

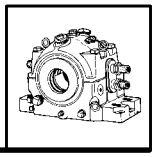
SLEEVOIL

- **Fully Split Housing** for trouble-free assembly and disassembly.
- **Rugged Construction** using gray iron housing and liner for durability.
- **Babbitt Lining** offers conformability and shaft protection.
- **Completely Self-Aligning** as a result of ball and socket mounting between liner and base.
- **Dependable Oil Ring Lubrication** with self-contained oil supply.
- **Convenient Oil Gage** can be positioned at one end either side of housing.
- **Proven Reliability** and dependable performance guard against catastrophic failures.
- **Extended Life** is a plus with no metal-to-metal contact during operation. More than ten times the theoretical life of anti-friction bearings
- **High Speed Capabilities** because of self-pressurized full oil film.
- **Adequate Vibration Dampening** is handled by the hydrodynamic oil film which absorbs shock.
- **Effective Heat Transfer** accomplished by journal surrounded by improved coolant chambers.
- **Quiet Operation** accomplished by full separation of mating parts.

HOW TO ORDER SLEEVOIL

There are two ways to specify DODGE Sleevoil Bearings. Most of the product offering 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 special modifications or options. To order by description, use the nomenclature key shown on page 668 and add any special instructions, drawings, data sheets and specific information to the end of the description for options not covered by the nomenclature.



NOMENCLATURE

SLEEVOIL

SLEEVOIL BEARING NOMENCLATURE:

RTL — TPK — 307

STYLE:

STD	STANDARD SERIES
PLWC	PLAIN/WATER COOLED
SSL	SHORT SERIES LOADED
STL	STANDARD SERIES LOADED
RTL	RADIAL THRUST LOADED
RXT	RADIAL EXTRA THRUST
PL	PLAIN
PLXC	PLAIN/EXTERNALLY COOLED
SSH	SHORT SERIES
XC	EXTERNALLY COOLED

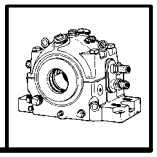
PRODUCT:

PB	PILLOW BLOCK
HSG	HOUSING
LNR	LINER ASSEMBLY
TC	THRUST COLLAR
TPK	THRUST PLATE KIT
ASK	AUXILIARY SEAL KIT
ECK	HOUSING END CAP KIT
COGK	CIRCULATING OIL GROMMET KIT
VDAK	VIBRATION DETECTOR ADAPTAR KIT
HK	HEATER KIT
TK	THERMOSTAT KIT
WHK	WATER HOSE KIT
PLXC	PLAIN EXTERNALLY COOLED
PL	PLAIN
XC	EXTERNALLY COOLED
WCR	WATER COOLED REPLACEMENT
NEC	NEOPRENE END CLOSURES
GK	GROMMET KIT
BTP	BRONZE THRUST PLATES (BTP1-TYPE1 LOWER LINER ONLY; BTP2-TYPE2 UPPER & LOWER LINER)
SBTP	SHIMS FOR BRONZE THRUST PLATES
SSR	SPLIT SEAL RING
TCK	THRUST COLLAR KIT
OCK	OIL COOLER KIT

SHAFT SIZE:

307 FIRST DIGIT: NUMBER OF INCHES
SECOND & THIRD DIGIT:
SIXTEENTHS OF AN INCH
307 INDICATES 3 7/16″

DODGE®



SLEEVOIL

DODGE® BEARINGS
1225 7TH STREET COLUMBUS, IN 47201
ATTN: APPLICATION ENGINEERING
FAX - (812) 378-2562 PHONE - (812) 378-2206
SLEEVOIL— Bearing Application Inquiry Form
Please provide the information by mail, phone or fax.

Company Name:_____ Date:_____
Address:_____ Response Date:_____
Contact Name:_____ Phone: (____)_____
Customer Reference:_____ Fax: (____)_____
Installation and Arrangement:_____
Bearing Size in Inches:_____ Shaft speed ☐ Constant_____ RPM
☐ Variable MAX_____ MIN_____
☐ Turning Gear_____

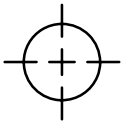
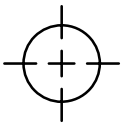
Type of Coolant:
☐ Plain (None) ☐ Water Cooled ☐ Air Cooled ☐ Plain - Circ. Oil ☐Water Cooled - Circ. Oil

Oil Preferred: ☐ SAE 10 ☐ SAE 20 ☐ SAE 30 ☐ Other _____
☐ ISO 32 ☐ ISO 68 ☐ ISO 100

Expected Temperature:

Ambient	MAX _____°F	MIN _____°F	Water Inlet	MAX _____°F	MIN _____°F
Air Inlet	MAX _____°F	MIN _____°F	Oil Inlet	MAX _____°F	MIN _____°F

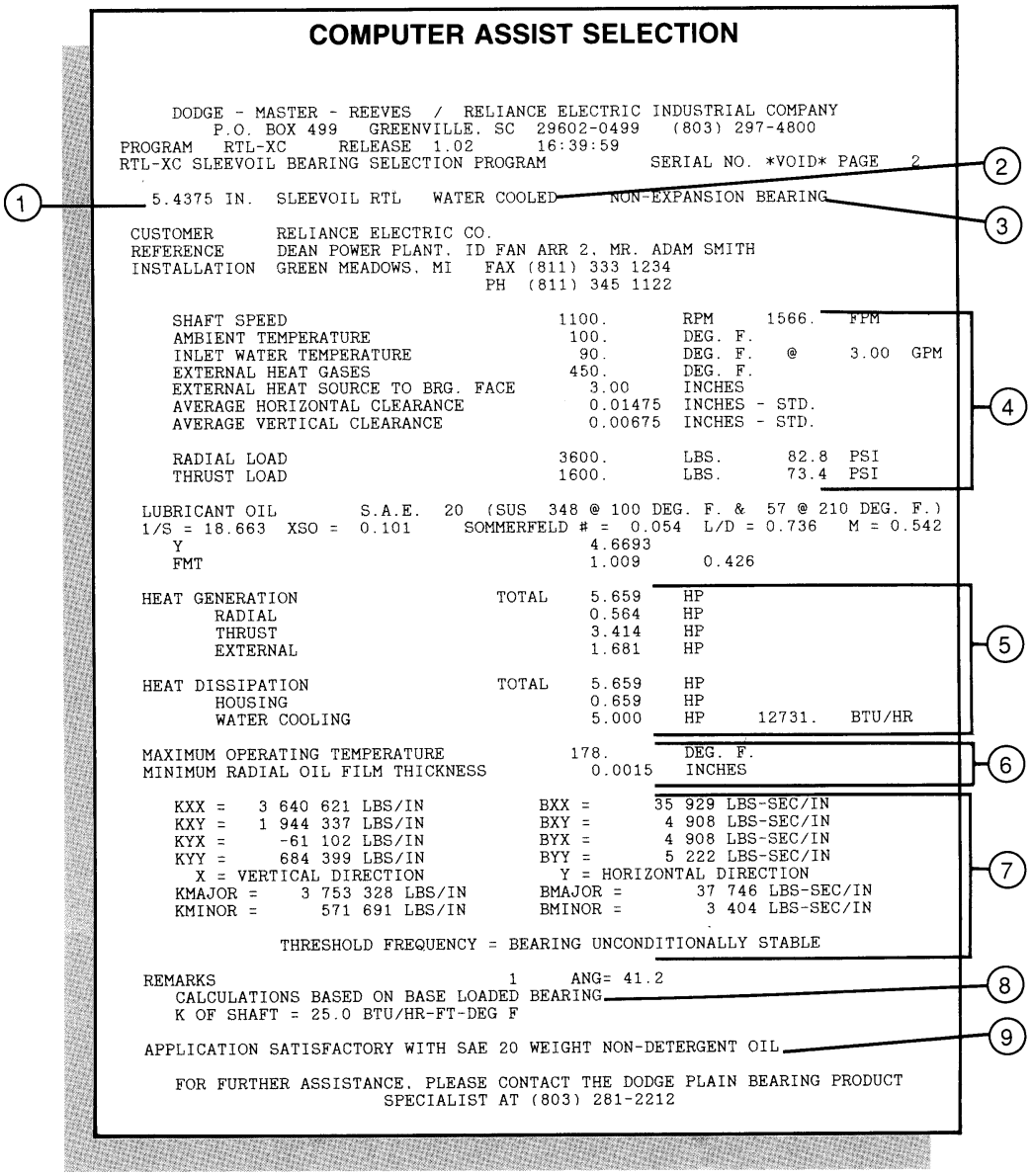
Air Velocity over Bearing Housing (FPM):_____

	FIXED (Non - Expansion)		FREE (Expansion)	
Bearing Type:	☐ RXT ☐ RTL ☐ STL ☐ M		☐ RXT ☐ RTL ☐ STL ☐ M ☐ SSL	
Radial Load:	_____Lbs.		_____Lbs.	
Thrust Load:	_____Lbs.			
Loading:	☐ Base	☐ Cap	☐ Base	☐ Cap
Cooling Wheel:	☐ Yes	☐ No	☐ Yes	☐ No
External Heat Source (Fan Temperature):	_____°F			
Closest Part of Bearing to Heat Source: (Includes Aux. Seals or Reverse Mount Seals)	_____Inches		_____Inches	
Indicate direction of resultant load. Show approximate angle for each bearing.				

Remarks: State any unusual conditions such as shock loads, changes in thrust loads, low speed requirements, hot shaft start-ups, environmental conditions (dust, chemicals, gases), etc.

SELECTION/DIMENSIONS R SERIES PAGE 676	SELECTION/DIMENSIONS RTL SERIES PAGE 684	SELECTION/DIMENSIONS RXT SERIES PAGE 686	SELECTION/DIMENSIONS M SERIES PAGE 688

SLEEVOIL



COMPUTER ASSIST SELECTION

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     DODGE - MASTER - REEVES  /  RELIANCE ELECTRIC INDUSTRIAL COMPANY
          P.O. BOX 499   GREENVILLE, SC  29602-0499   (803) 297-4800
PROGRAM   RTL-XC     RELEASE  1.02      16:39:59
RTL-XC SLEEVOIL BEARING SELECTION PROGRAM          SERIAL NO. *VOID* PAGE   2

   5.4375 IN.  SLEEVOIL RTL   WATER COOLED      NON-EXPANSION BEARING

 CUSTOMER       RELIANCE ELECTRIC CO.
 REFERENCE      DEAN POWER PLANT. ID FAN ARR 2. MR. ADAM SMITH
 INSTALLATION   GREEN MEADOWS, MI    FAX (811) 333 1234
                                     PH  (811) 345 1122

     SHAFT SPEED                              1100.       RPM     1566.   FPM
     AMBIENT TEMPERATURE                       100.       DEG. F.
     INLET WATER TEMPERATURE                    90.       DEG. F.   @     3.00  GPM
     EXTERNAL HEAT GASES                       450.       DEG. F.
     EXTERNAL HEAT SOURCE TO BRG. FACE           3.00     INCHES
     AVERAGE HORIZONTAL CLEARANCE                0.01475  INCHES - STD.
     AVERAGE VERTICAL CLEARANCE                  0.00675  INCHES - STD.

     RADIAL LOAD                              3600.       LBS.      82.8  PSI
     THRUST LOAD                              1600.       LBS.      73.4  PSI

 LUBRICANT OIL        S.A.E.  20  (SUS  348 @ 100 DEG. F. &  57 @ 210 DEG. F.)
 1/S = 18.663  XSO =  0.101     SOMMERFELD # =  0.054  L/D = 0.736   M = 0.542
     Y                                          4.6693
     FMT                                        1.009      0.426

 HEAT GENERATION                  TOTAL     5.659    HP
        RADIAL                              0.564    HP
        THRUST                              3.414    HP
        EXTERNAL                            1.681    HP

 HEAT DISSIPATION                 TOTAL     5.659    HP
        HOUSING                             0.659    HP
        WATER COOLING                       5.000    HP     12731.   BTU/HR

 MAXIMUM OPERATING TEMPERATURE              178.       DEG. F.
 MINIMUM RADIAL OIL FILM THICKNESS            0.0015   INCHES

     KXX =    3 640 621 LBS/IN          BXX =       35 929 LBS-SEC/IN
     KXY =    1 944 337 LBS/IN          BXY =        4 908 LBS-SEC/IN
     KYX =      -61 102 LBS/IN          BYX =        4 908 LBS-SEC/IN
     KYY =      684 399 LBS/IN          BYY =        5 222 LBS-SEC/IN
       X = VERTICAL DIRECTION             Y = HORIZONTAL DIRECTION
     KMAJOR =     3 753 328 LBS/IN      BMAJOR =       37 746 LBS-SEC/IN
     KMINOR =       571 691 LBS/IN      BMINOR =        3 404 LBS-SEC/IN

              THRESHOLD FREQUENCY = BEARING UNCONDITIONALLY STABLE

 REMARKS                            1     ANG= 41.2
     CALCULATIONS BASED ON BASE LOADED BEARING
     K OF SHAFT = 25.0 BTU/HR-FT-DEG F

 APPLICATION SATISFACTORY WITH SAE 20 WEIGHT NON-DETERGENT OIL

     FOR FURTHER ASSISTANCE, PLEASE CONTACT THE DODGE PLAIN BEARING PRODUCT
                        SPECIALIST AT (803) 281-2212
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1. Bore size and name of SLEEVOIL bearing.
2. Defines plain, circulating oil, or water cooled configurations.
3. States expansion or non-expansion type of bearing.
4. Repeat input data with default values if needed.
5. Presents heat generation and dissipation results.
6. Shows oil temperature rise needed for circulating oil system selection, maximum operating temperature responding to babbitt temperature and radial or thrust bearing minimum oil film thickness.
7. Dynamic coefficients of the film and instability threshold.
8. If calculations made for base or cap loaded bearing or bearing undercut was performed, a statement is issued.
9. Acceptance of performed selection, date and hour.

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SLEEVOIL

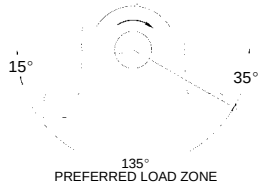
Selection and Load Ratings for Standard and Short Series SLEEVOIL® Pillow Blocks

Note—Fast accurate computer selection is now available for all stock as well as special SLEEV0IL applications. If you prefer to . . . this page and the tables that follow will allow you to do so.

Important—Ratings apply to both Standard and Short Series (SSL) SLEEVOIL pillow blocks. For SLEEVOIL RTL and RXT pillow blocks use data sheet on page 669 and consult DODGE.
Follow the steps below to check whether the particular bearing in question has an adequate load rating. For operating conditions other than listed under "Basis of Load Ratings"—consult factory.
Step 1. Depending on the type of bearing used, refer to either the second or third column in Table 20 on the following page. Using the actual thrust load to be carried by the bearing and interpolating between the thrust loads given in the column, trace to the right to the column headed by the actual RPM and note the "Equivalent RPM". Interpolate when required in this and the following steps.
Step 2. Depending on the type of bearing used, refer to the applicable one of Tables 20 thru 23. Using the Equivalent RPM, note the radial load rating. Disregard the SAE number of the oil.
If the rating is less than the actual radial load, either a larger or a different type bearing, for example externally cooled instead of plain, is required.
Step 3. Multiply the actual radial load by the Equivalent RPM and divide this product by the actual RPM. This result must not be greater than the bearing rating at the actual RPM. If greater, either a larger or a different type bearing is required. If the bearing rating is adequate, note the SAE number of the required oil.
Step 4. Refer to Table 20. From whichever one of the second or third columns that was used in Step 1, trace right to the applicable one of the fourth, fifth or sixth columns.Note the minimum radial load required by the actual thrust load. If the actual radial load exceeds this requirement, the bearing selected has adequate capacity.

Basis of Load Ratings

Load ratings are based on the four operating conditions stated below. For other conditions consult DODGE.
1. The oil specified under each rating should be used. The use of a different oil may reduce the allowable load and speed.The oils listed are:
SAE10 Oil: 183 SUS at 100 F or 46 SUS at 210 F.
SAE20 Oil: 348 SUS at 100 F or 57 SUS at 210 F.
SAE30 Oil: 489 SUS at 100 F or 65 SUS at 210 F.
2. The resultant radial load should be located within the 135 preferred zone—see drawing. If located outside this the allowable load and speed are reduced



3. The shaft journal surface finish must be equal to that of commerical steel shafting (about 32 micro inches) and the diameter within the tolerances of commercial steel shafting.
4. Ratings are based on an ambient (surrounding) temperature of 90 F and the assumption that, if the shaft transmits heat from an external source such as an oven, the shaft temperature at the bearing will not exceed 90 . Higher temperatures will reduce (and lower temperatures increase) the allowable load and speed.

Special Construction and Conditions

Load and speed may be increased by certain means such as decreased temperatures and changes in clearances between bearing and shaft—consult DODGE. For operating conditions not covered, for special high capacity units with hydrostatic or segmented thrust members, or for optimum computer selection for special applications—consult DODGE.

EXAMPLES OF SELECTION

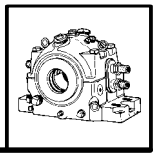
Example No. 1

Check the adequacy of a 3′ 15/6″ SLEEVOIL plain pillow block to carry 1800 pounds actual radial load and 130 pounds actual thrust load at 700 RPM.
Step 1. Refer to the second column in Table 20. The actual thrust load of 130 pounds is between the 0 and 336 values listed. Trace to the right to the column headed by the actual RPM of 700 and obtain 951 Equivalent RPM by interpolation between the 700 and 1350 values listed.
Step 2. Refer to Table 21. For 1000 Equivalent RPM note the radial load rating of 2990 which is adequate.
Step 3. 1800 Actual radial load x 1000 ÷ 700 = 2570.This is not greater than the 2920 rating in the 700 RPM column; hence, the bearing is adequate. Note that SAE30 oil is required.
Step 4. Interpolating in the fourth column of Table 20 between the 0 and 790 values, the minimum radial load required is 305 pounds. The actual radial load of 1800 pounds meets this requirement.
Because Steps 2, 3 and 4 checked satisfactorily, the bearing is adequate for the actual loads to be carried.

Example No. 2

Check the adequacy of a 4-7/16″ SLEEVOIL plain pillow block to carry 1800 pounds actual radial load and 350 pounds actual thrust load at 700 RPM.
Step 1. Refer to the second column in Table 20. The actual thrust load of 350 pounds is between the 342 and 909 values listed. Trace to the right to the column headed by the actual RPM of 700 and obtain 1405 Equivalent RPM by interpolation between the 1360 and 1480 values listed.
Step 2. Refer toTable 21. For 1387 Equivalent RPM note the radial load rating of 2555 which is adequate.
Step 3. 1800 Actual radial load x 1387 ÷ 700 = 3570.This is not greater than the 3770 rating in the 700 RPM column; hence, the bearing is adequate. Note that SAE30 oil is required.
Step 4. Refer to the fourth column in Table 20. Note that for 350 pounds thrust load, the minimum radial load requirement is 1000 pounds. The actual radial load of 1800 pounds meets this requirement.
Because Steps 2, 3 and 4 checked satisfactorily, the bearing is adequate for the actual loads.

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SLEEVOIL

Table 20—Thrust Load Data
Standard and Short Series SLEEVOIL® Pillow Blocks

(See instructIons on page 671 or fIll out data sheet on page 669)

Not to be used for SLEEVOIL RTL and RXT PIllow Blocks

Thrust Load Rating in Pounds

Shaft Size	Thrust Loads▲		Minimum Radial Load for Thrust Load★		"Equivalent RPM" is given in the body of the table. † Columns are headed by actual RPM.															
	Plain & Circu-lating Oil	Ex-ternally Cooled	Plain & Circu-lating Oil	Externally Cooled	250	300	400	500	600	700	800	1000	1200	1400	1600	2000	2500	3000	4000	5000	6000
1-7/16 1-1/2	0 26* 65	....	0 110 110	....	250 550 650	300 600 800	400 800 1000	500 1000 1200	600 1200 1450	700 1350 1600	800 1500 1800	1000 1800 2150	1200 2100 2500	1400 2400 2800	1600 2650 3100	2000 3100 3650	2500 3750 4250	3000 4300 4850	4000 5350 6000	5000 6400 7000	6000 7400 8000
1-11/16 1-3/4	0 39* 98	0 39* 98	0 150 150	0 270 270	250 520 600	300 600 710	400 800 930	500 980 1150	600 1140 1330	700 1300 1510	800 1470 1700	1000 1780 2040	1200 2080 2370	1400 2350 2690	1600 2620 2980	2000 3100 3540	2500 3760 4190	3000 4220 4770	4000 5290 5890	5000 6320 6980	6000 7380 8050
1-15/16 2	0 46* 116	0 46* 116	0 190 190	0 350 350	250 510 550	300 600 680	400 750 850	500 920 1050	600 1090 1220	700 1240 1400	800 1400 1560	1000 1690 1880	1200 1960 2200	1400 2220 2490	1600 2450 2800	2000 2880 3280	2500 3430 3850	3000 3950 4410	4000 5000 5500	5000 6040 6560	6000 7060 7610
2-3/16 2-1/4	0 50* 127	50* 127 0	0 250 250	0 440 440	250 450 540	300 520 650	400 700 840	500 840 1020	600 1000 1200	700 1140 1360	800 1280 1520	1000 1560 1820	1200 1810 2100	1400 2100 2400	1600 2320 2640	2000 2760 3090	2500 3280 3650	3000 3810 4200	4000 4840 5280	5000 5880 6330	
2-7/16 2-1/2	0 57* 140	0 57* 140	0 300 300	0 550 550	250 420 480	300 500 590	400 650 750	500 800 940	600 940 1090	700 1090 1250	800 1220 1400	1000 1490 1680	1200 1760 2000	1400 1970 2240	1600 2190 2460	2000 2620 2900	2500 3140 3460	3000 3660 3990	4000 4680 5040	5000 5710 6090	
2-11/16 2-3/4	0 78* 195	0 78* 195	0 370 370	0 670 670	250 440 540	300 520 630	400 680 820	500 830 1000	600 1000 1160	700 1130 1320	800 1280 1480	1000 1540 1760	1200 1780 2040	1400 2000 2280	1600 2220 2500	2000 2640 2950	2500 3180 3500	3000 3690 4040	4000 4720 5090		
2-15/16 3	0 85* 212	0 85* 212	0 440 440	0 790 790	250 420 480	300 500 570	400 650 730	500 800 900	600 950 1040	700 1080 1200	800 1220 1350	1000 1480 1690	1200 1700 1930	1400 1920 2160	1600 2130 2380	2000 2640 2950	2500 3060 3350	3000 3590 3910	4000 4610 4940		
3-7/16 3-1/2	0 124* 309	0 124* 309	0 600 600	0 1090 1090	250 450 540	300 530 630	400 700 810	500 850 980	600 990 1130	700 1120 1280	800 1250 1420	1000 1480 1690	1200 1690 1920	1400 1910 2150	1600 2120 2370	2000 2540 2810	2500 3060 3340	3000 3580 3870			
3-15/16 4	0 336* 566	0 336 566	0 790 790	0 1420 1420	250 570 640	300 670 750	400 860 950	500 1050 1130	600 1200 1300	700 1350 1460	800 1500 1650	1000 1740 1910	1200 1970 2160	1400 2200 2400	1600 2430 2630	2000 2880 3090	2500 3410 3640	3000 3950 4190			
4-7/16 4-1/2	0 342* 909	0 459 909	0 1000 1000	0 1800 1800	250 570 640	300 680 760	400 870 960	500 1040 1150	600 1210 1320	700 1360 1480	800 1510 1670	1000 1760 1930	1200 2000 2180	1400 2230 2430	1600 2460 2660	2000 2900 3120	2500 3440 3680				
4-15/16 5	0 519* 916	0 519 916	0 1230 1230	0 2220 2220	250 520 590	300 600 700	400 780 880	500 950 1060	600 1160 1280	700 1290 1410	800 1410 1550	1000 1640 1800	1200 1870 2040	1400 2100 2270	1600 2320 2500	2000 2760 2940	2500 3280 3490				
5-7/16	0 636* 1168	0 636 1168	0 1500 1500	0 2690 2690	250 570 660	300 670 760	400 830 950	500 990 1120	600 1140 1260	700 1270 1390	800 1390 1520	1000 1620 1770	1200 1850 2000	1400 2080 2240	1600 2300 2460	2000 2720 2910					
6	0 756* 1362	0 756 1362	0 1800 1800	0 3240 3240	250 560 650	300 670 750	400 840 930	500 970 1070	600 1090 1200	700 1210 1320	800 1330 1450	1000 1560 1690	1200 1780 1920	1400 2000 2150	1600 2220 2370	2000 2640 2810					
7	0 1089* 2133	0 1089 2133	0 2450 2450	0 4410 4410	250 630 700	300 700 770	400 840 930	500 970 1070	600 1090 1200	700 1210 1330	800 1330 1450	1000 1560 1690	1200 1780 1920	1400 2000 2150	1600 2220 2380						
8	0 1368* 2654	0 1368 2654	0 3200 3200	0 5750 5750	250 580 660	300 660 740	400 800 880	500 920 1020	600 1040 1150	700 1160 1270	800 1280 1390	1000 1500 1630	1200 1730 1850	1400 1940 2080	1600 2160 2300						
9	0 1671* 3375	0 1890 3742	0 3600 3600	0 6890 6890	250 420 450	300 480 530	400 630 680	500 780 850	600 910 990	700 1050 1130	800 1190 1280	1000 1450 1560	1200 1720 1860	1400 1980 2040							
10	0 1218* 2302	0 2301 4978	0 4000 4000	0 8100 8100	250 640 730	300 720 800	400 860 950	500 990 1090	600 1110 1230	700 1230 1360	800 1360 1480	1000 1590 1730	1200 1810 1960								
12	0 1770* 2784	0 2970 6975	0 5400 5400	0 10800 10800	250 500 550	300 560 620	400 680 750	500 800 870	600 970 990	700 1020 1100	800 1130 1210	1000 1350 1430									

Interpolate for intermediate loads and speeds.

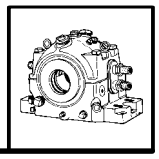
▲ See "Special Constructions and Conditions" on preceding page.

* Special modifications required if thrust loads exceed this value—consult Dodge.

† "Equivalent RPM" instead of actual RPM is required for Radial Load Tables 21 thru 23 when thrust load is also carried—see preceding page.

★ If radial load is less than minimum, consult DODGE for bore modification to insure satisfactory operation.

SELECTION COMPUTER
PAGE 669



SLEEVOIL

Table 21—Thrust Load Data
Standard and Short Series SLEEVOIL® Pillow Blocks

(See instructlons on page 671 or fIll out data sheet on page 669)

Not to be used for SLEEV0IL RTL and RXT PIllow Blocks

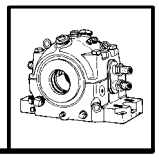
Radial Load Ratings in Pounds

Shaft Size	Item	Radial Load Rating at Various Revolutions per Minute ★																	
		250	300	350	400	450	500	550	600	650	700	750	800	900	1000	1100	1200	1300	1400
1-7/16, 1-1/2	Load Oil	60 30	70 30	80 30	95 30	105 30	115 30	130 30	140 30	155 30	165 30	175 30	180 30	190 30	200 30	205 30	210 30	210	210
1-11/16, 1-3/4	Load Oil	140 30	170 30	200 30	220 30	240 30	260 30	265 30	275 30	290 30	295 30	300 30	310 30	325 30	330 30	335 30	340 30	340 30	340 30
1-15/16, 2	Load Oil	270 30	300 30	325 30	350 30	370 30	395 30	410 30	420 30	425 30	440 30	450 30	450 30	460 30	460 30	465 30	465 30	470 30	470 30
2-3/16, 2-1/4	Load Oil	365 30	410 30	430 30	470 30	490 30	520 30	540 30	560 30	570 30	580 30	590 30	600 30	600 30	610 30	610 30	620 30	620 30	630 30
2- 7/16, 2-1/2	Load Oil	575 30	610 30	660 30	690 30	730 30	755 30	780 30	790 30	805 30	815 30	830 30	830 30	840 30	850 30	860 30	875 30	875 30	890 30
2-11/16, 2-3/4	Load Oil	815 30	875 30	930 30	1000 30	1020 30	1060 30	1100 30	1120 30	1140 30	1150 30	1150 30	1170 30	1170 30	1180 30	1180 30	1200 30	1200 30	1200 30
2-15/16, 3	Load Oil	1060 30	1140 30	1200 30	1250 30	1280 30	1320 30	1340 30	1350 30	1350 30	1360 30	1360 30	1370 30	1370 30	1370 30	1380 30	1390 30	1390 30	1390 30
3-7/16, 3-1/2	Load Oil	1580 30	1700 30	1800 30	1870 30	1900 30	1940 30	1960 30	1960 30	1970 30	1970 30	1980 30	1980 30	1980 30	2000 30	2000 30	2020 30	2020 30	1830 30
3-15/16, 4	Load Oil	2460 30	2650 30	2740 30	2840 30	2860 30	2870 30	2890 30	2900 30	2910 30	2920 30	2930 30	2950 30	2960 30	2990 30	2990 30	2710 30	2610 20	2140 20
4-7/16, 4-1/2	Load Oil	3280 30	3480 30	3600 30	3680 30	3700 30	3720 30	3730 30	3740 30	3760 30	3770 30	3780 30	3790 30	3790 30	3840 30	3240 20	3200 20	2520 10	2560 10
4-15/16, 5	Load Oil	4700 30	4850 30	5000 30	5050 30	5100 30	5100 30	5150 30	5170 30	5220 30	5220 30	5320 30	5370 30	5470 30	4200 20	4050 20	3500 10	3500 10	3110 10
5-7/16, 5-1/2	Load Oil	6000 30	6200 30	6290 30	6290 30	6290 30	6290 30	6290 30	6290 30	6290 30	6290 30	6290 30	6290 30	5390 20	4790 20	4310 10	4310 10	3590 10	2630 10
6	Load Oil	8600 30	8600 30	8640 30	8640 30	8640 30	8640 30	8640 30	8640 30	8640 30	7700 20	7700 20	7200 10	7200 10	5900 10	1300 10			
7	Load Oil	14000 30	14500 30	14500 30	14500 30	14500 30	14500 30	14500 30	12700 30	12100 30	9800 20	9800 10	9800 10	7650 10	3140 10				
8	Load Oil	20000 30	20000 30	20400 30	20400 30	20400 30	20400 30	17700 20	16600 20	14200 10	14200 10	14200 10	11300 10	5640 10					
9	Load Oil	25000 30	25000 30	25000 30	25000 30	25000 30	22500 20	22500 20	17000 10	17000 10	18000 10	11900 10	10000 10	4600 10					
10	Load Oil	31000 30	31000 30	31000 30	28200 20	21400 10	21400 10	19200 10	13400 10	8320 10	2880 10								
12	Load Oil	41700 30	41700 30	36800 20	27900 10	27900 10	19000 10	9080 10											

Shaft Size	Item	Radial Load Rating at Various Revolutions per Minute ★																	
		1500	1600	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	4000	4500	5000	5500	6000	7000
1-7/16, 1-1/2	Load Oil	215 30	215 30	220 30	220 30	225 30	230 30	230 20	235 30	240 30	240 10	240 30	245 30	205 20	180 20	160 10	165 10	120 10	47 10
1-11/16, 1-3/4	Load Oil	345 30	345 30	350 30	355 30	355 30	360 30	360 20	365 30	365 30	370 30	325 20	325 20	250 10	255 10	195 10	125 10	47 10	
1-15/16, 2	Load Oil	475 30	480 30	490 30	490 30	495 30	505 30	425 20	410 20	325 10	335 10	335 10	320 10	210 10	93 10				
2-3/16, 2-1/4	Load Oil	640 30	640 30	650 30	650 30	660 30	580 20	590 20	470 20	440 10	450 10	435 10	365 10	215 10	59 10				
2-7/16, 2-1/2	Load Oil	900 30	900 30	915 30	925 30	805 20	770 20	610 10	610 10	635 10	525 10	400 10	305 10	110 10					
2-11/16, 2-3/4	Load Oil	1210 30	1210 30	1230 30	1050 20	960 20	815 10	815 10	755 10	575 10	415 10	270 10	150 10						
2-15/16, 3	Load Oil	1390 30	1310 30	1220 20	955 10	970 10	810 10	600 10	390 10	195 10									
3-7/16, 3-1/2	Load Oil	1710 20	1560 20	1350 10	1420 10	940 10	600 10	315 10											
3-15/16, 4	Load Oil	2010 10	2010 10	1670 10	1010 10	505 10													
4-7/16, 4-1/2	Load Oil	2600 20	2160 10	1240 10	480 10														.
4-15/16, 5	Load Oil	2420 10	1780 10	640 10															
5-7/16, 5-1/2	Load Oil	1730 10	960 10																

★ **IMPORTANT—**follow instructions on page 671.

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SLEEVOIL

Table 22—Radial Load Ratings
Standard and Short Series SLEEVOIL Externally Cooled Pillow Blocks

(See instructions on page 671 or fill out data sheet on page 669)

Not to be used for SLEEVOIL RTL and RXT Pillow Blocks

Radial Load Ratings in Pounds

Shaft Size	Water Flow Rate▲	Item	Radial Load Ratings at Various Revolutions per Minute*																	
			300	350	400	450	500	550	600	650	700	750	800	850	900	1000	1100	1200	1300	1400
1-11/16, 1-3/4	0.5	Load Oil	180 30	195 30	250 30	285 30	305 30	340 30	380 30	425 30	450 30	485 30	505 30	530 30	550 30	585 30	615 30	635 30	665 30	690 30
1-15/16, 2	0.55	Load Oil	325 30	365 30	410 30	480 30	510 30	560 30	620 30	680 30	730 30	760 30	790 30	830 30	855 30	890 30	930 30	960 30	985 30	1000 30
2-3/16, 2-1/4	0.6	Load Oil	785 30	845 30	940 30	1000 30	1050 30	1080 30	1120 30	1150 30	1170 30	1190 30	1210 30	1220 30	1240 30	1260 30	1270 30	1280 30	1290 30	1300 30
2-7/16, 2-1/2	0.75	Load Oil	910 30	985 30	1030 30	1100 30	1150 30	1200 30	1250 30	1290 30	1330 30	1370 30	1400 30	1440 30	1480 30	1530 30	1560 30	1630 30	1680 30	1710 30
2-11/16, 2-3/4	1.0	Load Oil	1020 30	1180 30	1360 30	1480 30	1500 30	1690 30	1780 30	1850 30	1920 30	1980 30	2040 30	2080 30	2140 30	2220 30	2280 30	2320 30	2330 30	2380 30
2-15/16, 3	1.25	Load Oil	1460 30	1720 30	1930 30	2130 30	2310 30	2410 30	2500 30	2600 30	2680 30	2730 30	2780 30	2830 30	2880 30	2960 30	3050 30	3090 30	3110 30	3120 30
3-7/16, 3-1/2	1.5	Load Oil	2300 30	2640 30	2980 30	3190 30	3360 30	3500 30	3620 30	3720 30	3790 30	3860 30	3930 30	3980 30	4030 30	4080 30	4080 30	4180 30	4180 30	4206 30
3-15/16, 4	1.75	Load Oil	3940 30	4350 30	4660 30	4910 30	5160 30	5320 30	5490 30	5580 30	5610 30	5610 30	5610 30	5610 30	5610 30	5610 30	5610 30	5610 30	5610 30	5610 30
4-7/16, 4-1/2	2.25	Load Oil	5280 30	5840 30	6240 30	6560 30	6800 30	7000 30	7120 30	7240 30	7320 30	7350 30	7350 30	7350 30	7350 30	7350 30	7350 30	7350 30	7350 30	7350 30
4-15/16, 5	2.5	Load Oil	7350 30	8000 30	8470 30	8660 30	8960 30	9100 30	9250 30	9350 30	9350 30	9350 30	9350 30	9350 30	9350 30	9350 30	9350 30	9350 30	9350 30	9350 30
5-7/16 5-1/2	3.0	Load Oil	9600 30	10300 30	10800 30	11200 30	11500 30	11700 30	11800 30	11900 30	12000 30	12000 30	12000 30	12000 30	12000 30	12000 30	12000 30	12000 30	12000 30	12000 30
6	4.0	Load Oil	17000 30	17400 30	17600 30	17700 30	17700 30	17700 30	17700 30	17700 30	17700 30	17700 30	17700 30	17700 30	17700 30	17709 30	17700 30	17700 30	15100 30	15100 30
7	5.0	Load Oil	24000 30	24300 30	24500 30	24500 30	24500 30	24500 30	24500 30	24500 30	24500 30	24500 30	24500 30	24500 30	24500 30	24500 30	22100 20	19600 20	16600 20	16600 20
8	6.5	Load Oil	38400 30	38800 30	38800 30	38800 30	38800 30	38800 30	38800 30	38800 30	38800 30	38800 30	38800 30	38800 30	38800 30	36000 20	29500 20	26500 10	26500 10	26500 10
9	8.0	Load Oil	44600 30	45100 30	45300 30	45300 30	45300 30	45300 30	45300 30	45300 30	45300 30	45300 30	45300 30	45300 30	40000 20	36100 20	31500 10	31200 10	25700 10	18800 10
10	9.0	Load Oil	59200 30	59200 30	59200 30	59200 30	59200 30	59200 30	59200 30	59200 30	51900 20	51900 20	43400 20	38400 10	38400 10	36800 10	24900 10	14100 10	1920 10	
12	10.0	Load Oil	72000 30	72000 30	72000 30	72000 30	72000 30	72000 30	69200 20	69200 20	58000 20	52000 10	52000 10	52000 10	33200 10	18800 10	2600 10			

Shaft Size	Water Flow Rate▲	Item	Radial Load Ratings at Various Revolutions per Minute*																	
			1500	1600	1800	2000	2200	2400	2600	3000	3500	4000	4500	5000	6000	7000	8000	9000	10000	11000
1-11/16, 1-3/4	0.5	Load Oil	710 30	720 30	750 30	770 30	780 30	785 30	795 30	795 30	795 30	800 30	800 30	800 30	805 30	735 30	625 20	605 10	615 10	355 10
1-5/16, 2	0.55	Load Oil	1010 30	1020 30	1050 30	1070 30	1070 30	1070 30	1070 30	1070 30	1070 30	1070 30	1070 30	1070 30	945 20	760 10	745 10	465 10	240 10	39 10
2-3/16 2-2/4	0.6	Load Oil	1320 30	1330 30	1340 30	1360 30	1360 30	1360 30	1360 30	1360 30	1360 30	1350 30	1350 30	1350 30	925 10	905 10	550 10	215 10		
2-7/16, 2-1/2	0.75	Load Oil	1740 30	1770 30	1800 30	1840 30	1870 30	1880 30	1880 30	1880 30	1880 30	1880 30	1630 20	1390 20	1280 10	550 10				
2-11/16, 2-3/4	1 0	Load Oil	2390 30	2390 30	2410 30	2420 30	2420 30	2440 30	2450 30	2470 30	2510 30	2070 20	1800 20	1630 10	1180 10	475 10				
2-15/6, 3	1.25	Load Oil	3140 30	3160 30	3160 30	3180 30	3180 30	3190 30	3190 30	3210 30	2650 20	2310 10	2380 10	1700 10						
3-7/16, 3-1/2	1.5	Load Oil	4200 30	4230 30	4230 30	4250 30	4280 30	4300 30	4330 30	3600 20	2920 10	2880 10	1970 10	865 10						
3-15/16, 4	1.75	Load Oil	5610 30	5610 30	5610 30	5610 30	5610 30	5050 20	4790 20	3880 10	2860 10	315 10								
4-7/16, 4-1/2	2.25	Load Oil	7350 30	7350 30	7350 30	7350 30	6440 20	5440 10	4960 10	4320 10	1600 10									
4-15/16, 5	2.5	Load Oil	9350 30	9350 30	9060 30	8320 30	6600 10	6600 10	6300 10	2950 10										
5-7/16 5-1/2	3.0	Load Oil	12000 30	11700 30	10500 20	8310 10	8370 10	7410 10	5380 10	1850 10										
6	4.0	Load Oil	12600 20	12200 10	12200 10	5400 10														
7	5.0	Load Oil	16600 10	11100 10	490 10															
8	6.5	Load Oil	15900 10	8700 10																
9	8.0	Load Oil	12700 10	7650 10																

Note—Ratings to the right of the zigzag rule are for use only when "Equivalent RPM" is used: the use of actual RPM would result in exceeding the oil ring speed limit.

* **IMPORTANT**—follow instructions on page 671.

▲ Gallons per minute Maximum water inlet temperature 90°F

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SLEEVOIL

Table 23—Radial Load Ratings
Standard and Short Series SLEEVOIL Externally Cooled Pillow Blocks

(See instructions on page 671 or fill out data sheet on page 669)

Not to be used for SLEEVOIL RTL and RXT Pillow Blocks

Radial Load Ratings in Pounds

Shaft Size	Oil Flow Rate▲	Item	Radial Load Ratings at Various Revolutions per Minute*										
			200	400	600	800	1000	1200	1400	1600	1800	2000	2500
1-11/16, 1-3/4	1.2	Load Oil	120 30	170 30	220 30	260 30	305 30	385 30	415 30	450 30	495 30	565 30	655 30
1-15/16, 2	1.2	Load Oil	225 30	355 30	435 30	495 30	560 30	635 30	680 30	745 30	805 30	870 30	970 30
2-3/16, 2-1/4	1.3	Load Oil	205 30	385 30	470 30	590 30	760 30	840 30	865 30	995 30	1090 30	1180 30	1330 30
2-7/16, 2-1/2	1.3	Load Oil	290 30	510 30	840 30	1020 30	1170 30	1300 30	1420 30	1550 30	1670 30	1780 30	1990 30
2-11/16, 2-3/4	1.5	Load Oil	445 30	845 30	1150 30	1420 30	1600 30	1770 30	1950 30	2130 30	2310 30	2470 30	2760 30
2-15/16, 3	1.5	Load Oil	915 30	1300 30	1620 30	1880 30	1940 30	2360 30	2560 30	2750 30	2920 30	3100 30	3520 30
3-7/16, 3-1/2	1.75	Load Oil	1580 30	2450 30	3020 30	3600 30	3850 30	4140 30	4500 30	4810 30	5100 30	5400 30	5870 30
3-15/16, 4	2.0	Load Oil	2080 30	2610 30	3680 30	4350 30	49d0 30	5470 30	5890 30	6300 30	6800 30	7180 30	8040 30
4-7/16 4-1/2	2.25	Load Oil	2700 30	4100 30	5200 30	5990 30	6700 30	7420 30	7990 30	8160 30	9190 30	9700 30	10900 30
4-15/16 5	2.5	Load Oil	4600 30	6000 30	7190 30	8270 30	9450 30	10400 30	11100 30	11800 30	12700 30	13300 30	14800 30
5-7/16, 5-1/2	3.25	Load Oil	5800 30	7800 30	9700 30	11100 30	12600 30	13600 30	14700 30	15800 30	16800 30	17600 30	19500 30
6	4.0	Load Oil	6000 30	10500 30	20200 30	20200 30	20200 30	20200 30	19100 20	17100 10	17100 10	17100 10	13800 10
7	5.0	Load Oil	10000 30	26900 30	26900 30	26900 30	26900 30	25100 30	24500 20	22600 10	22600 10	22600 10	16500 10
8	6.5	Load Oil	14000 30	37900 30	37900 30	37900 30	37900 30	35100 20	35100 20	32200 10	32200 10	32200 10	19200 10
9	7.0	Load Oil	25300 30	37600 30	46600 30	53000 30	53000 30	53000 30	53000 20	46000 20	46000 10	46000 10	
10	7.5	Load Oil	25000 30	59200 30	59200 30	59200 30	59200 30	56800 20	56800 20	53900 10	53900 10		
12	9.5	Load Oil	95000 30	95000 30	95000 30	90000 20	85100 10	85100 10	85100 10	69100 10			

Shaft Size	Oil Flow Rate▲	Item	Radial Load Ratings at Various Revolutions per Minute*										
			3000	3500	4000	4500	5000	5500	6000	7000	8000	9000	10000
1-11/16, 1-3/4	1.5	Load Oil	745 30	820 30	900 30	970 30	1040 30	1100 30	1160 30	1250 30	1350 30	1440 30	1510 30
1-15/16, 2	1.75	Load Oil	1070 30	1170 30	1270 30	1360 30	1460 30	1550 30	1640 30	1780 30	1920 30	2030 30	
2-3/16, 2-1/4	1.75	Load Oil	1480 30	1620 30	1770 30	1890 30	2010 30	2120 30	2230 30	2450 30	2660 30		
2-7/16, 2-1/2	1.75	Load Oil	2200 30	2410 30	2610 30	2760 30	2920 30	3080 30	3240 30	3510 30			
2-11/16, 2-3/4	2.0	Load Oil	3040 30	3280 30	3500 30	3680 30	3840 30	3990 30	4140 30	4340 30			
2-15/16 3	2.0	Load Oil	3950 30	4260 30	4590 30	4940 30	5290 30	5490 30	5680 30				
3-7/16, 3-1/2	2.25	Load 30	6350 30	6700 30	7020 30	7250 30	7460 30						
3-15/16 4	2.5	Load Oil	8870 30	9560 30	10300 30	9120 20							
4-7/16, 4-1/2	2.75	Load Oil	12000 30	12800 30	11800 20								
4-15/16, 5	3.0	Load Oil	16300 30	15300 20									
5-7/16, 5-1/2	3.25	Load Oil	18600 20										
6	4.5	Load Oil	5460 10										
7	5.0	Load Oil											
8	6.5	Load Oil											
9	7.0	Load Oil											
10	7.5	Load Oil											
12	9.5	Load Oil											

Note- Ratings apply to standard and short series pillow blocks modified to permit the use of circulating oil—consult DODGE for prices and details. Externally cooled pillow blocks can also be modified for circulating oil usage—consult DODGE.

* **IMPORTANT**—follow instructions on page 671.

▲ Gallons per minute Maximum oil in let temperature 120°F. For speeds and loads greater than those shown. consult DODGE.

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