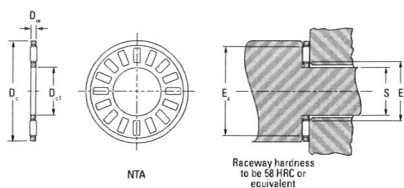


## NEEDLE ROLLER BEARINGS

### THRUST NEEDLE ROLLER AND CAGE ASSEMBLIES, THRUST WASHERS

#### INCH SERIES

- Dimensions for bore and O.D. of thrust assemblies and washers are nominal.
- See page B-6-36 for details on piloting and backup surfaces.
- Thrust washers burnished to least one-quarter of bore area (remainder is rough breakaway finish).
- O.D. finish of washers will be as blanked.



NTA

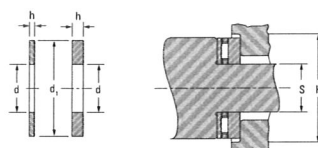
Raceway hardness  
to be 58 HRC or  
equivalent

Shaft Dia.	Assembly Dimensions						Load Ratings		Fatigue Load Limit $C_u$	Speed Rating <sup>1</sup>
	$D_{s1}$	$D_{s2}$	$D_{s3}$	$D_{s4}$	$D_{s5}$	$D_{s6}$	Dynamic C	Static $C_0$		
in	mm	mm	mm	mm	mm	mm	lbf	mm	mm	mm
2	50.80 2.000	68.85 2.750	1.964 0.0781	53.09 2.090	66.278 2.610	NTA-2244	24.02 5402	132.56 29802	13.5	6100
2 1/8	52.96 2.125	72.025 2.875	1.964 0.0781	56.30 2.210	68.58 2.700	NTA-2446	24.42 5460	133.45 29502	14.0	5800
2 1/4	57.15 2.250	76.20 3.000	1.964 0.0781	58.44 2.300	71.628 2.820	NTA-2648	24.78 5510	142.34 31002	14.5	5500
2 3/4	57.15 2.250	79.375 3.125	3.175 0.1250	58.94 2.300	75.184 2.960	NTA-2850	27.68 6170	177.04 39800	18.6	5300
2 7/8	63.50 2.500	82.55 3.250	1.964 0.0781	65.79 2.590	77.918 3.070	NTA-4052	25.53 5740	152.13 34200	15.5	5100

<sup>1</sup>Speed ratings listed are based on adequate oil lubrication. See page B-6-27 for lubrication information.  
Suggest none for an application requiring O.D. piloting should be determined in consultation with your representative.

B-6-44 NEEDLE ROLLER BEARINGS

## Needle Roller Thrust Bearings, Assemblies, Washers



Approx. No.	Thrust Washer Designation	Washer Dimensions						Piloting Dimensions		Dia. To Clear O.D.	Washer No.	Shaft Dia.
		d	d1	Min. h	Max. h	Min. S	Max. S	Min. H	Max. H			
kg	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg	in
TRC-2640	44.45 1.750	63.50 2.500	2.41 0.095	2.34 0.092	44.45 1.750	44.37 1.743	64.25 2.531	0.029	0.003			
TRD-2640	44.45 1.750	63.50 2.500	3.20 0.126	3.12 0.123	44.45 1.750	44.37 1.743	64.25 2.531	0.038	0.004			
TRF-2640	44.45 1.750	63.50 2.500	4.78 0.188	4.70 0.185	44.45 1.750	44.37 1.743	64.25 2.531	0.067	0.026			
0.015 0.033	TRA-2244	50.80 2.000	68.85 2.750	0.81 0.032	0.76 0.030	50.80 2.000	50.72 1.997	70.64 2.781	0.011 0.004		2	
	TRB-2244	50.80 2.000	68.85 2.750	1.60 0.063	1.52 0.060	50.80 2.000	50.72 1.997	70.64 2.781	0.022 0.008			
	TRC-2244	50.80 2.000	68.85 2.750	2.41 0.095	2.34 0.092	50.80 2.000	50.72 1.997	70.64 2.781	0.033 0.013			
	TRD-2244	50.80 2.000	68.85 2.750	3.20 0.126	3.12 0.123	50.80 2.000	50.72 1.997	70.64 2.781	0.044 0.016			
	TRF-2244	50.80 2.000	68.85 2.750	4.78 0.188	4.70 0.185	50.80 2.000	50.72 1.997	70.64 2.781	0.066 0.026			
0.016 0.036	TRA-2446	52.96 2.125	72.025 2.875	0.81 0.032	0.76 0.030	52.96 2.125	52.88 2.080	72.81 2.866	0.012 0.006		2 1/8	
	TRB-2446	52.96 2.125	72.025 2.875	1.60 0.063	1.52 0.060	52.96 2.125	52.88 2.080	72.81 2.866	0.024 0.010			
	TRC-2446	52.96 2.125	72.025 2.875	2.41 0.095	2.34 0.092	52.96 2.125	52.88 2.080	72.81 2.866	0.036 0.018			
	TRD-2446	52.96 2.125	72.025 2.875	3.20 0.126	3.12 0.123	52.96 2.125	52.88 2.080	72.81 2.866	0.047 0.020			
0.017 0.038	TRA-2648	57.15 2.250	76.20 3.000	0.81 0.032	0.76 0.030	57.15 2.250	57.07 2.247	76.99 3.031	0.012 0.006		2 1/4	
	TRB-2648	57.15 2.250	76.20 3.000	1.60 0.063	1.52 0.060	57.15 2.250	57.07 2.247	76.99 3.031	0.022 0.008			
	TRC-2648	57.15 2.250	76.20 3.000	2.41 0.095	2.34 0.092	57.15 2.250	57.07 2.247	76.99 3.031	0.037 0.015			
	TRD-2648	57.15 2.250	76.20 3.000	3.20 0.126	3.12 0.123	57.15 2.250	57.07 2.247	76.99 3.031	0.048 0.020			
	TRF-2648	57.15 2.250	76.20 3.000	4.78 0.188	4.70 0.185	57.15 2.250	57.07 2.247	76.99 3.031	0.071 0.029			
0.029 0.064	TRA-2850	57.15 2.250	79.375 3.125	2.41 0.095	2.34 0.092	57.15 2.250	57.07 2.247	80.16 3.158	0.043 0.016		2 3/4	
0.019 0.041	TRA-4052	63.50 2.500	82.55 3.250	0.81 0.032	0.76 0.030	63.50 2.500	63.42 2.497	83.34 3.281	0.013 0.009		2 7/8	
	TRB-4052	63.50 2.500	82.55 3.250	1.60 0.063	1.52 0.060	63.50 2.500	63.42 2.497	83.34 3.281	0.027 0.010			

Continued on next page.

<sup>1</sup>With the shaft and the housing adjacent to the bearing O.D. are not concentric, the TIR between the shaft and housing should be added to this dimension.

NEEDLE ROLLER BEARINGS B-6-45