

# Cardan shaft park brake roller brake machine testing procedure and brake force tables

## Class MD3, MD4, ME and NB

GVM (taken from CoL) Kgs	Total BF (add both dials) daN/Kn	Min BF (lowest of the two dials) daN/Kn
3.501	607 / 6.07	305 / 3.05
3.600	625 / 6.25	313 / 3.13
3.700	642 / 6.42	321 / 3.21
3.800	660 / 6.60	330 / 3.30
3.900	677 / 6.77	339 / 3.39
4.000	695 / 6.95	348 / 3.48
4.100	712 / 7.12	356 / 3.56
4.200	729 / 7.29	365 / 3.65
4.300	747 / 7.47	374 / 3.74
4.400	764 / 7.64	382 / 3.82
4.500	781 / 7.81	391 / 3.91
4.600	799 / 7.99	400 / 4.00
4.700	816 / 8.16	408 / 4.08
4.800	834 / 8.34	417 / 4.17
4.900	851 / 8.51	426 / 4.26
5.000	868 / 8.68	434 / 4.34
5.100	886 / 8.86	443 / 4.43
5.200	903 / 9.03	452 / 4.52
5.300	920 / 9.20	460 / 4.60
5.400	938 / 9.38	469 / 4.69
5.500	955 / 9.55	478 / 4.78
5.600	972 / 9.72	486 / 4.86
5.700	990 / 9.90	495 / 4.95
5.800	1007 / 10.07	504 / 5.04
5.900	1025 / 10.25	513 / 5.13
6.000	1042 / 10.42	521 / 5.21
6.100	1059 / 10.59	530 / 5.30
6.200	1077 / 10.77	539 / 5.39
6.300	1094 / 10.94	547 / 5.47

GVM (taken from CoL) Kgs	Total BF (add both dials) daN/Kn	Min BF (lowest of the two dials) daN/Kn
6.400	1111 / 11.11	556 / 5.56
6.500	1129 / 11.29	565 / 5.65
6.600	1146 / 11.46	573 / 5.73
6.700	1163 / 11.63	582 / 5.82
6.800	1181 / 11.81	591 / 5.91
6.900	1198 / 11.98	599 / 5.99
7.000	1216 / 12.16	608 / 6.08
7.100	1233 / 12.33	617 / 6.17
7.200	1250 / 12.50	625 / 6.25
7.300	1268 / 12.68	634 / 6.34
7.400	1285 / 12.85	643 / 6.43
7.500	1302 / 13.02	651 / 6.51
7.600	1320 / 13.20	660 / 6.60
7.700	1337 / 13.37	669 / 6.69
7.800	1355 / 13.55	678 / 6.78
7.900	1372 / 13.72	686 / 6.86
8.000	1389 / 13.89	695 / 6.95
8.100	1407 / 14.07	704 / 7.04
8.200	1424 / 14.24	712 / 7.12
8.300	1441 / 14.41	721 / 7.21
8.400	1459 / 14.59	730 / 7.30
8.500	1476 / 14.76	738 / 7.38
8.600	1493 / 14.93	747 / 7.47
8.700	1511 / 15.11	756 / 7.56
8.800	1528 / 15.28	764 / 7.64
8.900	1546 / 15.46	773 / 7.73
9.000	1563 / 15.63	782 / 7.82
9.100	1580 / 15.80	790 / 7.90
9.200	1598 / 15.98	799 / 7.99

GVM (taken from CoL) Kgs	Total BF (add both dials) daN/Kn	Min BF (lowest of the two dials) daN/Kn
9.300	1615 / 16.15	808 / 8.08
9.400	1623 / 16.23	812 / 8.12
9.500	1650 / 16.50	825 / 8.25
9.600	1667 / 16.67	834 / 8.34
9.700	1684 / 16.84	842 / 8.42
9.800	1702 / 17.02	851 / 8.51
9.900	1719 / 17.19	860 / 8.60
10.000	1737 / 17.37	869 / 8.69
10.100	1754 / 17.54	877 / 8.77
10.200	1771 / 17.71	886 / 8.86
10.300	1789 / 17.89	895 / 8.95
10.400	1806 / 18.06	903 / 9.03
10.500	1823 / 18.23	912 / 9.12
10.600	1841 / 18.41	921 / 9.21
10.700	1858 / 18.58	929 / 9.29
10.800	1875 / 18.75	938 / 9.38
10.900	1893 / 18.93	947 / 9.47
11.000	1910 / 19.10	955 / 9.55
11.100	1928 / 19.28	964 / 9.64
11.200	1945 / 19.45	973 / 9.73
11.300	1962 / 19.62	981 / 9.81
11.400	1980 / 19.80	990 / 9.90
11.500	1997 / 19.97	999 / 9.99
11.600	2014 / 20.14	1007 / 10.07
11.700	2032 / 20.32	1016 / 10.16
11.800	2049 / 20.49	1025 / 10.25
11.900	2067 / 20.67	1034 / 10.34
12.000	2084 / 20.84	1042 / 10.42

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## Procedure

Immediately after the rear axle service brake has been tested and with the axle still at test weight, either with actual load or simulated load, carry out the park brake test as follows:

1. With rollers stationary, check park brake lever settings
  - a) no excessive free play at lever
  - b) no excessive travel of lever. Refer to manufactures spec's below (number of clicks and lever force) or a max 60% of the travel available.
2. Start both rollers, check for brake binding, allow one complete wheel rotation.
3. Slowly and gradually apply the park brake using reasonable force keeping the lock button depressed.
4. While applying park brake, observe the brake force readings.

### Stop the test and record a Pass if:

- a) the minimum total brake force, or greater is reached on the display dials or digital readout (selected from list below)
- b) the wheels lock the rollers

### Stop the test and record a Fail if:

- a) the minimum total brake force is not reached on the display dials or digital readout (select from the charts).
- b) a severe judder or mechanical noise occurs that indicates a brake fault and which causes the vehicle to move excessively on the rollers preventing the minimum Bf being achieved.

5. Remove tie down equipment and continue with remainder of the inspection

## Class ME and NC

GVM (taken from CoL) Kgs	Total BF (add both dials) daN/Kn	Min BF (lowest of the 2 dials) daN/Kn
12500	2000/20.0	1000/10.0
13000	2080/20.8	1040/10.4
13500	2160/21.8	1080/10.8
14000	2240/22.4	1120/11.2
14500	2320/23.2	1160/11.6
15000	2400/24.0	1200/12.0
15500	2480/24.8	1240/12.4
16000	2560/25.6	1280/12.8
16500	2640/26.4	1320/13.2
17000	2720/27.2	1360/13.6
17500	2800/28.0	1400/14.0
18000	2880/28.8	1440/14.4
18500	2960/29.6	1480/14.8
19000	3040/30.4	1520/15.2
19500	3120/31.2	1560/15.6
20000	3200/32.0	1600/16.0
20500	3280/32.8	1640/16.4
21000	3360/33.6	1680/16.8
21500	3440/34.4	1720/17.2
22000	3520/35.2	1760/17.6
22500	3600/36.0	1800/18.0
23000	3680/36.8	1840/18.4
23500	3760/37.6	1880/18.8
24000	3840/38.4	1920/19.2