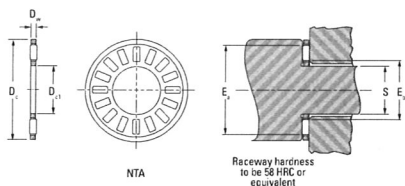


# NEEDLE ROLLER BEARINGS

## THRUST NEEDLE ROLLER AND CAGE ASSEMBLIES, THRUST WASHERS

### INCH SERIES

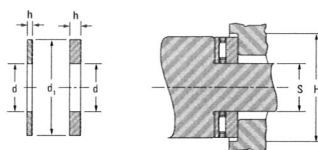
- Dimensions for bore and O.D. of thrust assemblies and washers are nominal.
- See page B-6-36 for details on piloting and backup surfaces.
- Thrust washers burnished at least one-quarter of bore area (remainder is rough breakaway finish).
- O.D. finish of washers will be as blanked.



Short Dia. in	Assembly Dimensions						Assembly Designation	Load Ratings		Fatigue Load Limit C <sub>10</sub>	Speed Rating <sup>1</sup> min/r
	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	E <sub>1</sub>	E <sub>2</sub>	E <sub>3</sub>		Dynamic C	Static C <sub>0</sub>		
<sup>1</sup> / <sub>16</sub>	19.05 0.750	21.25 0.840	1.964 0.0781	21.34 0.840	28.956 1.140		NTA-1229	18.90 2400	36.48 8200	3.40	14000
<sup>1</sup> / <sub>8</sub>	22.23 0.875	24.50 0.969	1.964 0.0781	24.38 0.956	33.782 1.330		NTA-1423	13.43 3000	49.82 11000	4.65	12000
<sup>1</sup> / <sub>4</sub>	22.23 0.875	42.85 1.687	1.964 0.0781	25.91 1.020	28.818 1.132		NTC-1437	18.46 4150	78.25 17000	8.05	9800
1	25.40 1.000	28.615 1.125	1.964 0.0781	27.69 1.090	36.83 1.450		NTA-1628	13.83 3110	53.82 12100	5.00	11000
<sup>1</sup> / <sub>2</sub>	28.58 1.125	44.45 1.750	1.964 0.0781	30.73 1.210	41.656 1.640		NTA-1828	16.68 3700	71.17 15500	7.30	9800

<sup>1</sup> Speed ratings listed are based on adequate lubrication. See page B-6-37 for lubrication information.  
Suggests for an application requiring O.D. piloting should be determined in consultation with your representative.

# Needle Roller Thrust Bearings, Assemblies, Washers



Approx. Wt. kg	Thrust Washer Designation	Washer Dimensions						Piloting Dimensions				Dia. To Clear O.D. H R2	Washer Wt. kg	Shaft Dia. in
		d	d1	d2	h	S	H	Min.	Max.	Min.	Max.			
0.004 0.009	TRA-1229	19.05 0.750	21.25 0.840	1.964 0.0781	0.81 0.032	0.76 0.030	19.05 0.750	18.97 0.749	18.97 0.749	32.54 1.281	32.54 1.281	0.003 0.007	0.003	<sup>1</sup> / <sub>16</sub>
	TRB-1229	19.05 0.750	21.25 0.840	1.964 0.0781	1.52 0.060	1.52 0.060	19.05 0.750	18.97 0.749	18.97 0.749	32.54 1.281	32.54 1.281	0.006 0.013	0.006	
	TRC-1229	19.05 0.750	21.25 0.840	2.41 0.095	2.34 0.092	19.05 0.750	18.97 0.749	18.97 0.749	18.97 0.749	32.54 1.281	32.54 1.281	0.010 0.021	0.010	
	TRD-1229	19.05 0.750	21.25 0.840	3.20 0.126	3.12 0.123	19.05 0.750	18.97 0.749	18.97 0.749	18.97 0.749	32.54 1.281	32.54 1.281	0.012 0.026	0.012	
	TRB-1229	19.05 0.750	21.25 0.840	3.99 0.157	3.91 0.154	19.05 0.750	18.97 0.749	18.97 0.749	18.97 0.749	32.54 1.281	32.54 1.281	0.015 0.033	0.015	
0.005 0.011	TRA-1423	22.23 0.875	24.50 0.969	1.964 0.0781	0.81 0.032	0.76 0.030	22.23 0.875	22.15 0.872	22.15 0.872	33.21 1.307	33.21 1.307	0.004 0.009	0.004	<sup>1</sup> / <sub>8</sub>
	TRB-1423	22.23 0.875	24.50 0.969	1.964 0.0781	1.52 0.060	1.52 0.060	22.23 0.875	22.15 0.872	22.15 0.872	33.21 1.307	33.21 1.307	0.006 0.013	0.006	
	TRC-1423	22.23 0.875	24.50 0.969	2.41 0.095	2.34 0.092	22.23 0.875	22.15 0.872	22.15 0.872	22.15 0.872	33.21 1.307	33.21 1.307	0.012 0.026	0.012	
	TRD-1423	22.23 0.875	24.50 0.969	3.20 0.126	3.12 0.123	22.23 0.875	22.15 0.872	22.15 0.872	22.15 0.872	33.21 1.307	33.21 1.307	0.015 0.034	0.015	
0.008 0.017	TRA-1427	22.23 0.875	42.85 1.687	1.964 0.0781	1.60 0.063	1.52 0.060	22.23 0.875	22.15 0.872	22.15 0.872	43.66 1.719	43.66 1.719	0.013 0.029	0.013	
	TRB-1427	22.23 0.875	42.85 1.687	1.964 0.0781	2.41 0.095	2.34 0.092	22.23 0.875	22.15 0.872	22.15 0.872	43.66 1.719	43.66 1.719	0.020 0.044	0.020	
	TRC-1427	22.23 0.875	42.85 1.687	3.20 0.126	3.12 0.123	22.23 0.875	22.15 0.872	22.15 0.872	22.15 0.872	43.66 1.719	43.66 1.719	0.026 0.057	0.026	
0.006 0.013	TRA-1628	25.40 1.000	28.615 1.125	1.964 0.0781	0.81 0.032	0.76 0.030	25.40 1.000	25.32 1.000	25.32 1.000	48.49 1.909	48.49 1.909	0.005 0.010	0.005	1
	TRB-1628	25.40 1.000	28.615 1.125	1.964 0.0781	1.52 0.060	1.52 0.060	25.40 1.000	25.32 1.000	25.32 1.000	48.49 1.909	48.49 1.909	0.009 0.019	0.009	
	TRC-1628	25.40 1.000	28.615 1.125	2.41 0.095	2.34 0.092	25.40 1.000	25.32 1.000	25.32 1.000	25.32 1.000	48.49 1.909	48.49 1.909	0.017 0.038	0.017	
	TRD-1628	25.40 1.000	28.615 1.125	3.20 0.126	3.12 0.123	25.40 1.000	25.32 1.000	25.32 1.000	25.32 1.000	48.49 1.909	48.49 1.909	0.021 0.047	0.021	
0.009 0.019	TRA-1828	28.58 1.125	44.45 1.750	1.964 0.0781	0.81 0.032	0.76 0.030	28.58 1.125	28.50 1.122	28.50 1.122	54.24 2.139	54.24 2.139	0.006 0.013	0.006	<sup>1</sup> / <sub>2</sub>
	TRB-1828	28.58 1.125	44.45 1.750	1.964 0.0781	1.52 0.060	1.52 0.060	28.58 1.125	28.50 1.122	28.50 1.122	54.24 2.139	54.24 2.139	0.011 0.024	0.011	
	TRC-1828	28.58 1.125	44.45 1.750	2.41 0.095	2.34 0.092	28.58 1.125	28.50 1.122	28.50 1.122	28.50 1.122	54.24 2.139	54.24 2.139	0.017 0.037	0.017	

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

Continued on next page