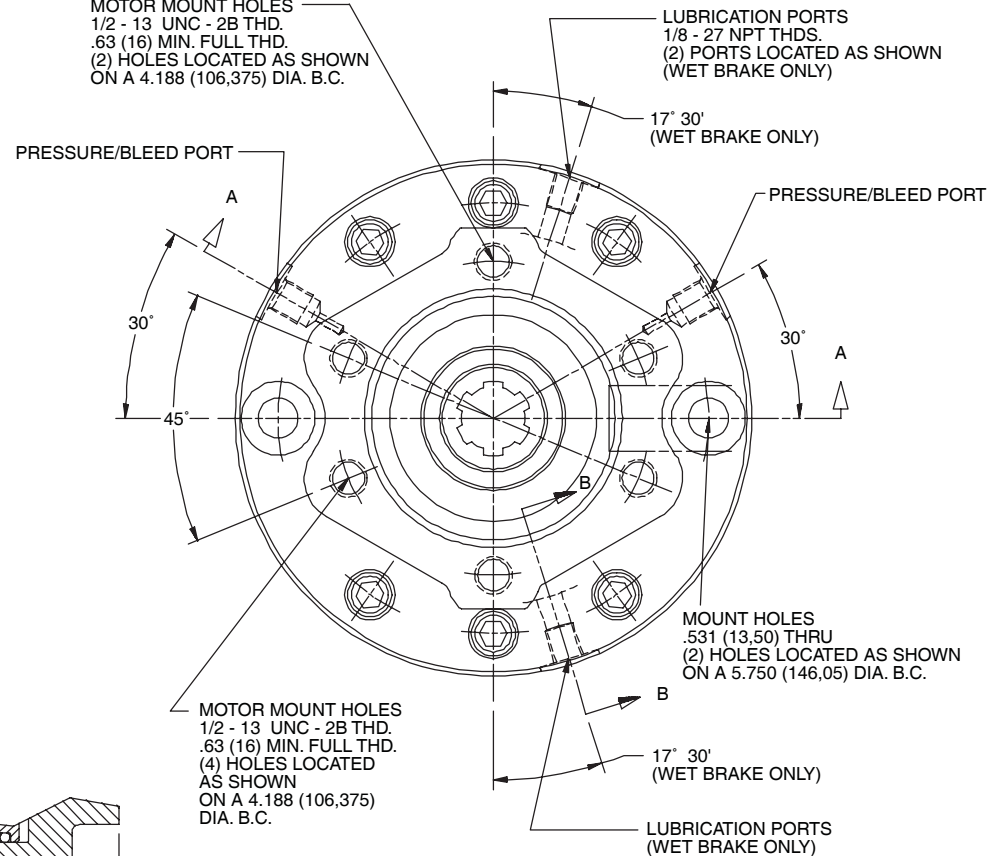
PRESSURE/BLEED PORTS
 SAE STRAIGHT THREAD 'O' RING PORT
 7/16 - 20 UNF - 2B
 2 PORTS LOCATED AS SHOWN



PART SECTION ON 'A' - 'A'

MOTOR MOUNT HOLES
 1/2 - 13 UNC - 2B THD.
 .63 (16) MIN. FULL THD.
 (2) HOLES LOCATED AS SHOWN
 ON A 4.188 (106,375) DIA. B.C.

LUBRICATION PORTS
 1/8 - 27 NPT THDS.
 (2) PORTS LOCATED AS SHOWN
 (WET BRAKE ONLY)



SECTION B - B
 (WET BRAKE ONLY)

NOTE: SEAL REVERSED ON WET BRAKE
 OTHER MODELS ALSO AVAILABLE

FBH06333

Torque Ratings

Rated Dry Static Torque (lb-in)	1000	1500	1800	2100	2400	2700	3000	3300	3600
Rated Wet Static Torque (lb-in)	---	1000	1200	1400	1600	1800	2000	2200	2400
Full Release Pressure (psi)	66	82	98	115	130	150	165	180	195

General Data

Brake Unit Weight (lb)	27.00
Maximum Pressure (psi)	3000
Hydraulic Displacement for Full Release (cu in)	
New	0.60
Worn	0.90

Speed Limitations

Input Speed: 4,000 RPM Maximum Intermittent

Oil (wet brake only)

Fill to half full with ISO VG 32 oil on most applications.
Approximate Volume: 3.55 oz. (105 cm³)

Note: Oil level and type will vary depending on specific model and application.

Shaft Options

Input	Output
13T, 16/32 Spline	13T, 16/32 Spline
15T, 16/32 Spline	15T, 16/32 Spline
6B, Parallel Side Spline (major dia. = 1.00 in)	

FBH06333 Model Formula

FB H 0 6 3 3 3 18 D X X

FB – Fairfield Brake

Release Type

H – Hydraulic

0 – Standard Brake

Pilot Input

6 – S.A.E. "A" (3.255/3.251) Pilot

Spline Input

3 – 13T, 16/32 Spline
6 – 6B, Parallel Side Spline
 (major dia. = 1.00 in.)
8 – 15T, 16/32 Spline

Pilot Output

3 – S.A.E. "B" (4.000/3.998) Pilot

Brake Rating

Dry	Wet
10 – 1000	10 – 1000
15 – 1500	12 – 1200
18 – 1800	14 – 1400
21 – 2100	16 – 1600
24 – 2400	18 – 1800
27 – 2700	20 – 2000
30 – 3000	22 – 2200
33 – 3300	24 – 2400
36 – 3600	

Brake Type

D – Dry
W – Wet

Special Features

A – No Seal
X – Blank

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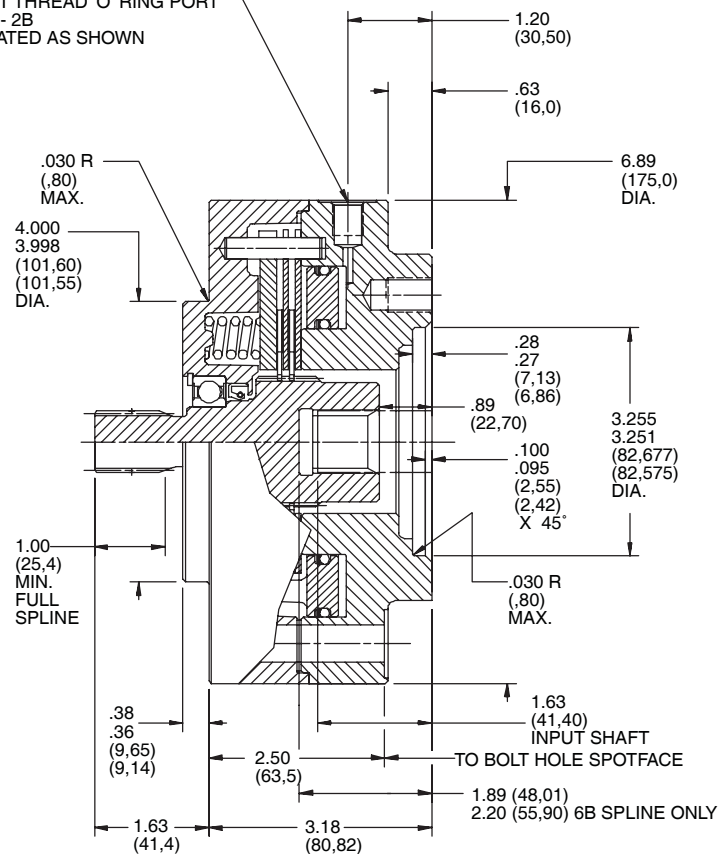
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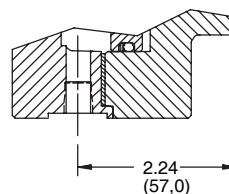
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STATIC BRAKES

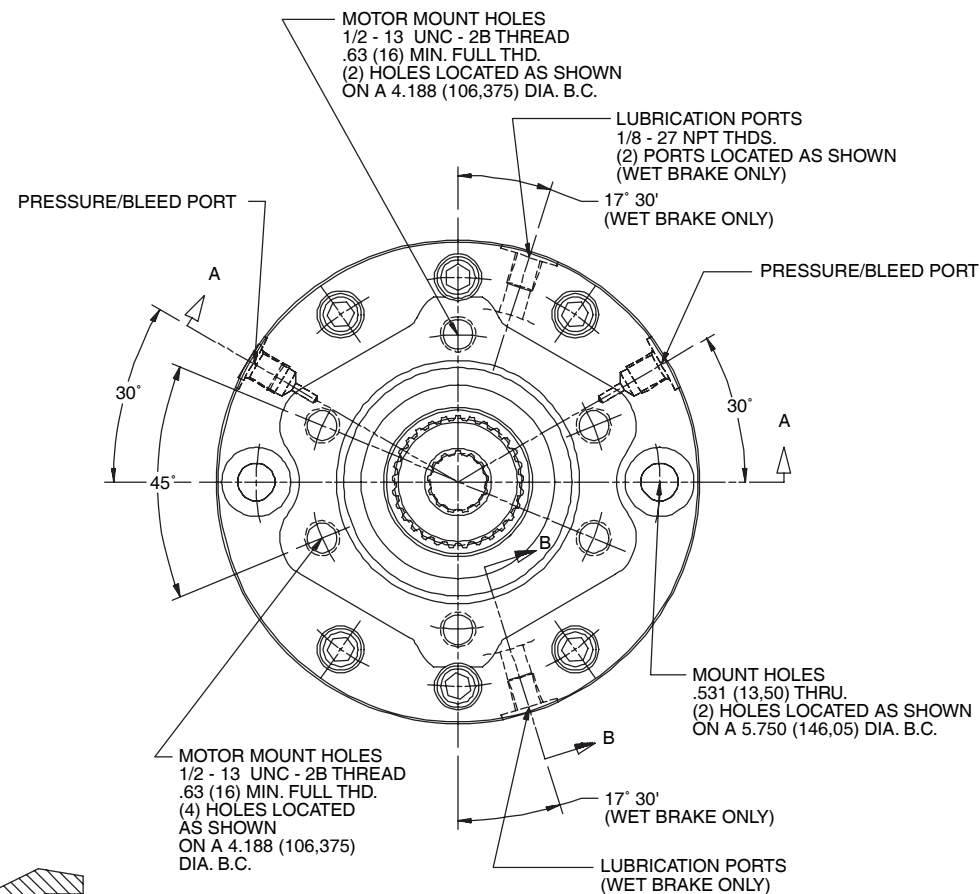
PRESSURE/BLEED PORTS
 SAE STRAIGHT THREAD 'O' RING PORT
 7/16 - 20 UNF - 2B
 2 PORTS LOCATED AS SHOWN



PART SECTION ON 'A' - 'A'



SECTION B - B
 (WET BRAKE ONLY)



NOTE: SEAL REVERSED ON WET BRAKE
 OTHER MODELS ALSO AVAILABLE

FBH16333

Torque Ratings

Rated Dry Static Torque (lb-in)	800	1000	1200	1400	1600	1800	2000	2200	2400
Rated Wet Static Torque (lb-in)	500	700	800	900	1100	1200	1300	1500	1600
Full Release Pressure (psi)	66	82	98	115	130	150	165	180	195

General Data

Brake Unit Weight (lb)	23.00
Maximum Pressure (psi)	3000
Hydraulic Displacement for Full Release (cu in)	
New	0.50
Worn	0.70

Speed Limitations

Input Speed: 4,000 RPM Maximum Intermittent

Oil (wet brake only)

Fill to half full with ISO VG 32 oil on most applications.
Approximate Volume: 2.7 oz. (80 cm³)

Note: Oil level and type will vary depending on specific model and application.

Shaft Options

Input	Output
13T, 16/32 Spline	13T, 16/32 Spline
15T, 16/32 Spline	15T, 16/32 Spline
6B, Parallel Side Spline (major dia. = 1.00 in)	

FBH16333 Model Formula

FB H 1 6 3 3 3 18 D X X

FB – Fairfield Brake

Release Type

H – Hydraulic

1 – Short Brake

Pilot Input

6 – S.A.E. "A" (3.255/3.251) Pilot

Spline Input

3 – 13T, 16/32 Spline

6 – 6B, Parallel Side Spline
(major dia. = 1.00 in.)

8 – 15T, 16/32 Spline

Pilot Output

3 – S.A.E. "B" (4.000/3.998) Pilot

Brake Rating

Dry	Wet
08 - 800	05 - 500
10 - 1000	07 - 700
12 - 1200	08 - 800
14 - 1400	09 - 900
16 - 1600	11 - 1100
18 - 1800	12 - 1200
20 - 2000	13 - 1300
22 - 2200	15 - 1500
24 - 2400	16 - 1600

Brake Type

D – Dry
W – Wet

Special Features

A – No Seal
X – Blank

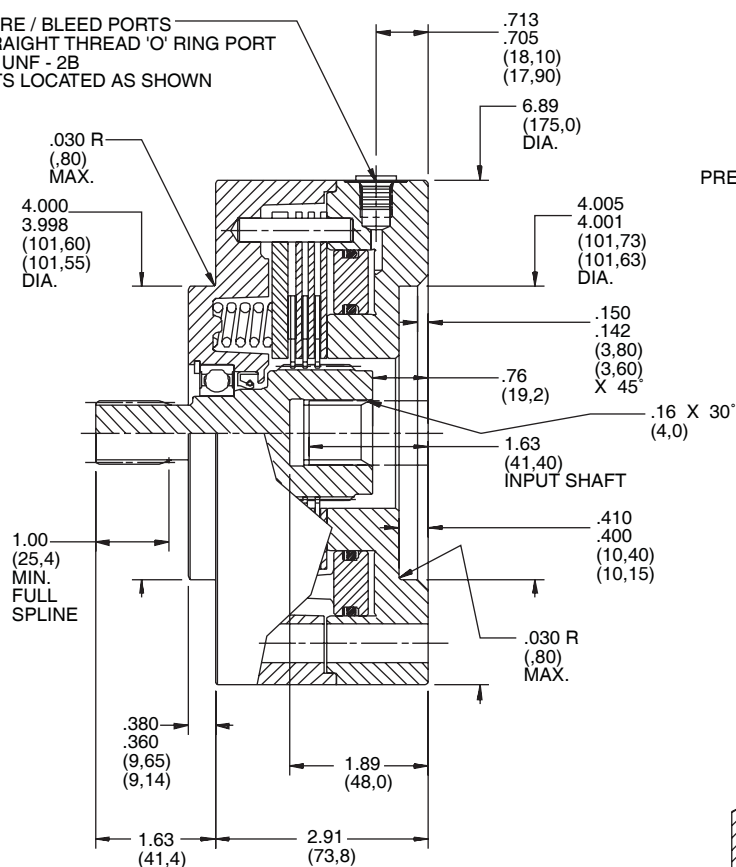
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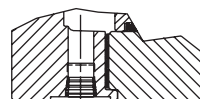
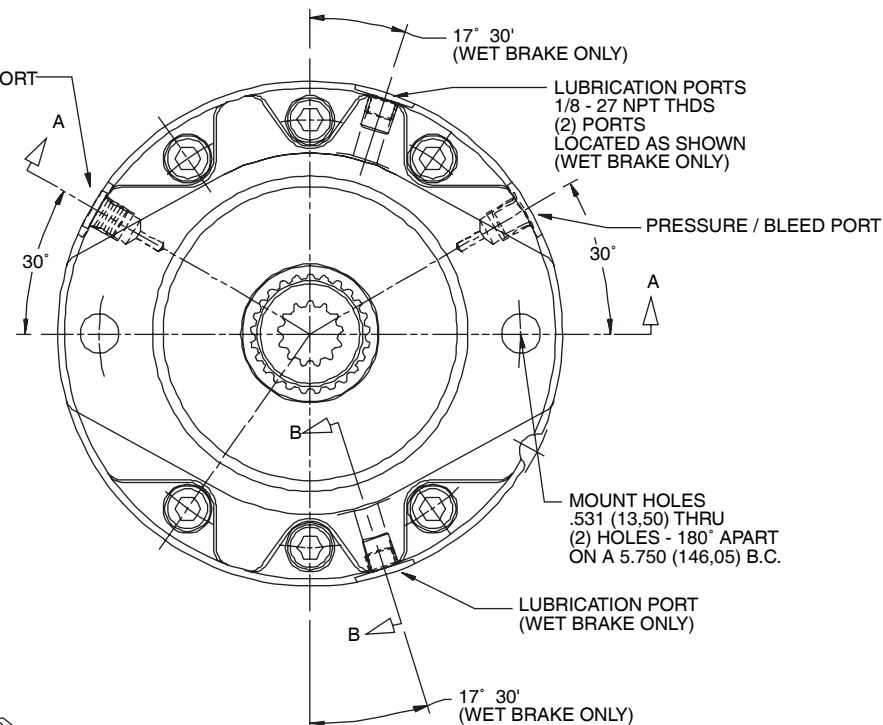
STATIC BRAKES

PRESSURE / BLEED PORTS
 SAE STRAIGHT THREAD 'O' RING PORT
 7/16 - 20 UNF - 2B
 (2) PORTS LOCATED AS SHOWN



PART SECTION ON 'A' - 'A'

PRESSURE / BLEED PORT



SECTION B - B
 (WET BRAKE ONLY)

1.85 (47,0)

FBH03333

Torque Ratings

Rated Dry Static Torque (lb-in)	1000	1500	1800	2100	2400	2700	3000	3300	3600
Rated Wet Static Torque (lb-in)	---	1000	1200	1400	1600	1800	2000	2200	2400
Full Release Pressure (psi)	66	82	98	115	130	150	165	180	195

General Data

Brake Unit Weight (lb)	25.00
Maximum Pressure (psi)	3000
Hydraulic Displacement for Full Release (cu in)	
New	0.60
Worn	0.90

Speed Limitations

Input Speed: 4,000 RPM Maximum Intermittent

Oil (wet brake only)

Fill to half full with ISO VG 32 oil on most applications.
Approximate Volume: 3.55 oz. (105 cm³)

Note: Oil level and type will vary depending on specific model and application.

Shaft Options

Input	Output
13T, 16/32 Spline	13T, 16/32 Spline
15T, 16/32 Spline	15T, 16/32 Spline

FBH03333 Model Formula

FB H 0 3 3 3 3 15 D X X

FB – Fairfield Brake

Release Type

H – Hydraulic

0 – Standard Brake

Pilot Input

3 – S.A.E. "B" (4.005/4.001) Pilot

Spline Input

3 – 13T, 16/32 Spline

8 – 15T, 16/32 Spline

Pilot Output

3 – S.A.E. "B" (4.000/3.998) Pilot

Brake Rating

Dry	Wet
10 - 1000	10 - 1000
15 - 1500	12 - 1200
18 - 1800	14 - 1400
21 - 2100	16 - 1600
24 - 2400	18 - 1800
27 - 2700	20 - 2000
30 - 3000	22 - 2200
33 - 3300	24 - 2400
36 - 3600	

Brake Type

D - Dry
W - Wet

Special Features

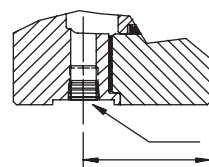
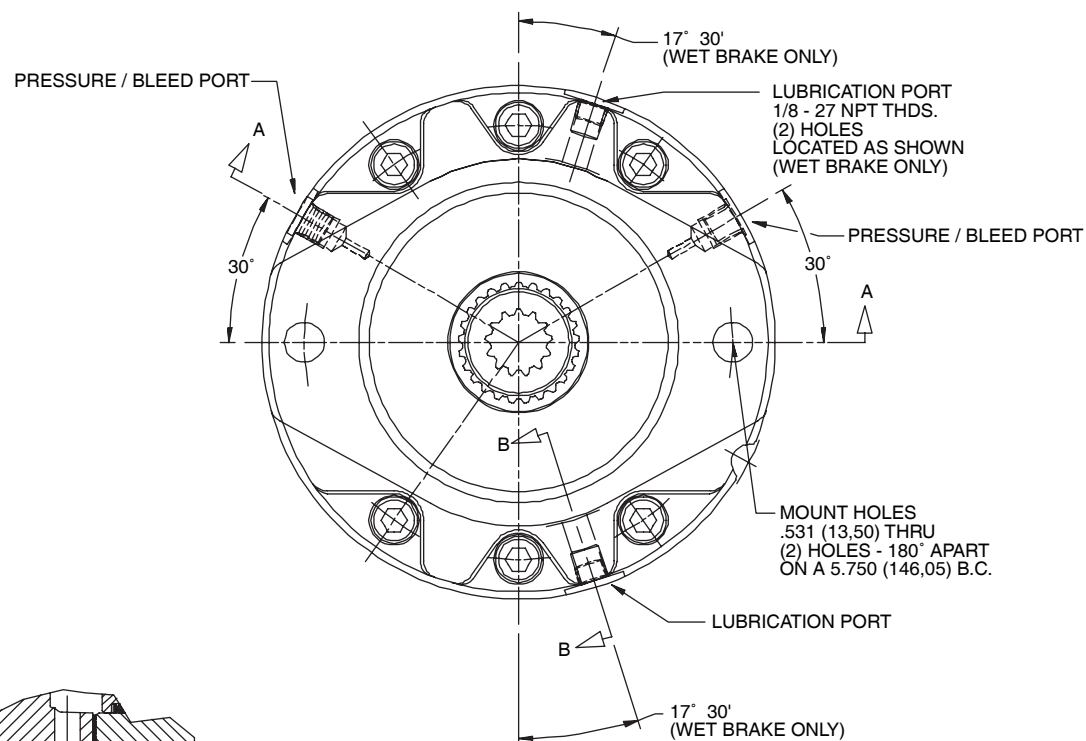
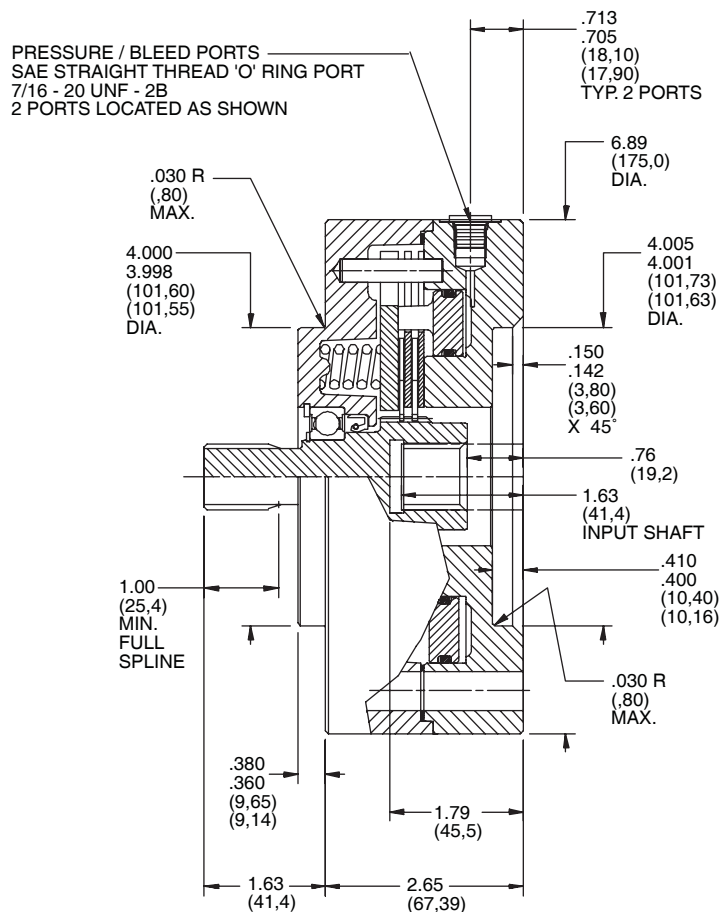
A – No Seal
X – Blank

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STATIC BRAKES



SECTION B-B
 (WET BRAKE ONLY)

FBH13333

Torque Ratings

Rated Dry Static Torque (lb-in)	800	1000	1200	1400	1600	1800	2000	2200	2400
Rated Wet Static Torque (lb-in)	500	700	800	900	1100	1200	1300	1500	1600
Full Release Pressure (psi)	66	82	98	115	130	150	165	180	195

General Data

Brake Unit Weight (lb)	21.00
Maximum Pressure (psi)	3000
Hydraulic Displacement for Full Release (cu in)	
New	0.50
Worn	0.70

Speed Limitations

Input Speed: 4,000 RPM Maximum Intermittent

Oil (wet brake only)

Fill to half full with ISO VG 32 oil on most applications.
Approximate Volume: 2.7 oz. (80 cm³)

Note: Oil level and type will vary depending on specific model and application.

Shaft Options

Input	Output
13T, 16/32 Spline	13T, 16/32 Spline
15T, 16/32 Spline	15T, 16/32 Spline

FBH13333 Model Formula

FB H 1 3 3 3 3 15 D X X

FB – Fairfield Brake

Release Type
H – Hydraulic

1 – Short Brake

Pilot Input
3 – S.A.E. "B" (4.005/4.001) Pilot

Pilot Output
3 – S.A.E. "B" (4.000/3.998) Pilot

Spline Input
3 – 13T, 16/32 Spline
8 – 15T, 16/32 Spline

Brake Rating

Dry	Wet
08 - 800	05 - 500
10 - 1000	07 - 700
12 - 1200	08 - 800
14 - 1400	09 - 900
16 - 1600	11 - 1100
18 - 1800	12 - 1200
20 - 2000	13 - 1300
22 - 2200	15 - 1500
24 - 2400	16 - 1600

Brake Type
D - Dry
W - Wet

Special Features
A – No Seal
X – Blank

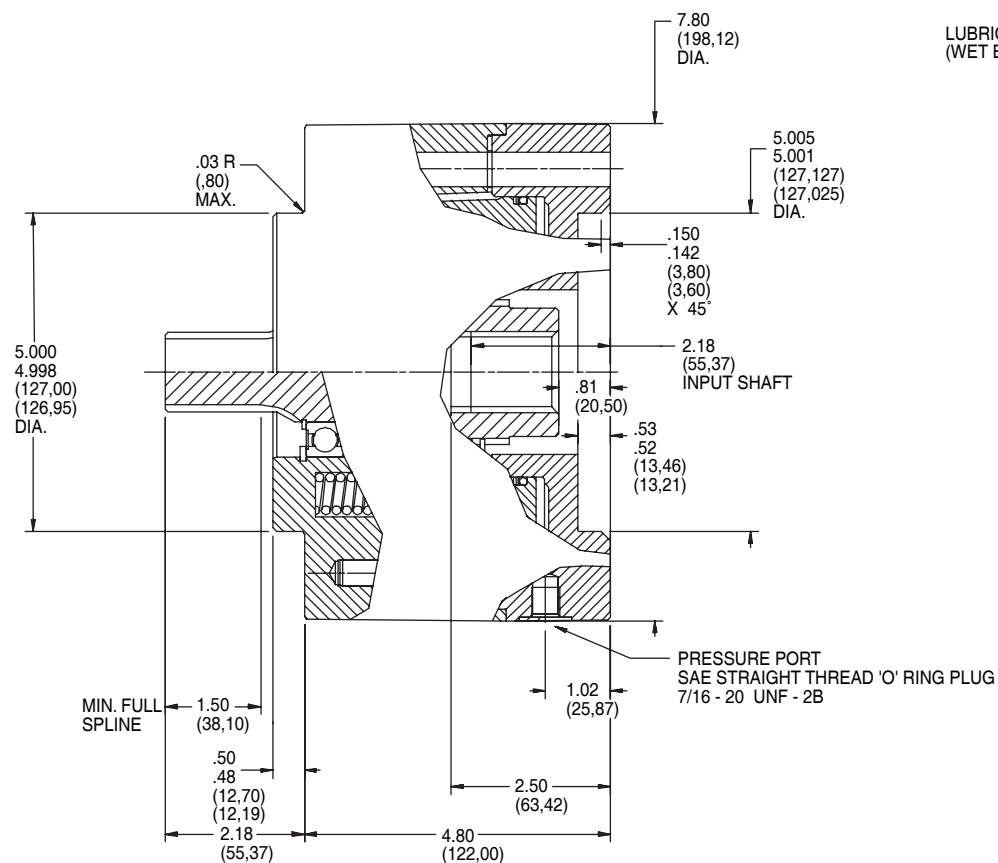
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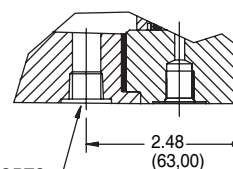
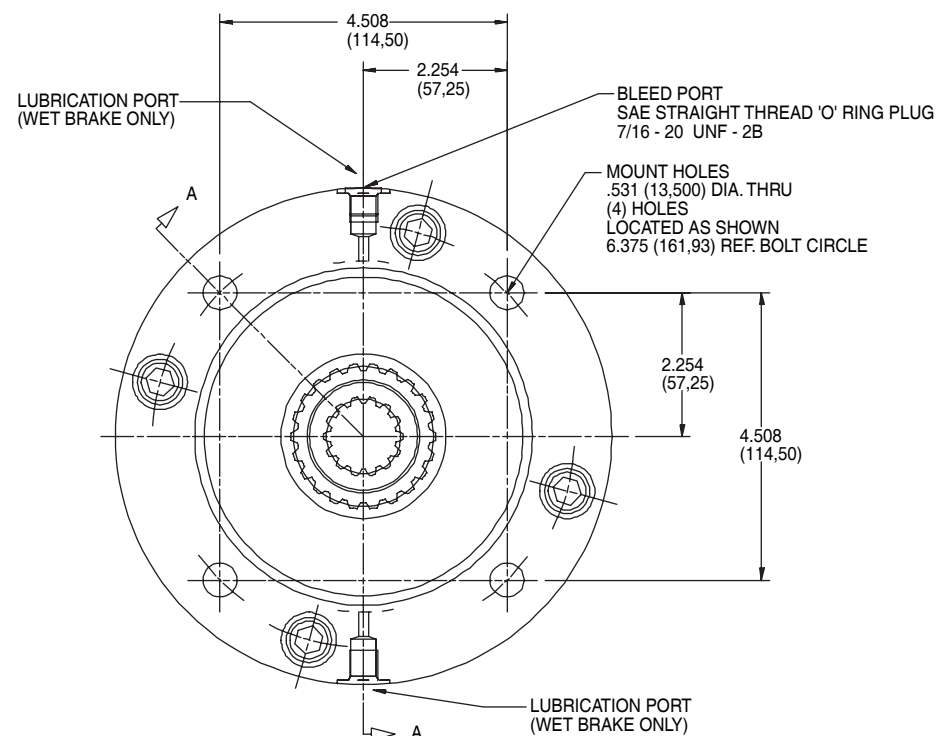
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SAE "C" BOLT-ON
STATIC BRAKE
Application Sheet

STATIC BRAKES



PART SECTION ON 'A' - 'A'



LUBRICATION PORTS
1/4 - 18 NPT THREAD
(2) PORTS
LOCATED AS SHOWN

SECTION A - A
 THRU OIL FILL PLUGS
 (WET BRAKE ONLY)

NOTE: SEAL REVERSED ON WET BRAKE
 OTHER MODELS ALSO AVAILABLE

FBH04444

Torque Ratings

Rated Dry Static Torque (lb-in)	4000	6000	8000	10000
Rated Wet Static Torque (lb-in)	2600	4000	5300	6600
Full Release Pressure (psi)	95	140	190	235

General Data

Brake Unit Weight (lb)	52.00
Maximum Pressure (psi)	3000
Hydraulic Displacement for Full Release (cu in)	
New	1.6
Worn	2.6

Speed Limitations

Input Speed: 4,000 RPM Maximum Intermittent

Oil (wet brake only)

Fill to half full with ISO VG 32 oil on most applications.
Approximate Volume: 8.8 oz. (260 cm³)

Note: Oil level and type will vary depending on specific model and application.

Shaft Options

Input	Output
14T, 12/24 Spline	14T, 12/24 Spline
15T, 16/32 Spline	15T, 16/32 Spline

FBH04444 Model Formula

FB H 0 4 4 4 4 60 D X X

FB- Fairfield Brake

Release Type

H – Hydraulic

0 – Standard Brake

Pilot Input

4 – S.A.E. "C" (5.005/5.001) Pilot

Pilot Output

4 – S.A.E. "C" (5.000/4.998) Pilot

Spline Input

4 – 14T, 12/24 Spline
For additional options please contact Fairfield.

Spline Output

4 – 14T, 12/24 Spline
For additional options please contact Fairfield.

Brake Rating

Dry	Wet
40 - 4000	26 - 2600
60 - 6000	40 - 4000
80 - 8000	53 - 5300
100 - 10,000	66 - 6600

Brake Type

D - Dry
W - Wet

Special Features

A – No Seal
X – Blank

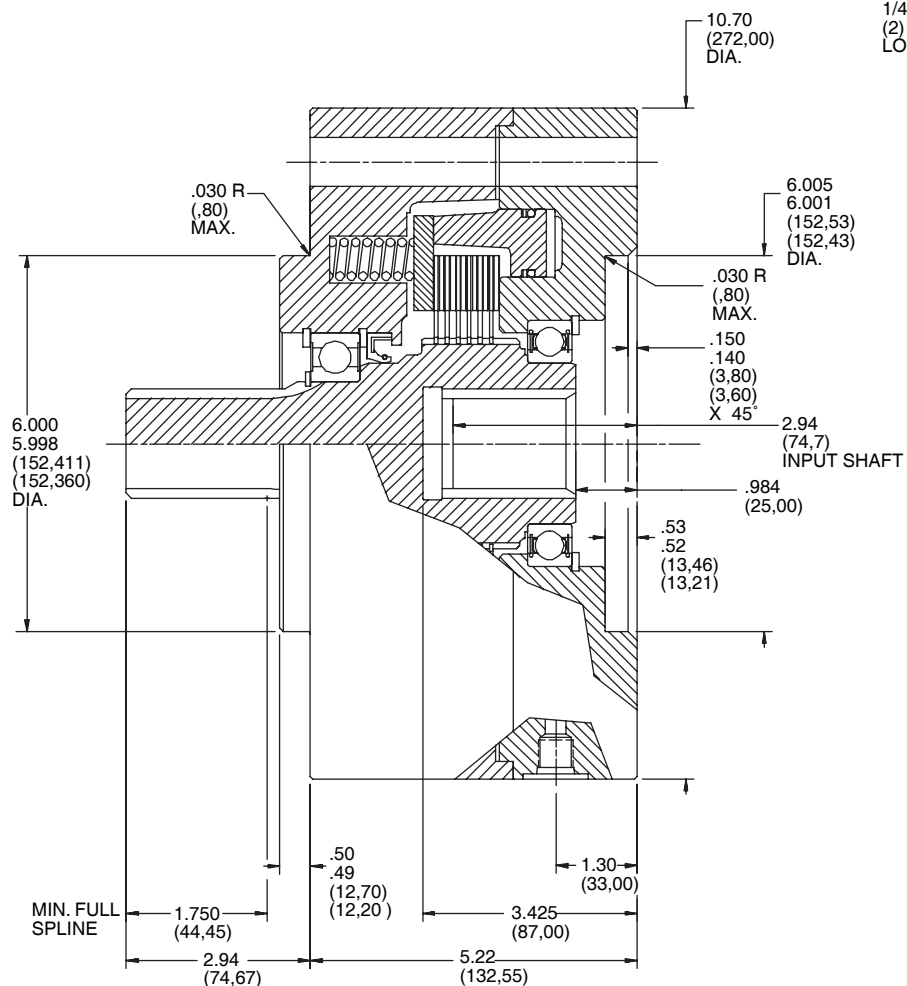
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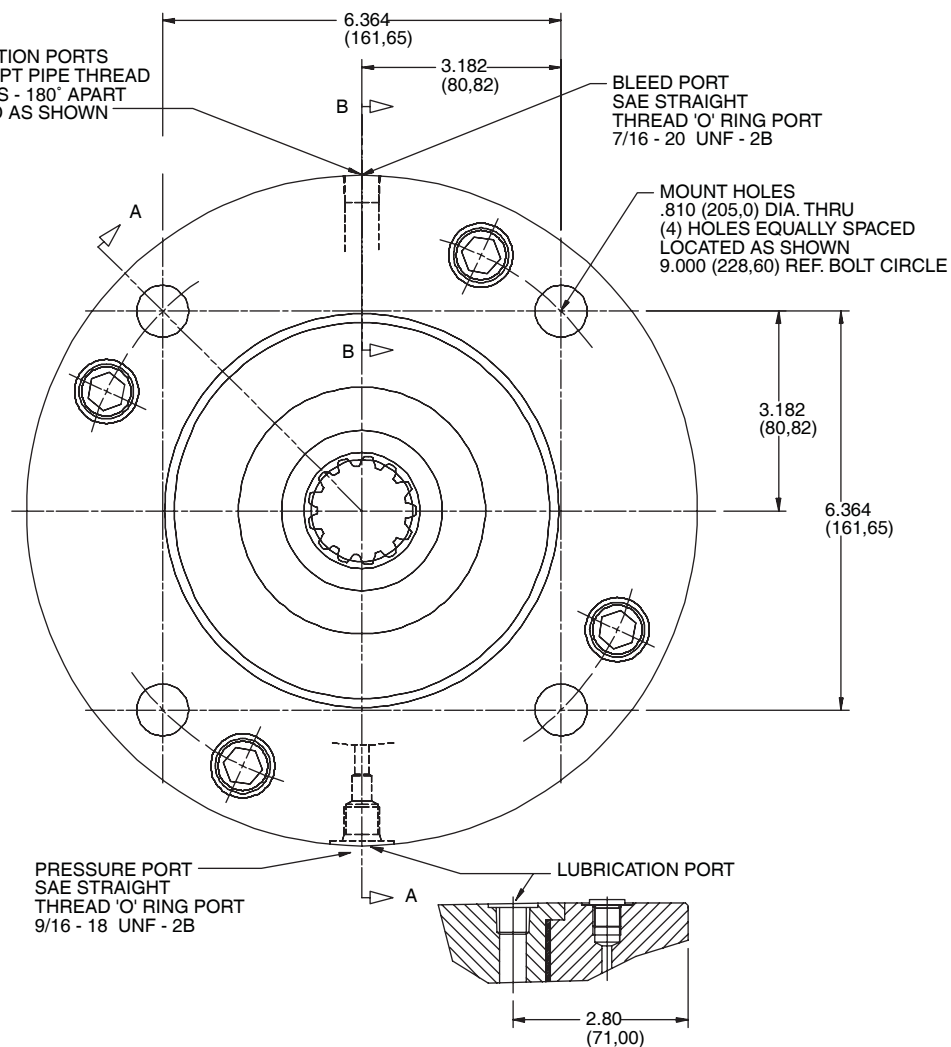
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SAE "D" BOLT-ON
STATIC BRAKE
Application Sheet

STATIC BRAKES -



LUBRICATION PORTS
 1/4 - 18 NPT PIPE THREAD
 (2) PORTS - 180° APART
 LOCATED AS SHOWN



SECTION B - B
 (WET BRAKE ONLY)

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NOTE: SEAL REVERSED ON WET BRAKE
 OTHER MODELS ALSO AVAILABLE

FBH05555

Torque Ratings

Rated Dry Static Torque (lb-in)	7000	8000	9000	10000	11000	12000	13000	14000
Rated Wet Static Torque (lb-in)	4600	5300	6000	6600	7300	8000	8600	9300
Full Release Pressure (psi)	85	95	105	120	130	140	155	165

General Data

Brake Unit Weight (lb)	105
Maximum Pressure (psi)	3000
Hydraulic Displacement for Full Release (cu in)	
New	2.7
Worn	4.1

Speed Limitations

Input Speed: 4,000 RPM Maximum Intermittent

Oil (wet brake only)

Fill to half full with ISO VG 32 oil on most applications.
Approximate Volume: 21 oz. (615 cm³)

Note: Oil level and type will vary depending on specific model and application.

Shaft Options

Input	Output
13T, 8/16 Spline	13T, 8/16 Spline

FBH05555 Model Formula

FB H 0 5 5 5 5 70 D X X

FB – Fairfield Brake

Release Type

H – Hydraulic

0 – Standard Brake

Pilot Input

5 – S.A.E. "D" (6.005/6.001) Pilot

Pilot Output

5 – S.A.E. "D" (6.000/5.998) Pilot

Spline Input

5 – 13T, 8/16 Spline

Spline Output

5 – 13T, 8/16 Spline

Brake Rating

Dry	Wet
70 - 7,000	46 - 4,600
80 - 8,000	53 - 5,300
90 - 9,000	60 - 6,000
100 - 10,000	66 - 6,600
110 - 11,000	73 - 7,300
120 - 12,000	80 - 8,000
130 - 13,000	86 - 8,600
140 - 14,000	93 - 9,300

Brake Type

D - Dry
W - Wet

Special Features

A - No Seal
X - Blank

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Telephone:	
Fax:	
Contact(s):	
Date:	

TORQUE-HUB®
Wheel Drive
Application Data
Worksheet
Form F100

• **Machine Data**

Type of Vehicle _____

Torque Hub Function _____

Gross Vehicle Weight (empty) _____ (loaded) _____ (lbs)

Number of Wheels _____

Number of Driven Wheels _____

	Mark Drive Wheel Location	Front		Rear	
--	------------------------------	-------	--	------	--

Mass Distribution Front _____ Rear _____ (lbs)

Loaded Rolling Radius Front _____ Rear _____ (inches)

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Shanghai 200070-China
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apps.china@fairfieldmfg.com

• **Required Performance Data**

Maximum Output Torque Required _____ (in-lbs)

Maximum Tractive Effort Required _____ (lbs)

Maximum Gradeability _____ (%)

Max/Min Vehicle Speed _____ (mph)

Draw Bar Pull _____ (lbf)

Estimated Machine Use per Year _____ (hours)

Desired Design Life _____ (hours)

Estimated Annual Production _____ (units)

• **Drive System**

Engine Power _____ (hp) @ _____ (rpm)

of Pumps & Displacement # _____ Displacement: _____ (in³/rev)

Hydraulic Pump Speed _____ (rpm)

Hydraulic Motor Displacement Max: _____ Min: _____ (in³/rev)

Maximum Operating Pressure _____ (psi)

Charge Pressure _____ (psi)

Continuous Operating Pressure _____ (psi)

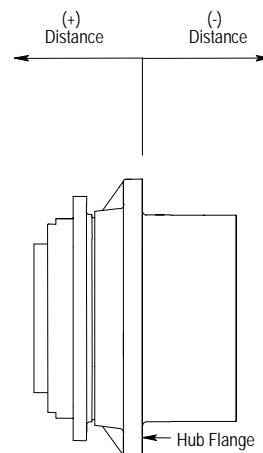
Side Load/Axial Load _____ (lbs)

Distance from Hub Flange to Tire Center Line _____ (inches)

Underfoot Surface (earth, mud, sand, etc.) _____

Brake Requirement (i.e.: input, output, dynamic, etc.) _____

Brake Torque Requirement _____ (in-lbs)



• **Typical Operating Conditions**

Condition #	Output Torque (in-lbs)	Radial Load (lbs)	Grade (%)	Output Speed (rpm)	Time (%)
1					
2					
3					
4					
5					

Company:	_____
Address:	_____

Telephone:	_____
Fax:	_____
Contact(s):	_____
Date:	_____

TORQUE-HUB®
Shaft Output
Application Data
Worksheet
Form F200

• **Machine Data**

Type of Vehicle or Machine	_____
Torque Hub Function	_____
Engine Power	_____ (hp) @ _____ (rpm)
# of Pumps & Displacement	# _____ Displacement: _____ (in ³ /rev)
Hydraulic Pump Speed	_____ (rpm)
Hydraulic Motor Displacement	_____ (in ³ /rev)
Continuous Operating Pressure	_____ (psi)
Maximum Relief Valve Setting	_____ (psi)
Charge Pressure	_____ (psi)

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Fax: (+86)21 63534148
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• **Performance Data**

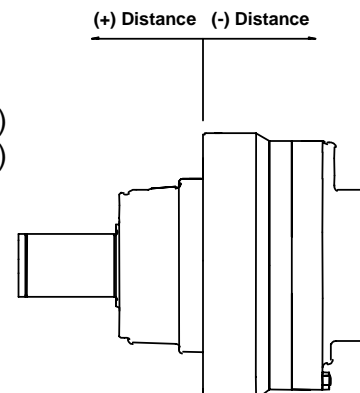
Maximum Output Torque Required	_____ (in-lbs)
Maximum Output Speed Required	_____ (rpm)
Estimated Machine Use per Year	_____ (hours)
Desired Design Life	_____ (hours)
Estimated Annual Production	_____ (units)

• **Shaft Data**

Pitch Diameter (pulley or sprocket)	_____ (inches)
Distance from Hub Mtg Face to Radial Load Location	_____ (inches)
Indicate Shaft Requirement (spline, keyed, etc.)	_____

• **Brake Data**

Indicate Brake Requirement (make/model)	_____
Brake Torque Requirement	_____ (in-lbs)
Brake Release Pressure	_____ (psi)



• **Typical Operating Conditions**

Condition #	Output Torque (in-lbs)	Radial Load (lbs)	Output Speed (rpm)	Time (%)
1				
2				
3				
4				
5				

Company:	_____
Address:	_____

Telephone:	_____
Fax:	_____
Contact(s):	_____
Date:	_____

TORQUE-HUB®
Swing Drive
Application Data
Worksheet
Form F300

• **Machine Data**

Type of Vehicle or Machine	_____
Torque Hub Function	_____
Engine Power	_____ (hp) @ _____ (rpm)
# of Pumps & Displacement	# _____ Displacement: _____ (in ³ /rev)
Hydraulic Pump Speed	_____ (rpm)
Hydraulic Motor Displacement	_____ (in ³ /rev)
Continuous Operating Pressure	_____ (psi)
Maximum Relief Valve Setting	_____ (psi)
Charge Pressure	_____ (psi)

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Cascine Vica Torino-ITALIA
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Direct: (+39)011 9570
393/202
Fax: (+39)011 9591 259
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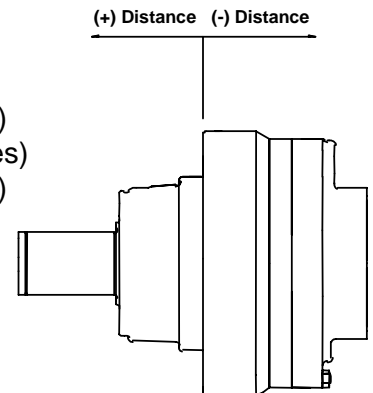
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Fax: (+86)21 63534148
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• **Performance Data**

Maximum Output Torque Required	_____ (in-lbs)
Maximum Output Speed Required	_____ (rpm)
Estimated Machine Use per Year	_____ (hours)
Desired Design Life	_____ (hours)
Estimated Annual Production	_____ (units)

• **Pinion Data**

Pinion Pitch Diameter	_____ (inches)
Pinion Pressure Angle	_____ (degrees)
Distance from Hub Mtg Face to Centerline of Pinion	_____ (inches)
Indicate Shaft Requirement (spline, keyed, etc.)	_____



• **Brake Data**

Indicate Brake Requirement (make/model)	_____
Brake Torque Requirement	_____ (in-lbs)
Brake Release Pressure	_____ (psi)

• **Typical Operating Conditions**

Condition #	Output Torque (in-lbs)	Radial Load (lbs)	Output Speed (rpm)	Time (%)
1				
2				
3				
4				
5				

Company:	_____
Address:	_____

Telephone:	_____
Fax:	_____
Contact(s):	_____
Date:	_____

TORQUE-HUB®
Track Drive
Application Data
Worksheet
Form F400

• **Machine Data**

Type of Vehicle _____

Number of Tracks _____

Gross Vehicle Weight (empty) _____ (loaded) _____ (lbs)

Max Weight Possible on One Track _____ (lbs)

Amount of Vehicle Weight Supported by Sprocket _____ (lbs)

Engine Power _____ (hp) @ _____ (rpm)

Amount of Horsepower available to Tracks _____ (in³/rev)

of Pumps & Displacement # _____ Displacement: _____ (rpm)

Hydraulic Pump Speed _____ (in³/rev)

Hydraulic Motor Displacement (Min/Max) _____ (psi)

Max Relief Valve Setting _____ (psi)

Continuous Operating Pressure _____ (psi)

Charge Pressure _____ (psi)

Sprocket Pitch Diameter _____ (inches)

Distance Sprocket Centerline to Hub Flange _____ (inches)

Track Thickness _____ (inches)

Track Shoe Type – Smooth, Grouser, or Rubber? _____

Tensioning Device Working Pre-Load _____ (lbs)

Tensioning Device Max Load @ Relief _____ (lbs)

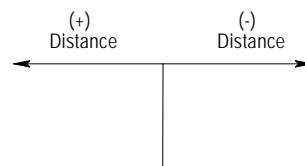
Brake Torque Requirement _____ (in-lbs)

Brake Release Pressure _____ (psi)

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• **Performance Data**

Max Gradeability _____ (%)

Max Drawbar Pull _____ (lbs)

Max Output Torque Required _____ (in-lbs)

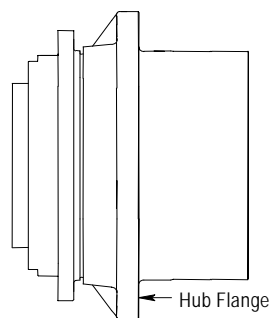
Vehicle Speed (Working/Max) _____ (mph)

Underfoot Surfaces (Mud, Sand, etc.) _____

Estimated Machine Use per Year _____ (hours)

Desired Design Life _____ (hours)

Estimated Annual Production _____ (units)



• **Typical Operating Conditions**

Condition #	Output Torque (in-lbs)	Radial Load (lbs)	Grade (%)	Output Speed (rpm)	Time (%)
1					
2					
3					
4					

Company:	_____
Address:	_____

Telephone:	_____
Fax:	_____
Contact(s):	_____
Date:	_____

TORQUE-HUB®
Winch Drive
Application Data
Worksheet
Form F500

North American Office
U.S. 52 South
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• **Winch Data**

Winch Function _____
Torque-Hub Function _____
Winch Support _____
Static Line Pull _____ (lbs)
Winch Barrel Bare I.D. _____ (inches)
Winch Barrel Bare O.D. _____ (inches)
Winch Barrel Length _____ (inches)
Number of Layers on Winch _____
Winch Cable Diameter _____ (inches)

• **Brake Data**

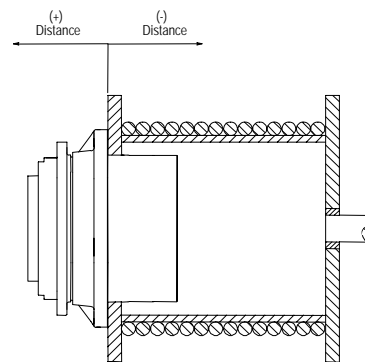
Indicate Brake Requirement (make/model) _____
Brake Torque Requirement _____ (in-lbs)
Brake Release Pressure _____ (psi)

• **Input Power Data**

<i>Hydraulic</i>	<i>Electric</i>
Pump Displacement _____ (in ³ /rev)	Motor (hp) _____ @ _____ (rpm)
Pump Rotational Speed _____ (rpm)	Soft Start Capability? _____ (Y or N)
Motor Displacement _____ (in ³ /rev)	Overload Protection? _____ (Y or N)
Continuous Operating Pressure _____ (psi)	If yes, please elaborate: _____
Charge Pressure _____ (psi)	_____
Maximum Relief Pressure _____ (psi)	_____

• **Performance Data**

Maximum Output Torque Required _____ (in-lbs)
Maximum Output Speed Required _____ (rpm)
Estimated Machine Use per Year _____ (hours)
Desired Design Life _____ (hours)
Estimated Annual Production _____ (units)



• **Typical Operating Conditions**

Condition #	Output Torque (in-lbs)	Radial Load (lbs)	Output Speed (rpm)	Time (%)
1				
2				
3				
4				
5				

Company:	
Address:	
Telephone:	
Fax:	
Contact(s):	
Date:	

TORQUE-HUB®

Duty Cycle

Application Data

Worksheet

Form F600

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• **Machine Data**

Type of Vehicle or Machine _____
Torque Hub Function _____

• **Duty Cycle**

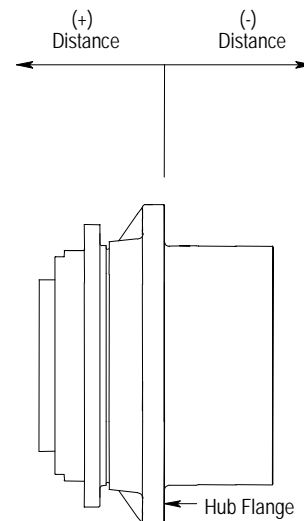
Model Number _____
Torque Hub Ratio _____
Radial Load Location _____ (inches)
Estimated Machine Use per Year _____ (hours)
Desired Design Life _____ (hours)

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• **Typical Operating Conditions**

Condition #	Output Torque (in-lbs)	Radial Load (lbs)	Grade (%)	Output Speed (rpm)	Time (%)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

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Additional Comments _____

Company:	_____
Address:	_____

Telephone:	_____
Fax:	_____
Contact(s):	_____
Date:	2/18/2008

TORQUE-HUB®
Cutter Drum
Application Data
Worksheet
Form F700

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• **Drum Data**

Drum Function _____
Torque-Hub Function _____
Drum Support _____
Bare Drum I.D. _____ (inches)
Diameter Over Cutter Teeth _____ (inches)
Drum Length _____ (inches)
Rotation of Drum Down _____ (Y or N)

• **Brake Data**

Indicate Brake Requirement (make/model) _____
Brake Torque Requirement _____ (in-lbs)
Brake Release Pressure _____ (psi)

• **Input Power Data**

<i>Hydraulic</i>	<i>Mechanical</i>
Pump Displacement _____ (in ³ /rev)	Motor (hp) _____ @ _____ (rpm)
Pump Rotational Speed _____ (rpm)	Belt Drive? _____ (Y or N)
Motor Displacement _____ (in ³ /rev)	Overload Protection? _____ (Y or N)
Continuous Operating Pressure _____ (psi)	If yes, please elaborate: _____
Charge Pressure _____ (psi)	_____
Maximum Relief Pressure _____ (psi)	_____

• **Performance Data**

Maximum Output Torque Required _____ (in-lbs)
Maximum Output Speed Required _____ (rpm)
Estimated Machine Use per Year _____ (hours)
Desired Design Life _____ (hours)
Estimated Annual Production _____ (units)

• **Typical Operating Conditions**

Condition #	Output Torque (in-lbs)	Radial Load (lbs)	Grade (%)	Output Speed (rpm)	Time (%)
1					
2					
3					
4					
5					

Company:	_____
Address:	_____

Telephone:	_____
Fax:	_____
Contact(s):	_____
Date:	_____

TORQUE-HUB®
Parking Brake
Application Data
Worksheet
Form F800

• **Machine Data**

Type of Vehicle _____

Gross Vehicle Weight (lbs) _____ (empty) _____ (loaded)

Maximum Speed (mph) _____ (empty) _____ (loaded)

Maximum Operating Grade _____ (empty) _____ (loaded)

Weight Distribution (lbs) _____ (front) _____ (rear)

Number of Wheels _____

Number of Driven Wheels _____

Drive Wheel Diameter _____ (inches)

Stopping Distance or Time From Max Speed _____

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• **Motor Data**

Model Number _____ Manufacturer _____

SAE Mounting Type _____ 2 or 4 bolt _____

Maximum Output Torque _____ (in-lbs) @ _____ (psi)

Maximum Speed _____ (rpm)

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• **Brake Data**

Brake Torque Requirement _____ (in-lbs)

Full Release Pressure _____ (psi)

Max Brake Pressure _____ (psi)

Electric or Hydraulic _____

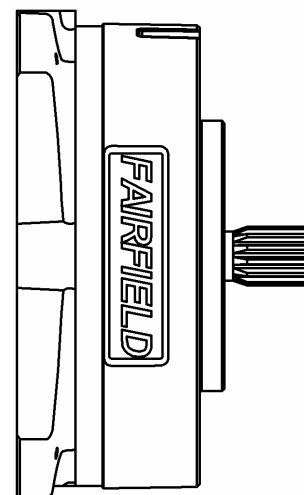
Wet or Dry Brake _____

Back Pressure with Brake Engaged _____

Brake Application (swing drive, wheel drive, etc.) _____

Brake Orifice Used _____ If so, size? _____

Brake Release Pressure Schematic Included? _____



• **Gear Reducer Data**

Model Number _____

Manufacturer _____

Reduction Ratio _____

Input Shaft Requirement _____

SAE Mounting Type _____ 2 or 4 Bolt _____