

Thrust Load Test for NSCS/NSCSS(-M, -C, -S)

Testing Conditions

1. Shaft

Hardened shaft g6

(Material : SUJ2, Surface roughness : Ra0.4)

2. Testing instrument

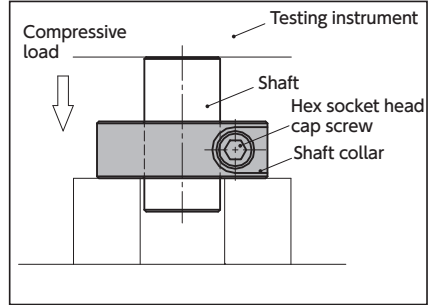
Load testing machine (Compressive load test)

3. Screw tightening

Pre-set manual torque wrench

Procedure

Mount the shaft collar onto the shaft. Apply a compressive load to the shaft. Measure the load when the shaft begins to slip.



| Thread size | Tightening torque (N·m) |
|-------------|-------------------------|
| M2.6 | 0.9 |
| M3 | 1.6 |
| M4 | 3.7 |
| M5 | 7.5 |
| M6 | 12.9 |
| M8 | 31.2 |
| M10 | 61.8 |

This document is not to define the tightening torque for the cap screw. Please apply the adequate tightening torque depending on the usage conditions including shaft accuracy and required retention load.

Load Test Results

| Inner diameter d | Width B | Thread size | Thrust load when the shaft begins to slip (N) | | | |
|---------------------|------------|-------------|---|--------|--------|--------|
| | | | NSCS | | NSCSS | |
| | | | -M, -C | -S | -M, -C | -S |
| 5 | 6 | M2.6 | 750 | 500 | 850 | 700 |
| 6 | 6 | M2.6 | 870 | 820 | 1,080 | 1,020 |
| 8 | 6 | M2.6 | 650 | 600 | 900 | 820 |
| | 8 | M3 | 650 | 440 | - | - |
| | 10 | M4 | 1,510 | 2,020 | - | - |
| | 12 | M5 | 2,460 | 630 | - | - |
| 10 | 15 | M6 | 4,450 | 4,600 | - | - |
| | 6 | M2.6 | 800 | 650 | 970 | 780 |
| | 10 | M4 | 1,950 | 1,530 | - | - |
| | 12 | M5 | 2,930 | 1,660 | - | - |
| 12 | 15 | M6 | 4,880 | 4,010 | - | - |
| | 6 | M2.6 | 850 | 670 | 1,070 | 830 |
| | 10 | M4 | 2,040 | 2,670 | - | - |
| | 12 | M5 | 4,120 | 1,720 | - | - |
| 13 | 15 | M6 | 6,410 | 6,170 | - | - |
| | 8 | M3 | 1,420 | 1,000 | 1,760 | 1,510 |
| | 10 | M4 | 2,500 | 2,750 | - | - |
| 15 | 15 | M6 | 8,000 | 7,560 | - | - |
| | 8 | M3 | 1,280 | 880 | 1,930 | 1,510 |
| | 10 | M4 | 2,370 | 2,200 | - | - |
| | 12 | M5 | 3,410 | 2,480 | - | - |
| 16 | 15 | M6 | 4,860 | 5,430 | - | - |
| | 8 | M3 | 1,380 | 1,270 | 1,730 | 1,560 |
| | 10 | M4 | 2,150 | 2,200 | - | - |
| | 12 | M5 | 3,360 | 3,050 | - | - |
| 18 | 15 | M6 | 7,200 | 4,900 | - | - |
| 20 | 15 | M6 | 4,620 | 2,130 | - | - |
| | 8 | M3 | 1,630 | 1,370 | 2,010 | 1,550 |
| | 10 | M4 | 2,300 | 3,430 | 1,580 | - |
| | 12 | M5 | 3,340 | 4,320 | 3,100 | - |
| 25 | 15 | M6 | 4,190 | 8,170 | 4,310 | - |
| | 10 | M4 | 2,550 | 2,700 | 2,510 | 2,800 |
| | 12 | M5 | 4,430 | 5,240 | - | - |
| 30 | 15 | M6 | 7,920 | 8,200 | - | - |
| | 12 | M5 | 3,590 | 3,380 | 4,690 | 4,380 |
| 35 | 15 | M6 | 9,170 | 6,720 | - | - |
| | 12 | M5 | 4,710 | 3,910 | 5,110 | 3,990 |
| 40 | 15 | M6 | 4,800 | 6,840 | - | - |
| | 12 | M5 | 5,160 | 3,710 | 5,130 | 4,410 |
| 45 | 18 | M8 | 14,470 | 11,270 | - | - |
| | 12 | M5 | 4,740 | 3,210 | 5,190 | 4,140 |
| 50 | 15 | M6 | 8,270 | 4,740 | 8,840 | 6,110 |
| | 18 | M8 | 13,860 | 10,900 | 15,110 | 13,630 |
| | 22 | M10 | 20,890 | 17,910 | - | - |

*Note

The table shows the test values and does not guarantee product performance. As conditions vary with each application, we recommend to conduct tests under actual usage conditions to ensure the sufficient safety.

Moment Load Test for NSCS/NSCSS(-M, -C, -S)

Testing conditions

1. Shaft

Hardened shaft g6

(Material : SUJ2, Surface roughness : Ra0.4)

2. Attach the square bar to the outer periphery of the shaft collar

3. Testing instrument

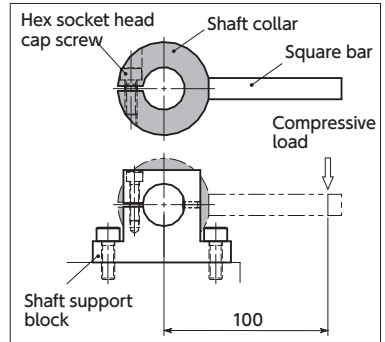
Load testing machine (Compressive load test)

4. Screw tightening

Pre-set manual torque wrench

Procedure

Mount the shaft collar onto the shaft. Apply the compressive load to the square bar 100 mm from the center of the shaft collar. Convert the load to torque when the shaft collar starts to rotate.



| Thread size | Tightening torque (N·m) |
|-------------|-------------------------|
| M2.6 | 0.9 |
| M3 | 1.6 |
| M4 | 3.7 |
| M5 | 7.5 |
| M6 | 12.9 |
| M8 | 31.2 |

This document is not to define the tightening torque for the cap screw. Please apply the adequate tightening torque depending on the usage conditions including shaft accuracy and required retention load.

Load Test Results

| Inner diameter d | Width B | Thread Size | Torque when the shaft collar begins to rotate (N · m) | | | |
|---------------------|------------|-------------|---|-------|--------|-------|
| | | | NSCS | | NSCSS | |
| | | | -M, -C | -S | -M, -C | -S |
| 5 | 6 | M2.6 | 3.6 | 2.8 | 3.8 | 4.0 |
| 6 | 6 | M2.6 | 4.2 | 3.4 | 4.6 | 4.6 |
| 8 | 6 | M2.6 | 4.9 | 4.0 | 6.5 | 4.9 |
| | 10 | M4 | 5.0 | - | - | - |
| 10 | 6 | M2.6 | 6.5 | 6.3 | 11.2 | 9.7 |
| 12 | 6 | M2.6 | 7.3 | 9.2 | 10.8 | 12.0 |
| | 10 | M4 | 13.4 | - | - | - |
| | 12 | M5 | 12.5 | - | - | - |
| | 15 | M6 | 70.0 | - | - | - |
| 13 | 8 | M3 | 8.1 | 9.4 | 13.0 | 12.4 |
| 15 | 8 | M3 | 15.5 | 11.4 | 21.0 | 24.3 |
| 16 | 8 | M3 | 25.5 | 22.6 | 25.1 | 29.4 |
| 20 | 8 | M3 | 20.0 | 26.3 | 23.4 | 30.4 |
| | 10 | M4 | 28.3 | - | - | - |
| | 12 | M5 | 46.7 | - | - | - |
| | 15 | M6 | 80.0 | - | - | - |
| 25 | 10 | M4 | 40.0 | 102.2 | 58.7 | 129.5 |
| 30 | 12 | M5 | 127.5 | 172.2 | 151.2 | 180.3 |
| 35 | 12 | M5 | 140.6 | 163.4 | 143.6 | 193.2 |
| | 15 | M6 | 108.2 | - | - | - |
| 40 | 12 | M5 | 213.5 | 215.1 | 205.1 | 228.1 |
| 45 | 12 | M5 | 269.3 | 300.5 | 326.2 | 326.8 |
| 50 | 15 | M6 | 268.6 | 212.1 | 289.8 | 306.1 |
| | 18 | M8 | 449.5 | 569.2 | 509.0 | 667.3 |

*Note

The table shows the test values and does not guarantee product performance. As conditions vary with each application, we recommend to conduct tests under actual usage conditions to ensure the sufficient safety.