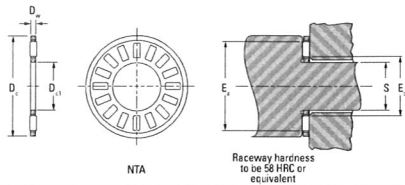


# NEEDLE ROLLER BEARINGS

## 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.



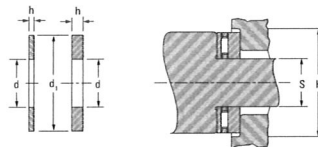
NTA

Receives hardness to be 58 HRC or equivalent

Short Dia. in	Assembly Dimensions					Assembly Designation	Load Ratings		Fatigue Load Limit C <sub>10</sub>	Speed Rating <sup>1</sup> min <sup>-1</sup>
	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	D <sub>5</sub>		Dynamic C	Static C <sub>0</sub>		
1/4	19.05 0.750	21.75 0.854	1.964 0.0781	21.34 0.840	28.956 1.140	NTA-1225	19.90 2460	36.48 9200	3.40	14000
1/2	22.23 0.875	36.50 1.437	1.964 0.0781	24.38 0.960	33.782 1.329	NTA-1473	13.43 3000	49.82 11000	4.15	12000
3/4	22.23 0.875	42.85 1.687	1.964 0.0781	25.91 1.020	38.878 1.530	NTC-1477	18.46 4150	78.29 17500	6.05	9800
1	25.40 1.000	38.875 1.529	1.964 0.0781	27.68 1.090	38.83 1.528	NTA-1625	13.83 3110	53.82 12100	5.00	11000
1 1/4	28.58 1.125	44.45 1.750	1.964 0.0781	30.73 1.210	41.636 1.640	NTA-1828	15.68 3500	71.17 16000	7.30	9600

<sup>1</sup>Speed ratings listed are based on adequate oil 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. lb kg	Thrust Washer Designation	Washer Dimensions					Pilot Dimensions		Dia. To Clear O.D. in	Washer Wt. lb kg	Shaft Dia. in
		d	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	d <sub>4</sub>	S	H			
0.004 0.002	TRA-1225	19.05 0.750	21.75 0.854	0.81 0.032	0.76 0.030	19.95 0.780	18.97 0.747	32.54 1.281	0.003 0.013	0.003 0.013	1/4
	TRB-1225	19.05 0.750	21.75 0.854	1.60 0.063	1.52 0.060	19.95 0.780	18.97 0.747	32.54 1.281	0.006 0.013	0.006 0.013	1/4
	TRC-1225	19.05 0.750	21.75 0.854	2.41 0.095	2.34 0.092	19.95 0.780	18.97 0.747	32.54 1.281	0.010 0.021	0.010 0.021	1/4
	TRD-1225	19.05 0.750	21.75 0.854	3.20 0.125	3.12 0.123	19.95 0.780	18.97 0.747	32.54 1.281	0.012 0.026	0.012 0.026	1/4
	TRE-1225	19.05 0.750	21.75 0.854	3.99 0.157	3.91 0.154	19.95 0.780	18.97 0.747	32.54 1.281	0.015 0.033	0.015 0.033	1/4
0.005 0.011	TRA-1473	22.23 0.875	36.50 1.437	0.81 0.032	0.76 0.030	22.23 0.875	22.15 0.872	33.31 1.469	0.004 0.005	0.004 0.005	1/2
	TRB-1473	22.23 0.875	36.50 1.437	1.60 0.063	1.52 0.060	22.23 0.875	22.15 0.872	33.31 1.469	0.008 0.017	0.008 0.017	1/2
	TRC-1473	22.23 0.875	36.50 1.437	2.41 0.095	2.34 0.092	22.23 0.875	22.15 0.872	33.31 1.469	0.012 0.026	0.012 0.026	1/2
	TRD-1473	22.23 0.875	36.50 1.437	3.20 0.125	3.12 0.123	22.23 0.875	22.15 0.872	33.31 1.469	0.015 0.034	0.015 0.034	1/2
0.008 0.017	TRA-1625	22.23 0.875	42.85 1.687	1.60 0.063	1.52 0.060	22.23 0.875	22.15 0.872	43.66 1.975	0.013 0.029	0.013 0.029	3/4
	TRB-1625	22.23 0.875	42.85 1.687	2.41 0.095	2.34 0.092	22.23 0.875	22.15 0.872	43.66 1.975	0.020 0.044	0.020 0.044	3/4
	TRC-1625	22.23 0.875	42.85 1.687	3.20 0.125	3.12 0.123	22.23 0.875	22.15 0.872	43.66 1.975	0.026 0.057	0.026 0.057	3/4
0.006 0.013	TRA-1828	25.40 1.000	38.875 1.529	0.81 0.032	0.76 0.030	25.40 1.000	25.32 0.997	40.49 1.594	0.005 0.010	0.005 0.010	1
	TRB-1828	25.40 1.000	38.875 1.529	1.60 0.063	1.52 0.060	25.40 1.000	25.32 0.997	40.49 1.594	0.009 0.019	0.009 0.019	1
	TRC-1828	25.40 1.000	38.875 1.529	2.41 0.095	2.34 0.092	25.40 1.000	25.32 0.997	40.49 1.594	0.017 0.038	0.017 0.038	1
	TRE-1828	25.40 1.000	38.875 1.529	3.20 0.125	3.12 0.123	25.40 1.000	25.32 0.997	40.49 1.594	0.021 0.047	0.021 0.047	1
0.009 0.019	TRA-1828	28.58 1.125	44.45 1.750	0.81 0.032	0.76 0.030	28.58 1.125	28.50 1.122	45.24 1.981	0.006 0.013	0.006 0.013	1 1/4
	TRB-1828	28.58 1.125	44.45 1.750	1.60 0.063	1.52 0.060	28.58 1.125	28.50 1.122	45.24 1.981	0.011 0.024	0.011 0.024	1 1/4
	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	45.24 1.981	0.017 0.037	0.017 0.037	1 1/4

Continued on next page

<sup>1</sup>If 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.