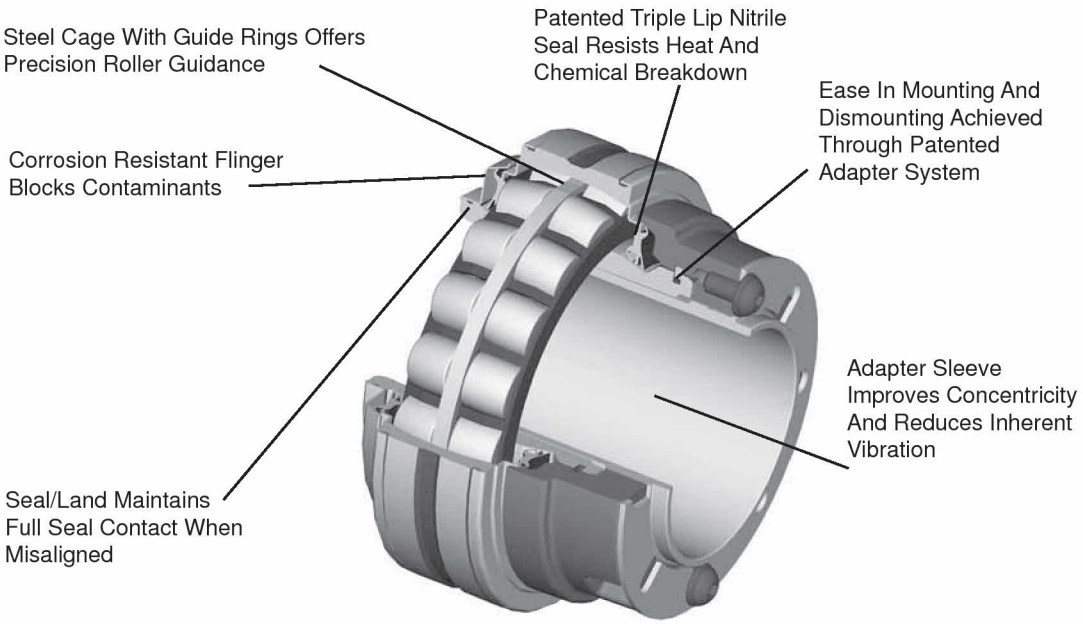
IMPERIAL

Patented Adapter System Offers Quick Installation And Removal

The DODGE IMPERIAL bearing uses a thin wall push-pull adapter system that achieves clearance setting without the use of feeler gauges. The IMPERIAL bearing is installed by turning the locknut clockwise and removed by a counterclockwise rotation. Installation and removal of an IMPERIAL bearing can be accomplished in 15 minutes or less.



Installation and Removal Savings . . .

- Factory lubed, sealed and adjusted, ready to slip onto the shaft
- IMPERIAL adapter sleeve concentricity virtually eliminates fretting corrosion
- Field convertible from non-expansion to expansion and expansion to non-expansion
- Elongated pillow block bolt holes to facilitate mounting

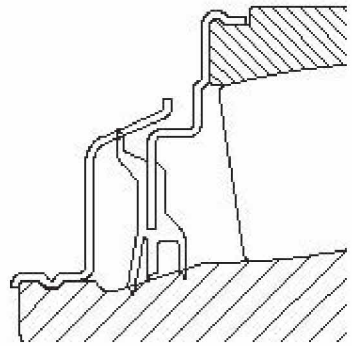
FEATURES/BENEFITS

IMPERIAL

IMPERIAL Bearings Offer Patented Seal Options To Maximize Bearing Life . . .

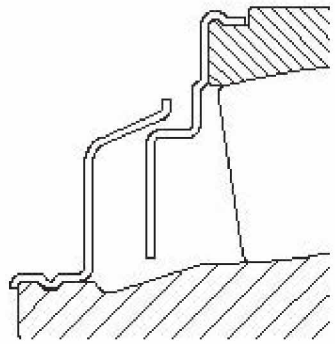
TRIDENT™ seals for low to medium speed

- Face rubbing triple lip seal
- Flinger to shield seal and bearing from contamination/damage
- Seal/land positive contact up to ±1 degree of misalignment
- Patented design



Labyrinth seals for higher speeds or high temperatures

- High speed for relatively clean or hot environments
- 15% increase in maximum speed over standard SAF adapter mounted sphericals of the same shaft size
- Flinger to shield seal and bearing from contamination/damage
- Seal operates up to ±1 degree of misalignment
- Patented design



IMPERIAL

There are two ways to specify DODGE Bearings. Most of the product offerings have part numbers with listings shown throughout this catalog. Use of part numbers ensures accurate order processing.

When part numbers are not shown, the product may be specified by description or part name. This method is used when ordering units that include modifications or options. To order by description, use the nomenclature key shown on page B10-9 and add any special instructions to the end of the description for options not covered by the nomenclature.

DODGE Spherical Bearings are factory adjusted and pre-lubricated. For applications where extreme ambient temperatures, high speeds, or high loads are expected, a variety of specialty lubricants is available. Standard grease provided is Mobilith AW2. High temperature greases available include Moluballoy 896 HT and Mobilith SHC460. Other special lubricants are available upon request. Special lubricant options usually involve set-up charges, minimum quantities and list price premiums. To order, specify type of lubricant required at the end of the product name or after the standard part number.

Example: 069461 except with Mobil Grease HTS #2 grease

or

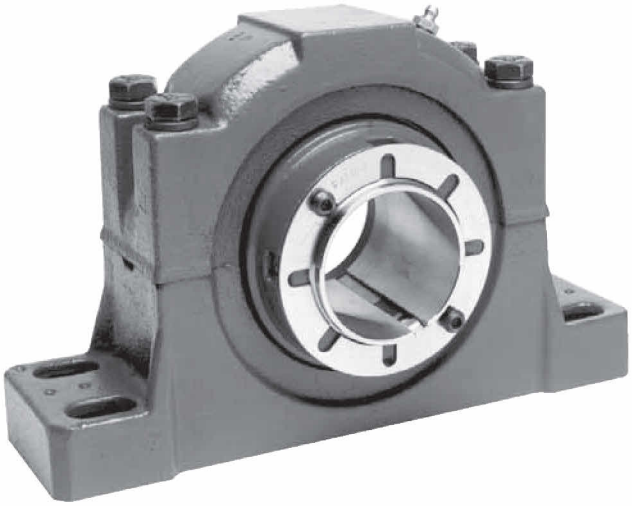
P2BIP108L except with Mobil Grease HTS #2 grease

For applications requiring modifications not listed, we encourage you to contact our Application Engineering Department for Bearings at 864-284-5700.

FEATURES/BENEFITS

DODGE®

ISAF



- Interchangeable with SAF style pillow blocks
- Patented adapter mounting system
- Easy installation - no feeler gauges needed
- Easy removal - no torches, sledge hammers or special tools needed
- DODGE TRIDENT triple lip seal provides superior sealing system
- Labyrinth seal available for high speed or high temperature applications
- Up to ±1° misalignment capability
- Seal land on OD of inner ring maintains full contact pressure even when misaligned
- High capacity double row spherical bearing
- 2 bolt pillow blocks in sizes 1-7/16 to 3-7/16”
- 4 bolt pillow blocks in sizes 2-7/16” to 7”

NOMENCLATURE

ISAF

P2B 515 - ISAF - 207 R E

HOUSING STYLE	HOUSING SIZE	BEARING TYPE	SIZE	SEAL	OTHER DATA
P2B = Pillow Block 2 Bolt Base, Cast Iron P4B = Pillow Block 4 Bolt Base, Cast Iron	5xx for interchangeable SAF style housings	ISAF = IMPERIAL SAF	Inches and 16th 2 = 2” 07 = 7/16” 207 = 2-7/16”	R = TRIDENT Triple Lip Contact Seal L = Labyrinth Seal	E = EXPANSION If E does not appear, bearing is a non-expansion type

ISAF FEATURES/BENEFITS PAGE B10-10	ISAF DIMENSIONS PAGE B10-60		

SELECTION

IMPERIAL - IP and ISAF Spherical Roller Bearing

DODGE Spherical Roller Bearings have the capacity to carry heavy radial loads and combined radial and thrust loads. The maximum recommended load which can be applied is limited by various components in the system such as bearing, housing, shaft, shaft attachment, speed and life requirements as listed in this catalog. DODGE spherical roller bearings have been applied successfully even when these limits have been exceeded under controlled operating conditions. Contact DODGE Application Engineering (864-284-5700) for applications which exceed the recommendations of this catalog.

L_{10} Hours Life - The life which may be expected from at least 90% of a given group of bearings operating under identical conditions.

$$\text{L10 Life, Hours} = \left(\frac{C}{P}\right)^{0.3} X \left(\frac{16667}{RPM}\right)$$

Where:

C = Dynamic Capacity (Table 1 on page B10-15 for IMPERIAL), lbs.

P = Equivalent Radial Load, lbs.

GENERAL

Heavy Service - For heavy shock loads, frequent shock loads, or severe vibrations, add up to 50% (according to severity of conditions) to the Equivalent Radial Load to obtain a Modified Equivalent Radial Load. Consult DODGE Application Engineering for additional selection assistance.

Thrust load values shown in the table below are recommended as a guide for general applications that will give adequate L10 life. Spherical bearings require a radial load at least equal to the thrust load for proper operation. If the thrust load exceeds this limit, consult Application Engineering. Where substantial radial load is also present, it is advisable to calculate actual L_{10} life to assure that it meets the requirements. The effectiveness of the shaft attachment to carry thrust load depends on proper tightening of the bearing to the shaft. Therefore, it is advisable to use auxiliary thrust carrying devices such as shaft shoulder, snap ring or a thrust collar to locate the bearing under thrust loads heavier than shown below, or where extreme reliability is desired.

RPM	20-200	201-2000	Over 2000
RECOMMENDED THRUST LOAD	C/20	C/40	C/60

The shaft tolerances recommended below are adequate for normal radial and radial/thrust load applications. Since the allowable load, especially at a low speed, is very large, the shaft should be checked to assure adequate shaft strength.

The magnitude and direction of both the thrust and radial load must be taken into account when selecting a housing. **When pillow blocks are utilized, heavy loads should be directed through the base. Where cap loads are involved, see Tables 3 - 5 on pages B10-18 - B10-19 for maximum values.** Where a load pulls the housing away from the mounting base, both the hold-down bolts and housing must be of adequate strength. Auxiliary load carrying devices such as shear bars are advisable for side or end loading of pillow blocks and radial loads for flange units.

SHAFT TOLERANCES

SHAFT SIZE	TOLERANCE, inches
Up To 1-1/2”	+.000 -.002”
1-9/16 to 2-1/2”	+.000 -.003”
2-5/8 to 4”	+.000 -.004”
4-3/16 to 6”	+.000 -.005”
6-7/16” and above	+.000 -.006”

IMPERIAL FEATURES PAGE B10-3 | IMPERIAL SPECIFICATION PAGE B10-6 | IMPERIAL NOMENCLATURE PAGE B10-9 | IMPERIAL DIMENSIONS PAGE B10-20

IMPERIAL - IP and ISAF Spherical Roller Bearing
BEARING SUPPORTING RADIAL LOADS ONLY

1. Define L_{10} Life Hours desired.
2. Establish bearing radial load, F_R (F_R = P for Pure Radial Load Conditions). The DODGE program BEST ★ can be used to find application loads.
3. Establish RPM.

Using the easy selection Table 2 on page B10-16 for IMPERIAL, find, under the RPM column, the equivalent radial load that equals or is slightly higher than the application radial load for the desired life. The shaft size on the far left will be the minimum shaft size that you can use for your application.

If the desired life is different than the values shown on the chart, use alternate Method A shown below.

Example: 1. L_{10} Life = 30,000 Hours
2. Radial load = 4000 lbs.
3. RPM = 1,000

At the intersection of the 1,000 RPM column and the 30,000 hours L_{10} life row, the equivalent radial load of 4011 lbs. exceeds the 4000 lbs. radial load for shaft size 2-3/8" to 2-1/2". A bearing with bore ranging from 2-3/8" to 2-1/2", or longer, may be used for this application.

ALTERNATE METHOD A - SELECTING A BEARING FOR AN L_{10} LIFE VALUE NOT SHOWN IN THE EASY SELECTION CHART.

The L_{10} life equation can be rearranged so that the bearing dynamic capacity **C** is identified in terms of L_{10}, RPM and P

$$C = \left(\frac{L_{10} \times RPM}{16667} \right)^{0.3} \times P$$

($P = F_R$ for Pure Radial Load Conditions)

Since the L_{10}, RPM and P are known, solve for **C**. Select from the dynamic capacity column on Table 1 on page B10-15 the **C** value equal to or greater than the **C** value just calculated. The bore size on the far left represents the proper bore size selection. Check that the application RPM does not exceed the MAX. RPM on Table 1. When selecting an L_{10} life of less than 30,000 hours, particular attention must be paid to shaft deflection and proper lubricant selection.

SELECTING BEARINGS SUPPORTING COMBINATION RADIAL AND THRUST LOADS

When a bearing supports both a radial load and a thrust load, the loading on the two rows is shared unequally depending on the ratio of thrust to radial load. The use of the X (radial factor) and Y (thrust factor) from Table 1 converts the applied thrust load and radial loads to an equivalent radial load having the same effect on the life of the bearing as a radial load of this magnitude.

The equivalent radial load $P = XF_R + YF_A$

Where:

- P = Equivalent radial load, lbs.
- F_R = Radial load, lbs. (see Table 1 for allowable slip fit maximum load)
- F_A = Thrust (axial) load, lbs.
- **e** = Thrust load to radial load factor (Table 1)
- X = Radial load factor (Table 1)
- Y = Thrust load factor (Table 1)

★ The DODGE Bearing Evaluation and Selection Technique (BEST) is a menu driven computer program that calculates bearing loads, fatigue life and operating temperature for a two bearing shaft system based on user supplied input parameters. This interactive program is available at www.ptwizard.com under the Product Selection area.

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL DIMENSIONS PAGE B10-20

SELECTION

DODGE®

IMPERIAL - IP and SAF Spherical Roller Bearing

To find X and Y, calculate F_A/F_R and compare to **e** for the selected bore size. Determine X and Y from Table 1 on page B10-15 depending on whether F_A/F_R is equal to or less than **e**, or F_A/F_R is greater than **e**. Substitute all known values into the equivalent radial load equation. P (equivalent radial load) can be used in the life formula to determine L_{10}, or it can be compared to the allowable equivalent radial load ratings for the speed and hours life desired in the easy selection B10-16

SELECTING BEARINGS SUPPORTING ONLY THRUST LOADS

Spherical Roller Bearings generally are not recommended for pure thrust load applications. However, they will perform satisfactorily under very light pure thrust loads. Consult DODGE Application Engineering (864-284-5700).

SELECTING LUBRICATION

IMPERIAL spherical roller bearings are lubricated at the factory with Mobilith AW2 grease for sizes up to 5". Above 5", Mobillux EP #2 is used. Mobilith AW2 is a superior industrial grease with a lithium complex thickener and highly refined base oil. Mobilux EP#2 is a superior industrial grease using a lithium hydroxystearate thickener and highly refined base oil. This grease will adequately handle low and medium speeds with low and medium loads at normal temperatures as defined on Table 5 on page B10-19 For very low and high speeds, for heavy loads, and for low and high temperatures, special greases may be used. Contact DODGE Application Engineering (864-284-5700), DODGE engineers will recommend bearings and lubricants for the above unusual conditions. DODGE also has the expertise to custom design and build special bearings for your needs. The only maintenance requirement for DODGE Spherical roller bearings is periodic relubrication at regular intervals as outlined in the appropriate instruction manuals.

MISALIGNMENT CONSIDERATIONS

In nearly all applications good design practice requires two bearings supporting the shaft. In cases where three or more bearings are installed, unless precautions are taken to line the bearings up, both vertically and horizontally, it is possible to induce heavy loads. In the case of two bearings, alignment is not as critical, especially with DODGE Unitized Spherical Roller Bearings. IMPERIAL bearings are designed to allow a maximum of ±1° of static and dynamic misalignment. However, for optimum seal performance, misalignment should be kept under ±0.5°. To ensure good alignment, mounting surfaces must be checked for flatness and must lie in the same plane. When tightening base bolts, each bolt should be alternately tightened in incremental torque values until full torque is achieved to prevent the angular shifting of the pillow block that occurs when one bolt is tightened to its full torque. Shimming may be required to minimize misalignment.

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IMPERIAL - IP and SAF Spherical Roller Bearing

Table 1: IMPERIAL Spherical Roller Bearing

Shaft Size Inches	Basic Bearing Description	e	FA/FR<e		FA/FR>e		Adapter Maximum Thrust Load Pounds	Dynamic Capacity (C) Pounds	Static Capacity (Co) Pounds	Maximum Speed*		Maximum ISAF Expansion Capability Inches
			X	Y	X	Y				Labyrinth RPM	TRIDENT RPM	
1-1/8 1-3/16 1-1/4 1-3/8 1-7/16 1-1/2	22208	0.28	1.0	2.4	0.67	3.6	620	20,800	21,000	6,000	3,975	7/32
1-1/2 ** 1-5/8 1-11/16 1-3/4	22209	0.26	1.0	2.6	0.67	3.9	700	20,800	22,000	5,600	3,725	7/32
1-3/4 ** 1-7/8 1-15/16 2	22210	0.24	1.0	2.8	0.67	4.2	775	22,000	24,000	5,300	3,520	17/64
2-3/16 2-1/4	22211	0.23	1.0	2.9	0.67	4.3	930	27,000	29,000	4,500	3,000	7/32
2-1/4 ** 2-3/8 2-7/16 2-1/2	22213	0.24	1.0	2.8	0.67	4.2	1,360	39,000	47,500	3,800	2,400	5/16
2-11/16 2-3/4 2-15/16 3	22215	0.22	1.0	3.1	0.67	4.6	1,570	41,500	53,000	3,400	2,250	15/64
3-3/16 3-1/4 3-7/16 3-1/2	22218	0.23	1.0	2.9	0.67	4.3	2,430	65,500	81,500	2,600	1,825	3/8
3-11/16 3-15/16 4	22220	0.24	1.0	2.8	0.67	4.2	3,100	83,000	104,000	2,200	1,530	3/8
4-7/16 4-1/2	22222	0.25	1.0	2.7	0.67	4.0	3,930	104,000	132,000	2,000	1,325	3/8
4-15/16 5	22226	0.26	1.0	2.6	0.67	3.9	5,610	146,000	196,000	1,800	1,175	3/8
5-7/16 5-1/2	22228	0.25	1.0	2.7	0.67	4.0	6,419	166,000	236,000	1,700	1,100	3/8
5-15/16 6	22232	0.26	1.0	2.6	0.67	3.9	8,630	220,000	315,000	1,500	975	3/8
6-7/16 6-1/2 6-15/16 7	22236	0.25	1.0	2.7	0.67	4.0	10,437	260,000	375,000	1,300	845	3/8

* Maximum grease speed is dependent on load and ambient conditions, consult Dodge Engineering

** IMPERIAL - Type E Dimensional Housing

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SELECTION

DODGE®

IMPERIAL - IP and SAF Spherical Roller Bearing

Table 2: Allowable Equivalent Radial Load Rating (lbs) at Various Revolutions per Minute

Size Inches	L10 Life Hours	Allowable Equivalent Radial Load Rating (lbs.) at Various Revolutions per Minute																					
		50	100	150	250	500	750	1,000	1,300	1,500	1,700	1,800	2,000	2,200	2,600	2,750	3,000	3,400	3,800	4,500	5,300	5600	6000
1-1/8 to 1-1/2	10,000	7498	6090	5393	4626	3758	3327	3052	2821	2703	2603	2559	2479	2409	2292	2253	2195	2114	2045	1944	1851	1820	1783
	30,000	5393	4380	3878	3327	2703	2393	2195	2029	1944	1872	1840	1783	1733	1648	1621	1579	1521	1471	1398	1331	1309	1282
	40,000	4947	4018	3558	3052	2479	2195	2014	1861	1783	1717	1688	1636	1590	1512	1487	1448	1395	1349	1282	1221	1201	1176
	60,000	4380	3558	3150	2703	2195	1944	1783	1648	1579	1521	1495	1448	1408	1339	1316	1282	1235	1195	1136	1081	1064	1042
	100,000	3758	3052	2703	2319	1883	1668	1530	1414	1355	1305	1282	1243	1208	1149	1129	1100	1060	1025	974	928	912	894
*1-1/2 1-5/8 1-11/16 1-3/4	10,000	7,498	6,090	5,393	4,626	3,758	3,327	3,052	2,821	2,703	2,603	2,559	2,479	2,409	2,292	2,253	2,195	1,521	2,045	1,944	1,331	1,820	
	30,000	5,393	4,380	3,878	3,327	2,703	2,393	2,195	2,029	1,944	1,872	1,840	1,783	1,733	1,648	1,621	1,579	1,521	1,471	1,398	1,331	1,309	
	40,000	4,947	4,018	3,558	3,052	2,479	2,195	2,014	1,861	1,783	1,717	1,688	1,636	1,590	1,512	1,487	1,448	1,395	1,349	1,282	1,221	1,201	
	60,000	4,380	3,558	3,150	2,703	2,195	1,944	1,783	1,648	1,579	1,521	1,495	1,448	1,407	1,339	1,316	1,282	1,235	1,195	1,136	1,081	1,063	
	100,000	3,758	3,052	2,703	2,319	1,883	1,668	1,530	1,414	1,355	1,305	1,282	1,243	1,208	1,148	1,129	1,100	1,060	1,025	974	928	912	
*1-3/4 1-7/8 1-15/16 2	10,000	7,930	6,441	5,704	4,893	3,975	3,519	3,228	2,984	2,859	2,753	2,706	2,622	2,548	2,424	2,383	2,322	1,608	2,163	2,056	1,957		
	30,000	5,704	4,633	4,102	3,519	2,859	2,531	2,322	2,146	2,056	1,980	1,947	1,886	1,833	1,743	1,714	1,670	1,608	1,556	1,479	1,408		
	40,000	5,232	4,250	3,763	3,228	2,622	2,322	2,130	1,969	1,886	1,816	1,786	1,730	1,681	1,599	1,572	1,532	1,475	1,427	1,356	1,291		
	60,000	4,633	3,763	3,332	2,859	2,322	2,056	1,886	1,743	1,670	1,608	1,581	1,532	1,489	1,416	1,392	1,356	1,306	1,264	1,201	1,144		
	100,000	3,975	3,228	2,859	2,452	1,992	1,764	1,618	1,496	1,433	1,380	1,356	1,314	1,277	1,215	1,194	1,164	1,121	1,084	1,030	981		
2-3/16 to 2-1/4	10,000	9,733	7,905	7,000	6,005	4,878	4,319	3,962	3,662	3,508	3,379	3,322	3,218	3,127	2,975	2,925	2,050	2,745	2,655	2,523			
	30,000	7,000	5,686	5,035	4,319	3,508	3,106	2,850	2,634	2,523	2,430	2,389	2,315	2,249	2,139	2,104	2,050	1,974	1,909	1,815			
	40,000	6,421	5,216	4,618	3,962	3,218	2,850	2,614	2,416	2,315	2,229	2,191	2,123	2,063	1,963	1,930	1,880	1,811	1,751	1,665			
	60,000	5,686	4,618	4,089	3,508	2,850	2,523	2,315	2,139	2,050	1,974	1,940	1,880	1,827	1,738	1,709	1,665	1,603	1,551	1,474			
	100,000	4,878	3,962	3,508	3,010	2,445	2,165	1,986	1,835	1,758	1,694	1,665	1,613	1,567	1,491	1,466	1,428	1,376	1,330	1,265			
*2-1/4 2-3/8 2-7/16 2-1/2	10,000	14058	11419	10111	8674	7046	6239	5723	5290	5068	4881	4798	4649	4518	4297	4225	4116	3964	3834				
	30,000	10111	8213	7272	6239	5068	4487	4116	3805	3645	3510	3451	3343	3249	3090	3039	2960	2851	2758				
	40,000	9275	7534	6671	5723	4649	4116	3776	3490	3343	3220	3165	3067	2980	2835	2787	2716	2616	2530				
	60,000	8213	6671	5907	5068	4116	3645	3343	3090	2960	2851	2803	2716	2639	2510	2468	2405	2316	2240				
	100,000	7046	5723	5068	4348	3531	3127	2868	2651	2540	2446	2405	2330	2264	2153	2118	2063	1987	1922				
2-11/16 to 3	10,000	14,959	12,151	10,759	9,230	7,497	6,639	6,090	5,629	5,392	5,194	5,105	4,946	3,457	4,572	4,496	4,380	4,219					
	30,000	10,759	8,739	7,738	6,639	5,392	4,775	4,380	4,048	3,878	3,735	3,672	3,558	3,457	3,288	3,233	3,150	3,034					
	40,000	9,870	8,017	7,098	6,090	4,946	4,380	4,018	3,714	3,558	3,427	3,368	3,263	3,171	3,016	2,966	2,890	2,783					
	60,000	8,739	7,098	6,285	5,392	4,380	3,878	3,558	3,288	3,150	3,034	2,982	2,890	2,808	2,671	2,626	2,559	2,464					
	100,000	7,497	6,090	5,392	4,626	3,758	3,327	3,052	2,821	2,703	2,603	2,559	2,479	2,409	2,291	2,253	2,195	2,114					
3-3/16 to 3-1/2	10,000	23,611	19,178	16,981	14,569	11,833	10,478	9,612	8,884	8,511	8,197	5,795	7,807	7,587	7,216								
	30,000	16,981	13,793	12,213	10,478	8,511	7,536	6,913	6,390	6,121	5,896	5,795	5,615	5,457	5,190								
	40,000	15,577	12,653	11,203	9,612	7,807	6,913	6,341	5,861	5,615	5,408	5,316	5,151	5,006	4,761								
	60,000	13,793	11,203	9,920	8,511	6,913	6,121	5,615	5,190	4,972	4,789	4,707	4,561	4,432	4,216								
	100,000	11,833	9,612	8,511	7,302	5,931	5,251	4,817	4,453	4,266	4,108	4,038	3,913	3,803	3,617								

Only the labyrinth seal (L seal) may be used to the right of the heavy line.

For applications in the dark shaded area, the maximum load for the specific speed is shown. The load does not correspond to the L10 shown at the left.

Applications in the light shaded area may require a high temperature lubrication, consult Dodge Engineering at (864) 297-4800

* IMPERIAL - Type E Dimensional Housing

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL DIMENSIONS PAGE B10-20

IMPERIAL - IP and SAF Spherical Roller Bearing

Table 2: Allowable Equivalent Radial Load Rating (lbs) at Various Revolutions per Minute (continued)

Size	L10 Life	Allowable Equivalent Radial Load Rating (lbs.) at Various Revolutions per Minute																				
Inches	Hours	50	100	150	250	500	750	1,000	1,300	1,500	1,700	1,800	2,000	2,200	2,600	2,750	3,000	3,400	3,800	4,500	5,300	5600	6000
3-11/16 to 4	10,000	29,919	24,302	21,518	18,461	14,995	13,278	12,180	11,258	7,757	10,387	10,211	9,893	9,614									
	30,000	21,518	17,478	15,476	13,278	10,785	9,549	8,760	8,097	7,757	7,471	7,344	7,115	6,915									
	40,000	19,739	16,033	14,197	12,180	9,893	8,760	8,036	7,427	7,115	6,853	6,737	6,527	6,343									
	60,000	17,478	14,197	12,571	10,785	8,760	7,757	7,115	6,577	6,300	6,068	5,965	5,779	5,616									
	100,000	14,995	12,180	10,785	9,252	7,515	6,655	6,104	5,642	5,405	5,206	5,117	4,958	4,818									
4-7/16 to 4-1/2	10,000	37,489	30,450	26,963	23,132	18,789	16,637	15,261	10,145	13,513	13,015	12,794	12,396										
	30,000	26,963	21,901	19,392	16,637	13,513	11,966	10,976	10,145	9,719	9,361	9,202	8,915										
	40,000	24,733	20,090	17,789	15,261	12,396	10,976	10,069	9,307	8,915	8,587	8,441	8,178										
	60,000	21,901	17,789	15,751	13,513	10,976	9,719	8,915	8,241	7,894	7,603	7,474	7,242										
	100,000	18,789	15,261	13,513	11,593	9,417	8,338	7,649	7,070	6,773	6,523	6,412	6,213										
4-15/16 to 5	10,000	52,628	42,747	37,851	32,473	26,377	23,356	15,409	19,803	18,971	18,272	17,961											
	30,000	37,851	30,745	27,224	23,356	18,971	16,798	15,409	14,243	13,644	13,141	12,918											
	40,000	34,722	28,203	24,973	21,424	17,402	15,409	14,135	13,065	12,516	12,055	11,850											
	60,000	30,745	24,973	22,112	18,971	15,409	13,644	12,516	11,569	11,082	10,674	10,493											
	100,000	26,377	21,424	18,971	16,275	13,220	11,706	10,738	9,925	9,508	9,157	9,002											
5-7/16 to 5-1/2	10,000	59,838	48,603	43,037	36,922	29,990	26,555	17,520	22,516	21,569	20,775												
	30,000	43,037	34,957	30,953	26,555	21,569	19,099	17,520	16,194	15,513	14,942												
	40,000	39,478	32,066	28,394	24,359	19,786	17,520	16,071	14,855	14,230	13,706												
	60,000	34,957	28,394	25,142	21,569	17,520	15,513	14,230	13,153	12,601	12,136												
	100,000	29,990	24,359	21,569	18,505	15,031	13,309	12,209	11,284	10,810	10,412												
5-15/16 to 6	10,000	79,303	64,414	57,036	48,933	39,746	25,312	32,283	29,840	28,586													
	30,000	57,036	46,328	41,022	35,193	28,586	25,312	23,219	21,462	20,560													
	40,000	52,320	42,497	37,630	32,283	26,222	23,219	21,299	19,687	18,860													
	60,000	46,328	37,630	33,320	28,586	23,219	20,560	18,860	17,432	16,700													
	100,000	39,746	32,283	28,586	24,524	19,920	17,638	16,180	14,955	14,327													
6-7/16 to 7	10,000	93,722	76,126	67,407	57,829	46,972	29,914	38,153	35,265														
	30,000	67,407	54,751	48,480	41,592	33,783	29,914	27,441	25,364														
	40,000	61,833	50,224	44,472	38,153	30,990	27,441	25,172	23,266														
	60,000	54,751	44,472	39,378	33,783	27,441	24,298	22,289	20,602														
	100,000	46,972	38,153	33,783	28,983	23,542	20,845	19,122	17,675														

Only the labyrinth seal (L seal) may be used to the right of the heavy line.

For applications in the dark shaded area, the maximum load for the specific speed is shown. The load does not correspond to the L10 shown at the left.

Applications in the light shaded area may require a high temperature lubrication, consult Dodge Engineering at (864) 284-5700.

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