

# General Purpose Clutches

## DC

Overrunning, Indexing, Backstopping External Bearing Support Required, Sprag Clutches



### Retainer Assemblies

Model DC is a sprag type dual cage retainer assembly without inner or outer races. It must be installed in a design providing races, bearing support for axial and radial loads, lubrication and sealing. The sprag annular space must be maintained. Inner and outer races must both have a minimum plain width "E", without any recess, to ensure the clutch functions correctly. The model DC part numbers that end in "-N" have a special Sprag design that will work with all types of lubricants including those with EP (Extreme Pressure) additives. Inner and outer races are also available, as shown

### Specifications

Size	Torque Capacity lb.ft. (Nm)	Overrunning Speed Max. RPM		Race		Annular Space in.* (mm)	Retainer Width			Shipping Weight lb. (kg)
		Inner Race "imax" <sup>2</sup> (min. <sup>-1</sup> )	Outer Race "amax" <sup>3</sup> (min. <sup>-1</sup> )	I.D. A +0.0003 -0.0002 in. (mm)	O.D. C ±0.0005 in. (mm)		E min. in. (mm)	D min. in. (mm)	B max. in. (mm)	
DC2222G-N	46 (63)	8,600	4,300	0.875 (22.225)	1.531 (38.885)	0.33 (8.33)	0.39 (10)	1.97 (50)	0.67 (17)	0.07 (0.03)
DC2776-N	88 (119)	6,900	3,400	1.093 (27.762)	1.749 (44.422)	0.33 (8.33)	0.53 (13.5)	2.28 (58)	0.83 (21)	0.12 (0.055)
DC3034-N	92 (124)	6,300	3,100	1.194 (30.34)	1.850 (47)	0.33 (8.33)	0.53 (13.5)	2.44 (62)	0.91 (23)	0.13 (0.06)
DC3175(3C)-N	117 (159)	6,000	3,000	1.250 (31.75)	1.906 (48.41)	0.33 (8.33)	0.53 (13.5)	2.48 (63)	0.94 (24)	0.13 (0.06)
DC3809A-N	203 (275)	5,000	2,500	1.499 (38.092)	2.156 (54.752)	0.33 (8.33)	0.63 (16)	2.80 (71)	1.14 (29)	0.19 (0.085)
DC4127(3C)-N	165 (224)	4,600	2,300	1.625 (41.275)	2.281 (57.935)	0.33 (8.33)	0.53 (13.5)	2.95 (75)	1.26 (32)	0.20 (0.09)
DC4445A-N	268 (363)	4,300	2,100	1.750 (44.45)	2.406 (61.11)	0.33 (8.33)	0.63 (16)	3.11 (79)	1.34 (34)	0.21 (0.095)
DC4972(4C)-N	226 (306)	3,800	1,900	1.958 (49.721)	2.613 (66.381)	0.33 (8.33)	0.53 (13.5)	3.39 (86)	1.50 (38)	0.22 (0.1)
DC5476A-N	387 (525)	3,500	1,700	2.156 (54.765)	2.812 (71.425)	0.33 (8.33)	0.63 (16)	3.62 (92)	1.65 (42)	0.24 (0.11)
DC5476A(4C)-N	387 (525)	3,500	1,700	2.156 (54.765)	2.812 (71.425)	0.33 (8.33)	0.63 (16)	3.62 (92)	1.65 (42)	0.29 (0.13)
DC5476B(4C)-N	568 (769)	3,500	1,700	2.156 (54.765)	2.812 (71.425)	0.33 (8.33)	0.83 (21)	3.62 (92)	1.65 (42)	0.40 (0.18)
DC5476C(4C)-N	731 (990)	3,500	1,700	2.156 (54.765)	2.812 (71.425)	0.33 (8.33)	1.0 (25.4)	3.62 (92)	1.65 (42)	0.44 (0.2)
DC5776A-N	446 (604)	3,300	1,600	2.274 (57.76)	2.930 (74.42)	0.33 (8.33)	0.63 (16)	3.86 (98)	1.73 (44)	0.24 (0.11)
DC6334B-N	595 (806)	3,000	1,500	2.494 (63.34)	3.150 (80)	0.33 (8.33)	0.83 (21)	4.09 (104)	1.97 (50)	0.39 (0.175)
DC7221(5C)-N	498 (675)	2,600	1,300	2.843 (72.217)	3.500 (88.877)	0.33 (8.33)	0.53 (13.5)	4.53 (115)	2.20 (56)	0.31 (0.14)
DC7221B-N	944 (1279)	2,600	1,300	2.843 (72.217)	3.500 (88.877)	0.33 (8.33)	0.83 (21)	4.53 (115)	2.20 (56)	0.41 (0.185)
DC7221B(5C)-N	944 (1279)	2,600	1,300	2.843 (72.217)	3.500 (88.877)	0.33 (8.33)	0.83 (21)	4.53 (115)	2.20 (56)	0.46 (0.21)
DC7969C(5C)-N	1504 (2038)	2,400	1,200	3.138 (79.698)	3.794 (96.358)	0.33 (8.33)	1.00 (25.4)	4.88 (124)	2.40 (61)	0.62 (0.28)
DC8334C-N	1517 (2055)	2,300	1,100	3.281 (83.34)	3.937 (100)	0.33 (8.33)	1.00 (25.4)	5.20 (132)	2.56 (65)	0.60 (0.27)
DC8729A-N	923 (1250)	2,200	1,100	3.437 (87.29)	4.093 (103.96)	0.33 (8.33)	0.63 (16)	5.28 (134)	2.64 (67)	0.36 (0.165)
DC10323A(5C)-N*	1190 (1612)	1,800	900	4.064 (103.231)	4.720 (119.891)	0.33 (8.33)	0.63 (16)	6.10 (155)	3.15 (80)	0.25 (0.205)
DC12334C-N*	3542 (4800)	1,500	750	4.856 (123.34)	5.512 (140)	0.33 (8.33)	1.00 (25.4)	7.24 (184)	3.78 (96)	0.88 (0.4)
DC12388C(11C)	3598 (4875)	1,500	750	4.878 (123.881)	5.625 (142.88)	0.37 (9.5)	1.00 (25.4)	7.32 (186)	3.78 (96)	0.88 (0.4)

\* ±0.075mm, except size DC12388C(11C) is ±0.10mm

on the following pages.

Alternatively, races can be made in case hardened steel shafts, or housings, to the specification below. Surface hardness of the finished part should be HRC 60 to 62, for a depth of .024" (.6mm) minimum.

Core hardness should be HRC35 to 45. Surface roughness should not exceed 22Ra. Maximum taper between races: .0003" (.007mm) for .984" (25mm) width.

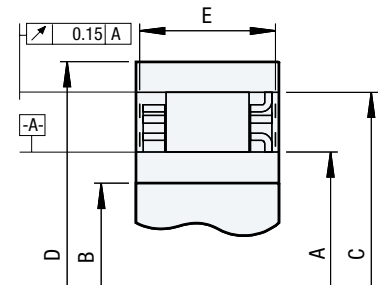
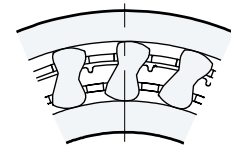
### Races

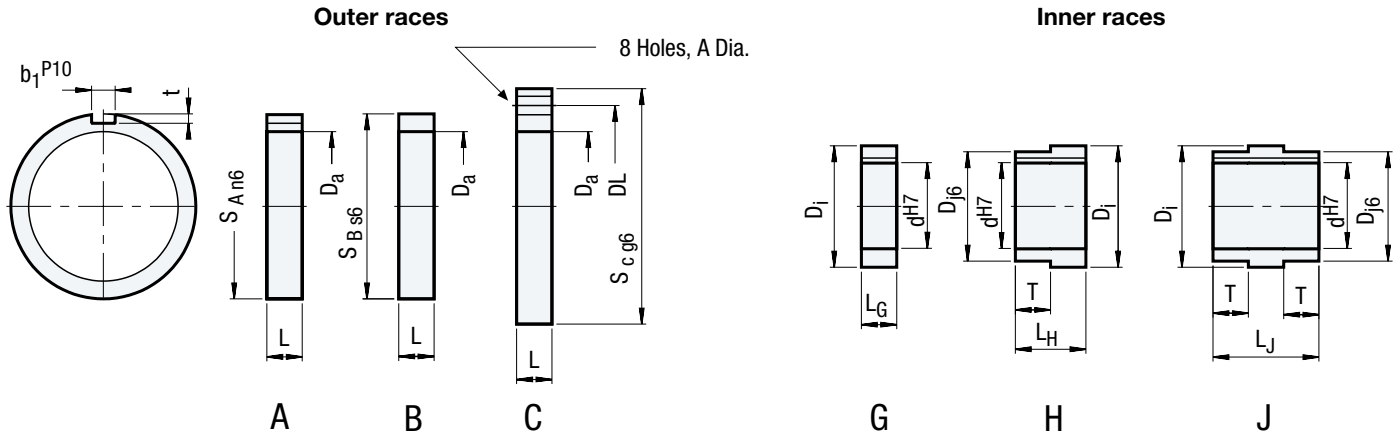
DC races are offered for use with the DC retainer assemblies. The retainer assembly and races make a nonbearing supported clutch. Bearing support for axial and radial loads must be provided along with lubrication and sealing. The annular space tolerance must not be exceeded when all bearing clearances and mounting tolerances are considered. Taper between races should be below .0003" (.007mm) for .984" (25mm) width.

Outer races type A and B should be pressed into housings that will not deform after assembly.

Please contact our technical department if you need to transmit maximum clutch torque capacity with A and G type. Key stresses may have to be checked.

### Sprag Retainer Assemblies





### Dimensions inches (mm)

Size	dH7*	Lg	Lh	Lj	Dj6	T	Di (+.008 -.005)	L	SAn6	b1 P10	t	SBs6	SCg6	DL (±0.1)	A	Da (±0.013)
To be used with DC size 3809A:																
DC230A							0.6 (16)	2.8 (72)	0.2 (6)	0.1 (3.5)						2.2 (54.752)
DC230B							0.6 (16)				2.8 (72)					2.2 (54.752)
DC230C							0.6 (16)						3.7 (95)	3.1 (78)	0.28 (7)	2.2 (54.752)
DC230G10	0.39 (10)	0.6 (16)					1.5 (38.092)									
DC230G15	0.79 (15)	0.6 (16)					1.5 (38.092)									
DC230G20	0.79 (20)	0.6 (16)					1.5 (38.092)									
DC230H10	0.39 (10)		1.3 (33)		1.4 (35)	0.7 (17)	1.5 (38.092)									
DC230H15	0.59 (15)		1.3 (33)		1.4 (35)	0.7 (17)	1.5 (38.092)									
DC230H20	0.79 (20)		1.3 (33)		1.4 (35)	0.7 (17)	1.5 (38.092)									
DC230J10	0.39 (10)			2.0 (50)	1.4 (35)	0.7 (17)	1.5 (38.092)									
DC230J15	0.59 (15)			2.0 (50)	1.4 (35)	0.7 (17)	1.5 (38.092)									
DC230J20	0.79 (20)			2.0 (50)	1.4 (35)	0.7 (17)	1.5 (38.092)									
To be used with DC sizes 5476A, 5476A(4C):																
DC167A							0.6 (16)	3.5 (90)	0.4 (10)	0.2 (5)						2.8 (71.425)
DC167B							0.6 (16)				3.5 (90)					2.8 (71.425)
DC167C							0.6 (16)					4.3 (110)	3.7 (95)	0.35 (9)		2.8 (71.425)
DC167G25	0.98 (25)	0.6 (16)					2.2 (54.765)									
DC167G30	1.18 (30)	0.6 (16)					2.2 (54.765)									
DC167G35	1.38 (35)	0.6 (16)					2.2 (54.765)									
DC167H25	0.98 (25)		1.4 (35)		2.0 (50)	0.7 (19)	2.2 (54.765)									
DC167H30	1.18 (30)		1.4 (35)		2.0 (50)	0.7 (19)	2.2 (54.765)									
DC167H35	1.38 (35)		1.4 (35)		2.0 (50)	0.7 (19)	2.2 (54.765)									
DC167J25	0.98 (25)			2.1 (54)	2.0 (50)	0.7 (19)	2.2 (54.765)									
DC167J30	1.18 (30)			2.1 (54)	2.0 (50)	0.7 (19)	2.2 (54.765)									
DC167J35	1.38 (35)			2.1 (54)	2.0 (50)	0.7 (19)	2.2 (54.765)									
To be used with DC sizes 7221 (5C), 7221B, 7221B (5C):																
DC168A							0.8 (21)	4.3 (110)	0.6 (14)	0.2 (5.5)						3.5 (88.877)
DC168B							0.8 (21)				4.3 (110)					3.5 (88.877)
DC168C							0.8 (21)					5.5 (140)	4.7 (120)	0.43 (11)		3.5 (88.877)
DC168G40	1.57 (40)	0.8 (21)					2.8 (72.217)									
DC168G45	1.77 (45)	0.8 (21)					2.8 (72.217)									
DC168G50	1.97 (50)	0.8 (21)					2.8 (72.217)									
DC168H40	1.57 (40)		1.7 (42)		2.6 (65)	0.8 (21)	2.8 (72.217)									
DC168H45	1.77 (45)		1.7 (42)		2.6 (65)	0.8 (21)	2.8 (72.217)									
DC168H50	1.97 (50)		1.7 (42)		2.6 (65)	0.8 (21)	2.8 (72.217)									
DC168J40	1.57 (40)			2.5 (63)	2.6 (65)	0.8 (21)	2.8 (72.217)									
DC168J45	1.77 (45)			2.5 (63)	2.6 (65)	0.8 (21)	2.8 (72.217)									
DC168J50	1.97 (50)			2.5 (63)	2.6 (65)	0.8 (21)	2.8 (72.217)									
To be used with DC size 10323A (3C):																
DC235A							0.6 (16)	5.9 (150)	0.8 (20)	0.3 (7.5)						4.7 (119.891)
DC235B							0.6 (16)				5.9 (150)					4.7 (119.891)
DC235C							0.6 (16)					7.5 (190)	6.7 (170)	0.43 (11)		4.7 (119.891)
DC235G55	2.17 (55)	0.6 (16)					4.1 (103.231)									
DC235G60	2.36 (60)	0.6 (16)					4.1 (103.231)									
DC235G75	2.95 (75)	0.6 (16)					4.1 (103.231)									
DC235H55	2.17 (55)		1.7 (43)		3.9 (100)	1.1 (27)	4.1 (103.231)									
DC235H60	2.36 (60)		1.7 (43)		3.9 (100)	1.1 (27)	4.1 (103.231)									
DC235H75	2.95 (75)		1.7 (43)		3.9 (100)	1.1 (27)	4.1 (103.231)									
DC235J55	2.17 (55)			2.8 (70)	3.9 (100)	1.1 (27)	4.1 (103.231)									
DC235J60	2.36 (60)			2.8 (70)	3.9 (100)	1.1 (27)	4.1 (103.231)									

\* For keyseat sizes, see DIN 6885.1 on page 127