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Jack Rabbit Pretest Data For TATB Based IHE Model Development

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The predictive accuracy of a high explosive model cannot be proven.

Except..... by experiment.

- Hart

ACKNOWLEDGEMENT

I want to thank all those who contributed to the success of the Jack Rabbit Pretest series. The encouragement, counsel, criticism, and support both technical and financial, all worked together in developing a successful series of tests and a very rich harvest of data.

One person deserves special mention. David E. Hare working in B Division at LLNL, who took a scientific interest in the test series. He ran well over 100 computer simulations examining high explosive models and predictions for different experiment designs. His work provided clear and compelling evidence of the usefulness and the need for these focused hydrodynamic tests. Dave's work was truly pivotal and his contribution cannot be overstated.

Secondly, none of the data you will see in this report would exist, were it not for the extraordinary skill and resourcefulness of the firing crew, technicians, and engineers working at the Contained Firing Facility (CFF) at Site 300, LLNL. After the countless meetings, presentations, design reviews, engineering design, parts fabrication, and experiment assembly, the process funneled down to a small group of experts who delivered the payoff of accurate data. They are to be commended for their work and accomplishments in executing the Jack Rabbit Pretest focused hydrodynamic experiments.

Mark M. Hart

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INTRODUCTION

The Jack Rabbit Pretest series consisted of 5 focused hydrodynamic experiments, 2021E PT3, PT4, PT5, PT6, and PT7. They were fired in March and April of 2008 at the Contained Firing Facility, Site 300, Lawrence Livermore National Laboratory, Livermore, California. These experiments measured dead-zone formation and impulse gradients created during the detonation of TATB based insensitive high explosive.

This document contains reference data tables for all 5 experiments. These data tables include:

- 1) Measured laser velocimetry of the experiment diagnostic plate
- 2) Computed diagnostic plate profile contours through velocity integration
- 3) Computed center axis pressures through velocity differentiation

NOTE: All times are in microseconds, referenced from detonator circuit current start. All dimensions are in millimeters.

Schematic axi-symmetric cross sections are shown for each experiment. These schematics detail the materials used and dimensions of the experiment and component parts. This should allow anyone wanting to evaluate their TATB based insensitive high explosive detonation model against experiment. These data are particularly relevant in examining reactive flow detonation model prediction in computational simulation of dead-zone formation and resulting impulse gradients produced by detonating TATB based explosive.

Computer readable files containing Jack Rabbit Pretest data tables can be obtained upon request. Please contact Mark M. Hart, Lawrence Livermore National Laboratory via email address hart6@llnl.gov or telephone 925-423-4770.

JACK RABBIT PRETEST 2021E PT3

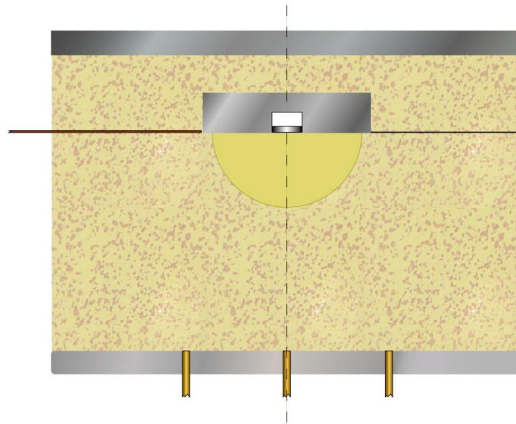


Figure 1. 2021E PT3 graphic cross section

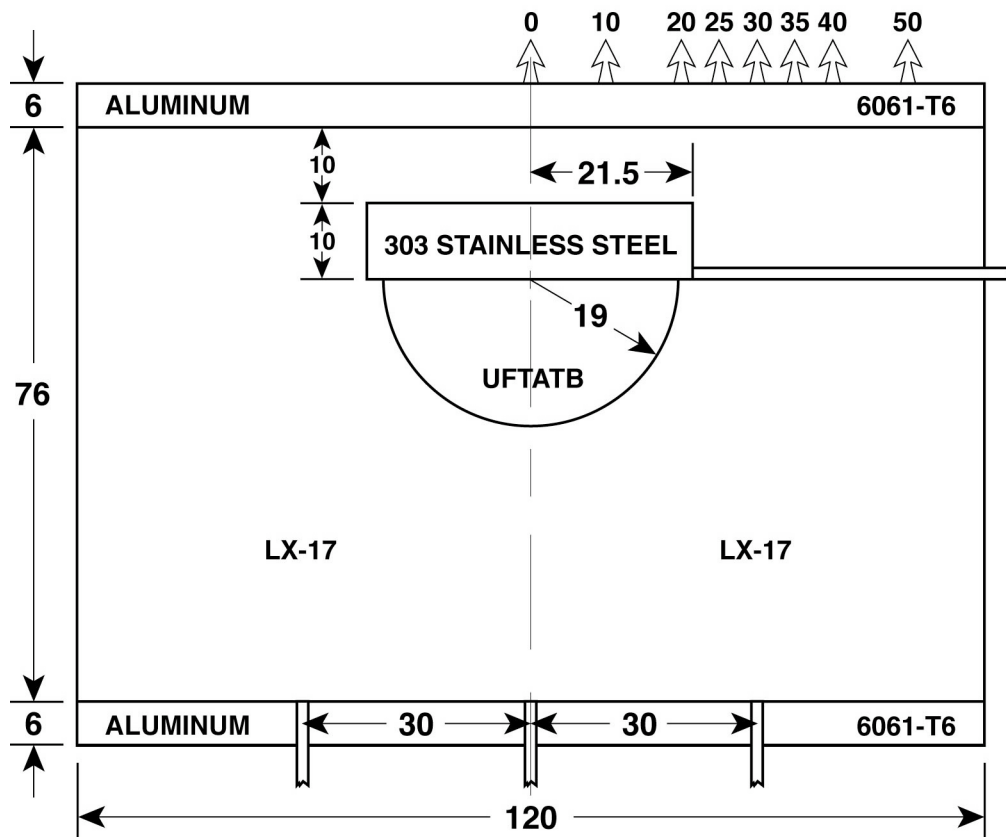


Figure 2. 2021E PT3 schematic cross section – dimensions in millimeters

The laser velocimetry points were measured on the aluminum diagnostic plate (top plate) at radial distances of 0, 10, 20, 25, 30, 35, 40 and 50 millimeters relative to the experiment's central axis. Seven timing pins were located on the bottom aluminum plate. One central surrounded by six in a circular pattern at 30 millimeters from the experiment's central axis. The hemispherical booster is pressed ultrafine TATB (UFTATB) and LX-17 is TATB with 7.5% Kel-F binder.

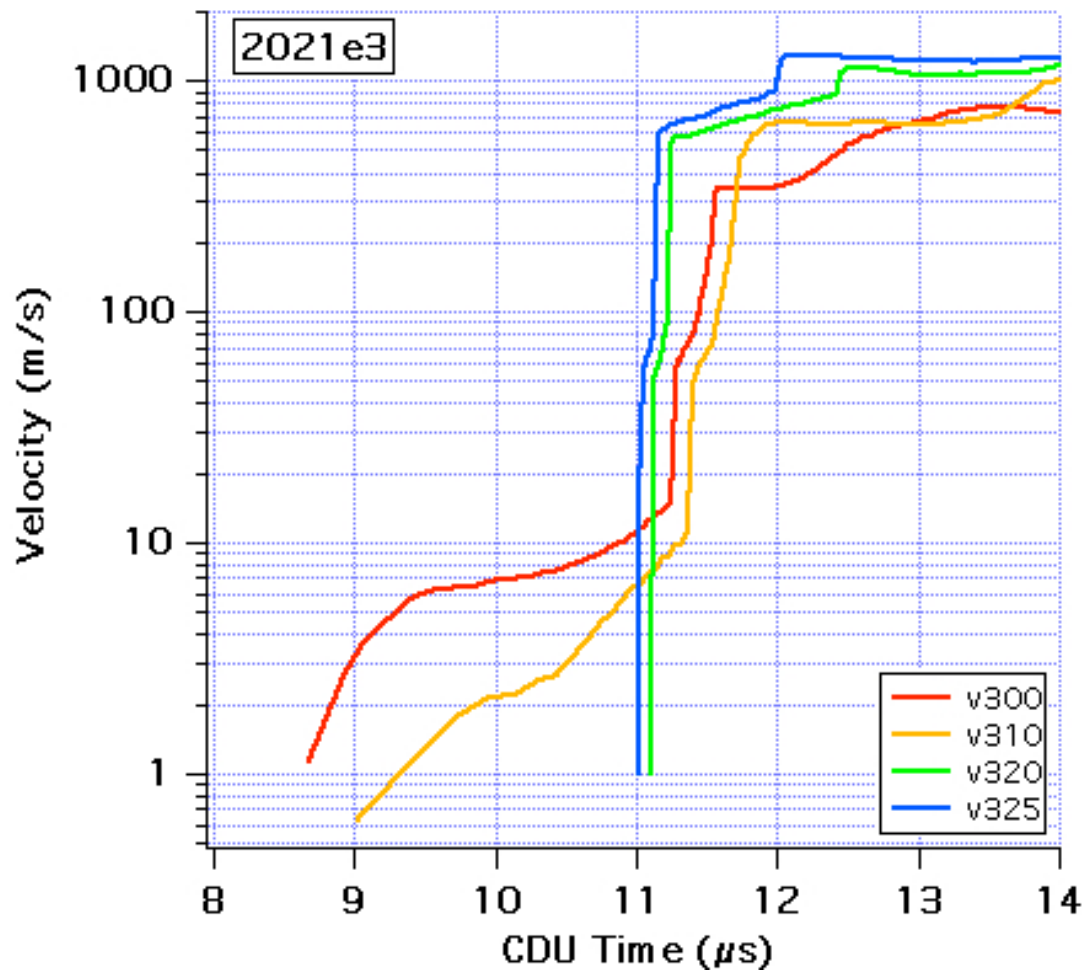


Figure 3. 2021E PT3 short time axis velocity plot for diagnostic plate radial measurement points 00, 10, 20, and 25; time is referenced from detonator circuit current start

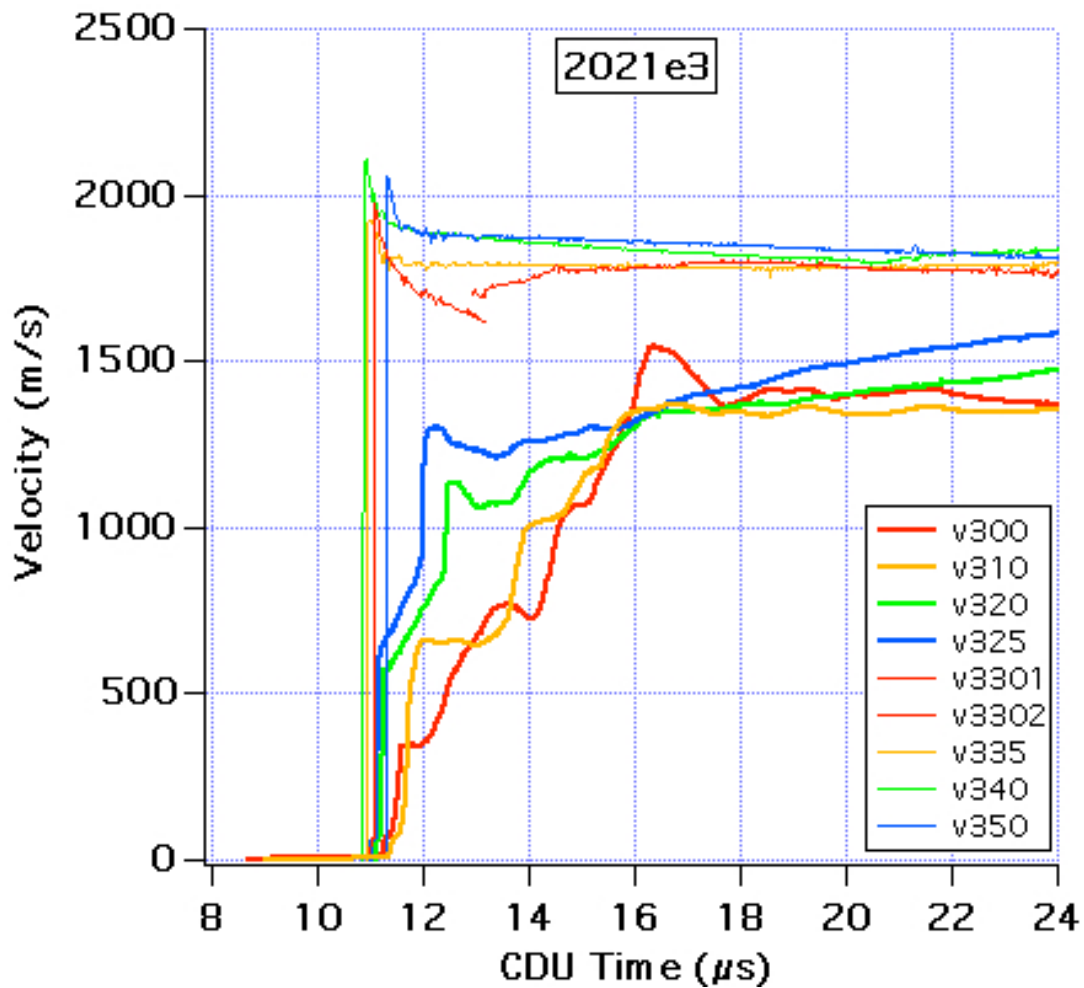


Figure 4. 2021E PT3 intermediate time axis velocity plot for diagnostic plate radial measurement points 00, 10, 20, 25, 30 (1&2 covering discontinuity in data), 35, 40, and 50; time is referenced from detonator circuit current start

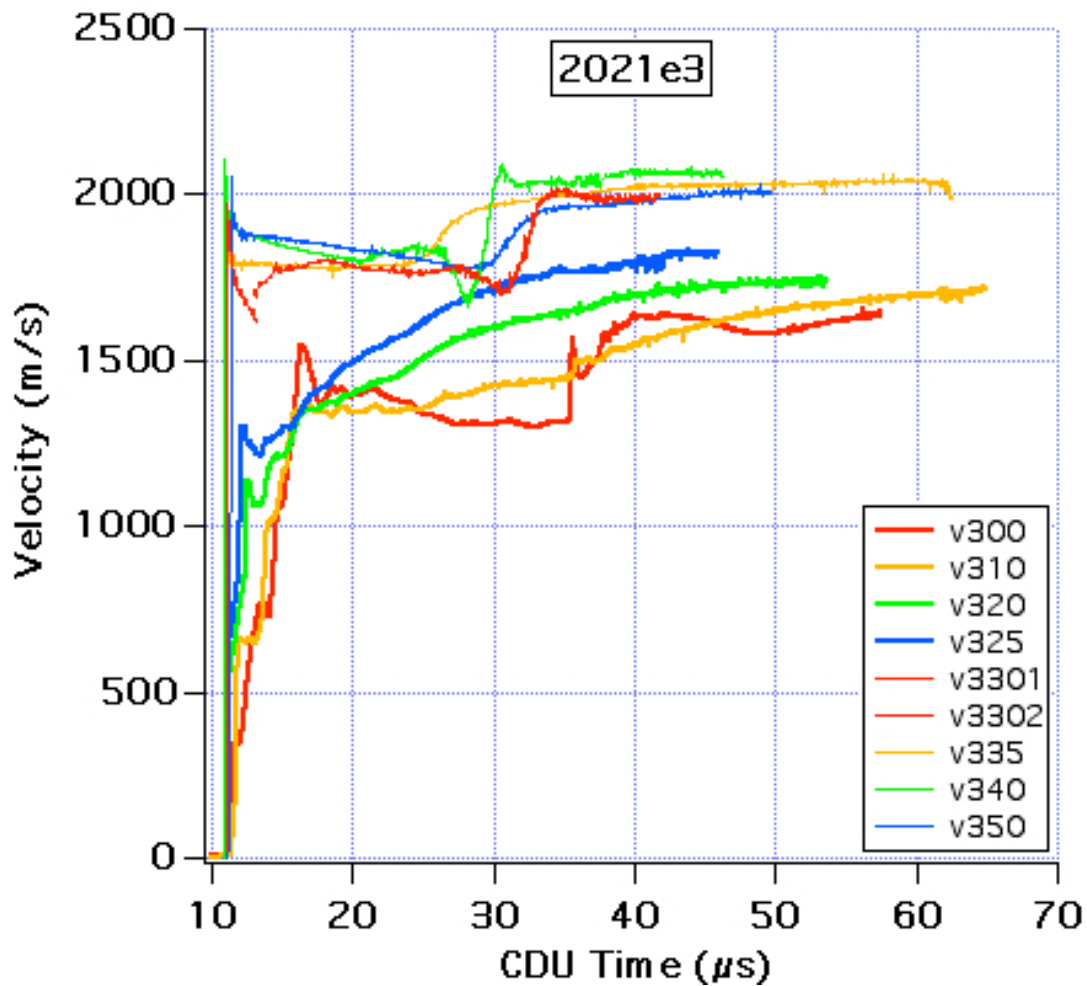


Figure 5. 2021E PT3 long time axis velocity plot for diagnostic plate radial measurement points 00, 10, 20, 25, 30 (1&2 covering discontinuity in data), 35, 40, and 50; time is referenced from detonator circuit current start

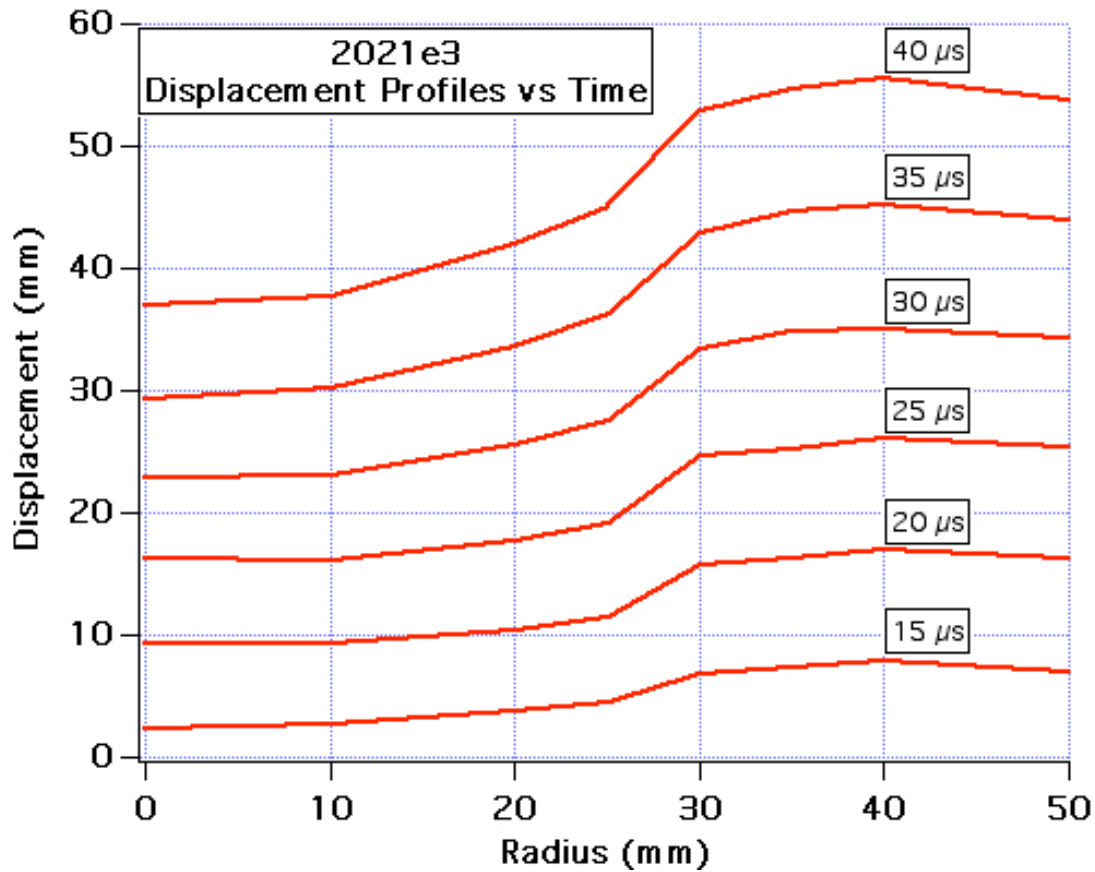


Figure 6. 2021E PT3 diagnostic plate displacement profiles; time is referenced from detonator circuit current start

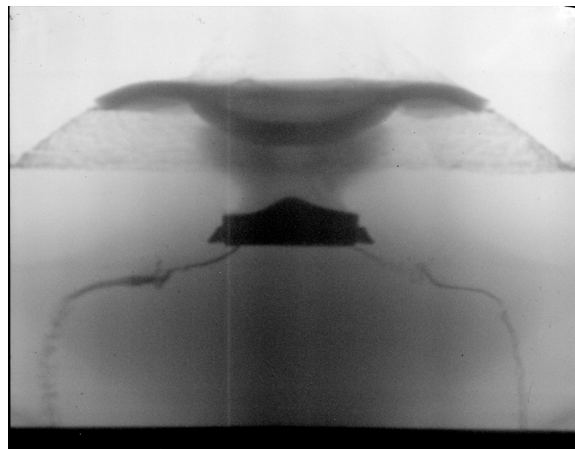


Figure 7. 2021E PT3 radiograph, 30 microseconds after detonator circuit current start, showing shadowplate, dead-zone conformation, dished diagnostic plate

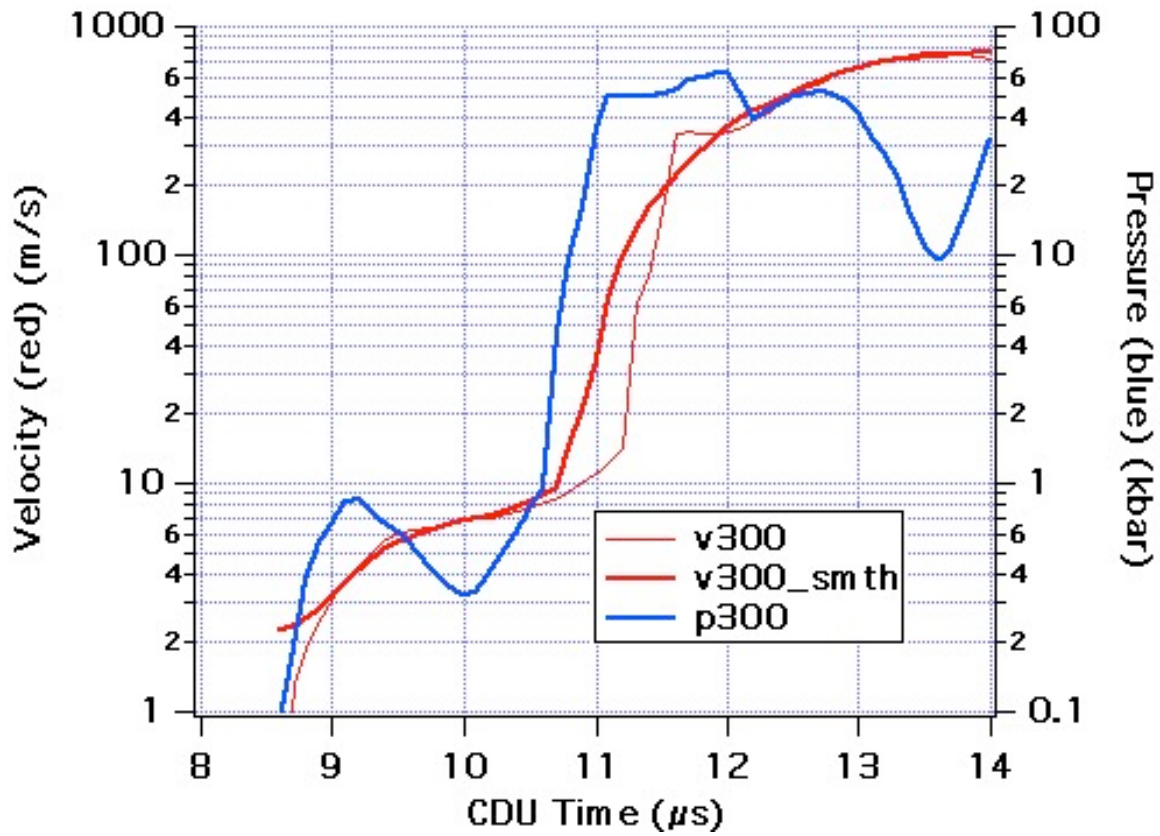


Figure 8. 2021E PT3 diagnostic plate velocity and pressure behind the diagnostic plate at the central axis, point 00; time is referenced from detonator circuit current start

2021E PT3 Diagnostic Plate Velocity Table

Diagnostic Plate Velocities of Jack Rabbit Pretest 2021E PT3; time is referenced in microseconds from detonator circuit current start.

Jack Rabbit Pretest 2021E PT3 VELOCITY Data								
Columnar data: meters per second								
absolute timing accuracy relative to time zero = +/- 0.025 microseconds								
relative timing uncertainty between data channels = +/- 0.005 microseconds								
z velocity uncertainty = +/- 5 percent of velocity								
PDV measurement point position uncertainty = +/- 0.25 millimeters								
r →	0	10	20	25	30	35	40	50
t								
8	0	0	0	0	0	0	0	0
8.1	0	0	0	0	0	0	0	0
8.2	0	0	0	0	0	0	0	0
8.3	0	0	0	0	0	0	0	0
8.4	0	0	0	0	0	0	0	0
8.5	0	0	0	0	0	0	0	0
8.6	0	0	0	0	0	0	0	0
8.7	1.2776	0	0	0	0	0	0	0
8.8	1.8718	0	0	0	0	0	0	0
8.9	2.4659	0	0	0	0	0	0	0
9	3.1161	0	0	0	0	0	0	0
9.1	3.7788	0.7292	0	0	0	0	0	0
9.2	4.4236	0.8628	0	0	0	0	0	0
9.3	5.0371	0.9963	0	0	0	0	0	0
9.4	5.639	1.1298	0	0	0	0	0	0
9.5	6.0605	1.2723	0	0	0	0	0	0
9.6	6.2988	1.4744	0	0	0	0	0	0
9.7	6.3567	1.6765	0	0	0	0	0	0
9.8	6.4427	1.8656	0	0	0	0	0	0
9.9	6.6336	2.0411	0	0	0	0	0	0
10	6.8646	2.1496	0	0	0	0	0	0
10.1	6.9685	2.1882	0	0	0	0	0	0
10.2	7.0685	2.3425	0	0	0	0	0	0
10.3	7.287	2.5396	0	0	0	0	0	0
10.4	7.5296	2.6176	0	0	0	0	0	0
10.5	7.8577	2.9452	0	0	0	0	0	0
10.6	8.2498	3.47	0	0	0	0	0	0
10.7	8.7476	4.0409	0	0	0	0	0	0
10.8	9.3496	4.7884	0	0	0	0	0	0
10.9	10.119	5.5299	0	0	0	0	2100	0

r →	0	10	20	25	30	35	40	50
t								
11	11.167	6.4358	0	0	47.979	1925.8	2014.6	0
11.1	12.399	7.4717	0	69.855	1948.1	1882.9	1958.8	0
11.2	14.068	8.5311	71.644	615.75	1874.9	1812.5	1948.5	0
11.3	60.753	9.8673	572.19	658.16	1824	1788.7	1917.8	1294.3
11.4	79.156	40.222	589.29	685.67	1795.2	1807.7	1916.1	1996.5
11.5	148.08	65.853	610.06	711.51	1774	1812.1	1904.9	1926.7
11.6	341.92	107.34	639.66	755.1	1747.5	1794.8	1898.9	1897.6
11.7	344.18	277.68	665.04	787.63	1735.3	1790.6	1897.8	1906.8
11.8	342.7	537.01	693.17	816.46	1714	1794.6	1890.5	1899.1
11.9	338.71	627.86	719.69	858.24	1704.7	1794.9	1890.8	1888.2
12	347.12	655.21	752.82	963.33	1700.9	1788.4	1886.8	1881.4
12.1	363.31	659.18	779.59	1284.9	1693.4	1784.1	1886.4	1887.2
12.2	386.34	655.05	804.22	1293.6	1689.8	1797.4	1885.8	1884.8
12.3	420.72	650.22	830.48	1299	1683.6	1791.1	1885.3	1882.6
12.4	464.51	648.39	863.31	1287.7	1673.7	1785.3	1882.7	1867
12.5	522.23	654.37	1129.7	1263	1669.4	1792.2	1880.7	1881.8
12.6	564.21	658.8	1130	1247.1	1667.3	1793.8	1878.3	1881.3
12.7	591.05	659.61	1127.1	1250.1	1676.2	1789.2	1877.2	1882.6
12.8	620.63	653.06	1103.6	1240.7	1685.1	1791.9	1875.2	1880.3
12.9	644.62	647.4	1082.3	1234.4	1694	1791.2	1875	1878.2
13	662.32	645.35	1063.8	1233.5	1708.1	1788.6	1872.4	1866.7
13.1	685.79	647.92	1059.9	1227.1	1696.5	1793.5	1870.9	1876.9
13.2	716.76	655.76	1063.7	1221.6	1715.1	1791.7	1869.8	1877.1
13.3	741.93	665.62	1070.3	1215.1	1727.6	1791.5	1868.1	1877.3
13.4	757.9	679.24	1063.9	1206.9	1730.7	1793.5	1866.5	1876.9
13.5	764.01	696.96	1070.4	1214.8	1733.4	1792.8	1864.7	1877.1
13.6	766.49	725.53	1070.2	1220.6	1734.8	1793.5	1864.5	1875.1
13.7	765.47	796.48	1077	1236.2	1735.9	1790.8	1861.1	1874.6
13.8	754.85	884.51	1096.2	1247.1	1741.6	1791.2	1861.6	1874.2
13.9	739.04	978.93	1126.1	1256.9	1735.9	1792.1	1858.7	1872.6
14	726.68	1000.2	1156.6	1254.7	1748.5	1791.9	1858.1	1872.1
14.1	727.68	1009.4	1172.6	1254.7	1757.5	1789.2	1856.6	1872.9
14.2	749.49	1015.3	1183.7	1257	1753.6	1788.6	1856.2	1870.7
14.3	795.49	1019.8	1192.8	1259.7	1768.7	1789.8	1855	1872.7
14.4	861.61	1023	1200.9	1264.8	1774.7	1788.9	1855.5	1871.2
14.5	942.44	1027.6	1207.1	1267.5	1787.1	1788.8	1855.8	1871.5
14.6	1006.4	1035.5	1205.6	1271.1	1784.4	1789.4	1851.3	1867.7
14.7	1039.2	1048.9	1209	1276.5	1777.1	1789.1	1851.5	1868.4
14.8	1054.6	1078.1	1214.1	1277.9	1773.3	1787.8	1848	1868.9
14.9	1062.4	1110	1209.6	1280.8	1769.1	1786.8	1848.3	1868.4

r →	0	10	20	25	30	35	40	50
t								
15	1064.5	1138	1207.8	1285.9	1774.3	1787.5	1846.6	1868
15.1	1067.8	1159.3	1207.9	1295.1	1772.5	1786.9	1845.9	1866.8
15.2	1087.7	1171.2	1214.5	1301	1776.7	1786.8	1845	1867
15.3	1132.4	1175.6	1219.1	1298.1	1777.4	1785.9	1842.6	1865.6
15.4	1167.6	1202.5	1229.2	1296.5	1777.2	1785.4	1841.5	1864.2
15.5	1199.6	1254.5	1233.8	1295.3	1779.3	1786.7	1841.2	1861.1
15.6	1223.2	1284.5	1246.8	1294.5	1781.9	1786	1839.5	1865.6
15.7	1258.1	1308.8	1260.5	1297.6	1774.2	1787	1839.3	1862
15.8	1297.8	1327.8	1273.3	1301	1775.8	1785.1	1838.1	1862.1
15.9	1326.4	1339.1	1285.6	1304.2	1779.9	1784	1837.3	1855.6
16	1370.5	1345.6	1299.3	1315.5	1779.6	1786.8	1836	1861.2
16.1	1440.8	1349.7	1313.4	1325	1783.2	1786.9	1834.7	1860.7
16.2	1496.1	1352.2	1326.7	1333	1781.6	1784.1	1834.9	1858.8
16.3	1536.4	1353.5	1336.3	1339.6	1779.6	1783.7	1833	1858.2
16.4	1541.4	1355	1340.8	1346.6	1786.5	1783.8	1832.1	1856.8
16.5	1535.7	1358.6	1342.9	1353.5	1787.3	1783.8	1831.2	1857.3
16.6	1531.2	1364.7	1344.9	1361.6	1782.7	1784.2	1830.9	1857.2
16.7	1525.6	1369.5	1346.7	1369.5	1782.9	1783.2	1829.8	1856.7
16.8	1515.3	1369.6	1347.3	1375.7	1788.8	1782.9	1828.8	1858.6
16.9	1498.1	1367.2	1348.1	1382.7	1792.5	1782.7	1828.2	1855.6
17	1479	1363.2	1349	1387.4	1793.5	1782.6	1828	1855.2
17.1	1460.8	1358.5	1349.4	1395.1	1794.2	1782.8	1827.4	1854.4
17.2	1444.7	1354.5	1350.3	1396.5	1795.4	1782.8	1826.7	1853.7
17.3	1427.7	1349.6	1350.2	1399.5	1795.2	1782.7	1825.1	1854.2
17.4	1413.1	1343.2	1350.4	1402	1797.5	1782.4	1825.4	1852.8
17.5	1390	1339.5	1351.4	1405.1	1798.8	1781.5	1823.3	1852.5
17.6	1373.7	1340.6	1353.5	1408.4	1800.9	1780.9	1822.5	1852.2
17.7	1364.6	1343.1	1356.1	1412.2	1801.8	1780.3	1821.4	1852.1
17.8	1364.6	1344.6	1358.9	1414.9	1800.5	1780.1	1821.4	1852.4
17.9	1369.9	1345.4	1362.2	1415.9	1799.7	1780.5	1819.8	1853.5
18	1372.5	1344.7	1364.9	1417.9	1800.1	1780.4	1818.3	1850
18.1	1382	1342.7	1367.3	1419	1799.3	1779.8	1816.2	1849.8
18.2	1389.5	1340.6	1369.4	1423.8	1800.3	1778.7	1816.7	1846.9
18.3	1397.8	1338.2	1371.3	1427.3	1800.5	1779.8	1816.2	1848.3
18.4	1405.7	1335.4	1372.8	1431.2	1798.1	1780	1814.6	1847.6
18.5	1411.8	1333.9	1371.6	1436.4	1797.6	1781.7	1814.6	1847.2
18.6	1414.3	1333.7	1371.4	1442.3	1797.6	1777.3	1813.1	1845.6
18.7	1413	1338	1370.1	1447.4	1799.1	1779	1811.4	1844
18.8	1409.6	1341.9	1368.9	1451.9	1796.7	1777.8	1808.5	1843.3
18.9	1405.5	1347.1	1370.7	1456.4	1794.8	1777.8	1810.6	1843

r →	0	10	20	25	30	35	40	50
t								
19	1407	1352.9	1374.2	1461.9	1794	1778.4	1811.7	1841.9
19.1	1409.8	1357.4	1378.2	1465.2	1792.8	1779.6	1810	1841.8
19.2	1413.2	1360.6	1381.8	1470.6	1792.7	1779.9	1809.9	1841.1
19.3	1413.8	1360.9	1384.8	1474.3	1791.3	1780	1808.6	1839.6
19.4	1409.8	1358.6	1388.1	1477.7	1788.9	1782.9	1809.7	1839.8
19.5	1402.6	1355.6	1388.8	1480.2	1792.9	1778.6	1812	1838.3
19.6	1394.6	1352.7	1391.3	1482.9	1788.1	1780.4	1808	1837.6
19.7	1389	1349	1392.8	1484.3	1787.4	1781.8	1809.2	1837.6
19.8	1387.4	1345.8	1394	1486.6	1786.2	1780.7	1801.4	1836.8
19.9	1387.3	1343.3	1395.3	1488.3	1785.3	1781.6	1805.9	1834.4
20	1390.8	1341.6	1397.4	1490.1	1783.3	1782.4	1805.8	1835.2
20.1	1395.5	1340.7	1400	1492.8	1783.6	1783.3	1806.5	1835.3
20.2	1396.4	1340.6	1402.3	1496.1	1784.2	1782.8	1803.9	1834.7
20.3	1394.8	1341.3	1405.5	1498.8	1780.5	1783.1	1800.5	1834.1
20.4	1395.2	1341.7	1408.1	1501.6	1777.6	1781.9	1797.2	1834
20.5	1396.3	1341.3	1410.1	1503.7	1779	1784.5	1799.1	1832.6
20.6	1396.9	1340.8	1411.9	1506.2	1778.1	1783.7	1798.1	1831.9
20.7	1398.6	1340.7	1413	1509.1	1777.8	1784.6	1799.6	1831.6
20.8	1401	1341.7	1414.3	1512.3	1778.1	1784	1800.8	1829.2
20.9	1404	1342.9	1416.1	1517.5	1776	1784.7	1801.8	1831.8
21	1406.4	1345.5	1417.2	1518.9	1776.8	1786.4	1806.5	1830.1
21.1	1408.4	1348.6	1418.5	1521.8	1774.7	1788.2	1813.8	1829.4
21.2	1409.6	1352.4	1420.2	1526	1774.4	1784.4	1809.7	1827.6
21.3	1411.6	1355.5	1423.6	1527.6	1775.2	1785.8	1804.5	1843.4
21.4	1413.7	1358.2	1422	1529.1	1772.5	1787.3	1815.2	1829.7
21.5	1415.1	1359.8	1424.4	1532.2	1773.5	1785.6	1821.8	1827.7
21.6	1415.2	1360.7	1426.8	1534	1773.1	1786.7	1814.8	1828.8
21.7	1413.6	1360.5	1428.5	1535.6	1772.3	1786	1821.3	1827.9
21.8	1410	1358.9	1431.5	1536.7	1773.1	1788.2	1820.1	1828.1
21.9	1406.1	1356.4	1433	1537.7	1773.1	1787.9	1824.2	1826.3
22	1401.5	1354.4	1434	1539.5	1772.9	1787.6	1826	1825.6
22.1	1398.3	1351.5	1435.2	1541.7	1774.7	1786.3	1824.1	1827.7
22.2	1395	1348.4	1436.2	1543.1	1773.1	1788.8	1827.1	1828.6
22.3	1391.8	1345.8	1437.3	1545.8	1773	1788.4	1827.4	1825.2
22.4	1389.3	1344.5	1438.2	1549.4	1770.4	1788.9	1827.2	1824.5
22.5	1387.4	1344.4	1438	1551.4	1769.8	1789	1827.3	1822.3
22.6	1385.9	1345.2	1440.1	1554.5	1770.2	1787.8	1826.3	1820.8
22.7	1383.6	1345.9	1442.1	1559	1781	1786.9	1825.5	1819.8
22.8	1382.3	1346.5	1443.4	1560.9	1778.5	1787.3	1822.4	1818.9
22.9	1380.8	1346.3	1444.6	1563.8	1783.9	1788	1829.8	1815.7

r →	0	10	20	25	30	35	40	50
t								
23	1378.9	1346.1	1446.7	1565.8	1770	1787.5	1828.4	1816.6
23.1	1378.8	1345.5	1449.8	1567.1	1768.6	1788.2	1828.3	1814.1
23.2	1378.1	1344.8	1447.9	1568.8	1768.5	1788.5	1827.7	1816.7
23.3	1377.4	1345	1453.5	1565.2	1765.4	1788.3	1834.5	1820.1
23.4	1375.6	1346.1	1456.3	1571.1	1771.3	1791.3	1826.9	1815.3
23.5	1374.6	1347.5	1459.4	1572.6	1769.7	1781.8	1834.6	1813.1
23.6	1373.7	1349.5	1462.7	1574.6	1773.1	1784.6	1838.7	1815.3
23.7	1371.5	1351.6	1465.1	1576.2	1765	1794.8	1830.7	1812.2
23.8	1372	1353.2	1468.4	1577.6	1768.9	1794.4	1833.6	1812.1
23.9	1371.7	1354	1472.9	1578	1751.9	1794	1835.5	1812.1
24	1369.8	1354	1474.8	1581.5	1768.6	1795.9	1836.3	1810.8
24.1	1364.8	1353.9	1476.8	1581.5	1761.8	1796.6	1839.3	1811.8
24.2	1363	1353.8	1478.8	1587	1766.5	1797.4	1842.1	1811.3
24.3	1357.5	1352.9	1481.7	1594	1766	1797	1840.8	1810.3
24.4	1356.9	1351.6	1484.9	1593.4	1767.8	1799.7	1842.7	1809.6
24.5	1353	1349.2	1488.2	1597.1	1766.2	1803.9	1838.3	1803
24.6	1349.3	1348.6	1491.6	1601.1	1763.6	1801.1	1852.4	1809.5
24.7	1342.9	1348.8	1494.5	1604	1767.1	1806.8	1842.1	1809.8
24.8	1340.3	1350	1497.2	1606.5	1764.5	1806.9	1838	1806.4
24.9	1341	1351	1500	1610.6	1765.7	1809.8	1838.3	1805.9
25	1338.9	1352.4	1503.5	1610	1763.7	1811.7	1824.3	1805.2
25.1	1336.9	1354	1505.9	1612.3	1765.9	1814.5	1838.1	1804.3
25.2	1336.4	1355.6	1508.6	1623	1767.5	1819.2	1839.5	1803.2
25.3	1337.4	1357.2	1512.2	1619.1	1767.2	1817.8	1833.7	1801.9
25.4	1336	1359	1515.1	1623	1767.3	1825.3	1832.2	1800.9
25.5	1335.1	1361	1517.4	1626.4	1768.7	1832.5	1828.4	1799.3
25.6	1334.4	1363.3	1520.1	1628.6	1773.1	1837.8	1832.5	1798.4
25.7	1332.3	1365.6	1517.7	1630.7	1773	1843.9	1830.5	1797.1
25.8	1330.7	1368.4	1525.4	1632.3	1770.8	1845.1	1830.5	1796.5
25.9	1329.7	1368.8	1529.3	1636.4	1769.7	1851.1	1840.3	1797.4
26	1327.7	1373.7	1532.3	1641.3	1770.5	1861.3	1824.6	1794.9
26.1	1325.6	1378.4	1534.7	1644.7	1772.4	1870.5	1824.5	1793.9
26.2	1325.3	1379.5	1535	1645.2	1774	1865.6	1832.9	1792.8
26.3	1325.4	1382	1537.6	1647.4	1772.3	1881.2	1820.3	1793
26.4	1325.7	1384.7	1539.8	1652.1	1774.6	1888.1	1837	1791.1
26.5	1322.3	1386.2	1543	1653.3	1776.4	1888.8	1831.7	1791.5
26.6	1320.4	1388.1	1544.4	1656.4	1777	1897.1	1826.7	1790.8
26.7	1317.4	1388.1	1547.1	1657.7	1776.5	1900.3	1804	1789.5
26.8	1316	1388.1	1549	1659.2	1776.5	1904.3	1791.6	1789
26.9	1313.5	1388.5	1551.2	1664.1	1777.3	1909.9	1789.2	1788.1

r →	0	10	20	25	30	35	40	50
t								
27	1311.1	1391.9	1552.7	1663.4	1778.6	1921.8	1779.5	1787
27.1	1309.8	1388.4	1554.2	1667.9	1778.5	1916.9	1772.2	1786.1
27.2	1308.9	1388.9	1561.7	1669.7	1780.2	1921	1762.5	1784.9
27.3	1307.5	1389.2	1558.3	1671.2	1779.4	1922.3	1752.7	1783.8
27.4	1307.7	1390	1559.2	1671.8	1777.6	1926.1	1741.1	1783.4
27.5	1308	1390.3	1560.8	1672	1784.4	1917.8	1729.3	1782.5
27.6	1308.5	1391.3	1562.8	1672.6	1780	1932.4	1712.6	1782.8
27.7	1309.2	1392.1	1564.4	1678.4	1773.2	1934.2	1709.5	1782.3
27.8	1309.4	1392.8	1564.8	1677.4	1777.1	1937.8	1692.7	1782.1
27.9	1309.7	1393	1567.1	1681.1	1769.7	1940.7	1691.4	1781.5
28	1309.4	1393.6	1570.5	1684	1765.4	1946.9	1682	1780.8
28.1	1308.7	1394.5	1571.2	1683.2	1769.6	1945.5	1677.8	1780.1
28.2	1308.8	1395.2	1573	1686.4	1769.1	1944.8	1679.8	1779.8
28.3	1308.2	1396.8	1575.4	1689.2	1770.2	1947.9	1688	1778.5
28.4	1308.2	1397.8	1576.4	1689.6	1770	1951.1	1699.7	1778.5
28.5	1309.4	1400.3	1577.8	1689.7	1761.1	1950.4	1723.5	1779.4
28.6	1309.5	1402.6	1578.6	1695.5	1755	1954.1	1719	1782.9
28.7	1309.4	1403.3	1580.5	1693.4	1766.7	1956.3	1726	1779.3
28.8	1309.2	1404.9	1583.7	1696.1	1755.7	1957.1	1747.5	1778.9
28.9	1308.6	1406.6	1585.2	1696.4	1754.1	1959.4	1751.5	1781.9
29	1307.9	1409.3	1581.5	1701.6	1752	1958.8	1785.9	1779.5
29.1	1307	1411.2	1584.2	1701.1	1740	1960.3	1796.7	1780.3
29.2	1305.7	1411.5	1588	1699.9	1751.2	1961.4	1793.3	1793.6
29.3	1304.6	1413	1593.1	1704.6	1743.4	1961.3	1830.3	1780
29.4	1303.4	1414.6	1589.1	1706.9	1745.6	1962.4	1842.8	1789.5
29.5	1302.6	1415.4	1587.5	1708.4	1743.1	1963.9	1880.2	1792
29.6	1302.6	1417.4	1591	1709.8	1735.1	1965.7	1915.9	1789.6
29.7	1303	1418.5	1595	1710.7	1726.6	1966.6	1946.8	1789.6
29.8	1303.6	1420.2	1594.3	1714.2	1728.4	1964.4	1977.7	1793.1
29.9	1305.3	1419.6	1595.4	1712.4	1728.7	1964.6	2002.3	1802.8
30	1306.7	1422.8	1596.7	1715.5	1725.9	1966.8	2017	1815.1
30.1	1308.1	1424.7	1596.4	1706.2	1718.6	1965.7	2043.2	1807.4
30.2	1309.2	1427	1599.5	1719.1	1716.1	1975.4	2042.1	1816.2
30.3	1310.3	1425.3	1599.7	1719.7	1711.8	1972.6	2056.5	1818.2
30.4	1312	1427.1	1602.9	1717.4	1702.8	1972.2	2060.3	1829.9
30.5	1311.5	1426	1601.5	1724	1707.6	1972.1	2074.7	1833.2
30.6	1312.4	1427.5	1601.1	1721.9	1702.2	1973.5	2076.9	1838.9
30.7	1313.2	1427.9	1603.9	1724.3	1721.4	1973.5	2065.8	1838.2
30.8	1315.1	1428.6	1606.1	1724	1714.3	1970.4	2055.7	1850.7
30.9	1315.7	1428.1	1607.7	1730.5	1709.6	1975.8	2054.5	1842.8

r →	0	10	20	25	30	35	40	50
t								
31	1316	1429.1	1608.7	1727.9	1710.8	1974	2052.4	1864.2
31.1	1317.1	1427.6	1610	1727.6	1717.7	1974.4	2044.3	1868.2
31.2	1318.2	1423.3	1608.7	1726.2	1731.3	1973.2	2040.7	1873.3
31.3	1317.2	1426.9	1608.3	1730	1735.9	1984.2	2040.7	1875.4
31.4	1314.6	1427.4	1611.8	1730.8	1743.1	1978	2035.5	1882.5
31.5	1314.4	1427.7	1614	1734.6	1755.8	1976.9	2031.5	1891.3
31.6	1309.3	1426.9	1613.7	1734.6	1766.2	1978.5	2028.8	1893.5
31.7	1308.4	1426	1614.2	1735.4	1776.5	1979	2026.8	1899.3
31.8	1309.6	1426.5	1618.2	1737	1779.6	1979.9	2024.5	1906.7
31.9	1308.5	1427.3	1616.8	1738.9	1797.1	1979.5	2028.3	1905.4
32	1306.9	1429.6	1617.7	1740.7	1821.4	1979.6	2028.8	1912
32.1	1305.2	1429.8	1617.5	1741.2	1818	1979	2029.3	1911.6
32.2	1304	1430	1619.8	1741.9	1838.7	1980	2030.5	1918.8
32.3	1303.2	1427.7	1618.1	1740.1	1837	1982.8	2034.2	1922.9
32.4	1301.9	1431.5	1619.1	1746.3	1869.7	1982.4	2028.7	1922
32.5	1301.1	1431.9	1621	1747.9	1879.5	1983.8	2036.6	1929.1
32.6	1301.2	1436.3	1623.5	1747.2	1883	1985.1	2035.8	1931.8
32.7	1300	1432.3	1624	1748.4	1919.6	1985.5	2034.6	1937.6
32.8	1299.7	1432.4	1622.7	1749.8	1935.5	1986.2	2036.7	1939.9
32.9	1299.6	1434	1624.7	1748.4	1940.5	1987.5	2038.4	1938.6
33	1299.7	1436.7	1626.7	1751.2	1947.9	1988.5	2036.9	1937.8
33.1	1299.8	1434.6	1626.4	1749.9	1960.7	1989.3	2035.3	1944.8
33.2	1300.4	1434.2	1628.4	1751.7	1970.4	1990	2041.1	1951.2
33.3	1300.9	1434.5	1628.2	1753	1973.1	1990.7	2037.7	1948.6
33.4	1302.5	1435	1629.7	1750.7	1983.3	1990.2	2038.9	1949.7
33.5	1303.7	1436.1	1630.8	1752.4	1988.9	1992.5	2039.6	1953
33.6	1305.2	1437	1634.1	1753.6	1987	1993.7	2040.2	1954.2
33.7	1306.9	1436.4	1631	1755.4	1998.4	1993.5	2038	1955.6
33.8	1307.6	1438.9	1630.6	1757.2	1993.3	1994.5	2038.8	1954.4
33.9	1309.1	1440.2	1634.6	1757.8	1997.9	1995.5	2037.3	1956.7
34	1310.2	1438.3	1634.7	1760	1997	1994.5	2035.6	1956.9
34.1	1310.9	1439.7	1631.9	1763.9	2018.5	1994.3	2049.1	1955.3
34.2	1311.2	1439	1634.2	1769.4	2011.7	1995.1	2035.7	1950
34.3	1311.7	1424.4	1638.7	1772.8	2006	1997.1	2033.4	1962.5
34.4	1312.7	1439.2	1641	1772.1	2000.4	1998	2039.2	1957.4
34.5	1313.1	1439.8	1632.8	1769.6	2018.7	1997.2	2041.9	1959.1
34.6	1312.9	1439.9	1640.9	1769	2014.5	1997.8	2047.1	1960.4
34.7	1313.2	1440.4	1627.2	1772.3	2011.2	1998.2	2045.7	1962.3
34.8	1312.9	1444.9	1649.3	1769.9	2012.6	1999.3	2036.3	1962.8
34.9	1313.9	1442.7	1642.6	1767.9	2015.6	1999.9	2036.1	1962.1

r →	0	10	20	25	30	35	40	50
t								
35	1313.6	1443.5	1645.1	1772	2010.5	2000.7	2036.2	1960.7
35.1	1313	1445.2	1644.2	1769.3	2008.3	2000.5	2030.7	1961.4
35.2	1313.6	1441.6	1645.1	1768.8	1999.1	1999	2034.6	1962.5
35.3	1314.5	1446.3	1639.2	1766.2	2010.7	2000.5	2034.9	1966.6
35.4	1326.7	1448.5	1648.3	1767.6	2004.9	2001.5	2034.3	1965.3
35.5	1445.8	1449.3	1646.6	1767.7	2006.1	1998.5	2027.1	1962.9
35.6	1549.1	1448	1645.9	1766.1	2001.1	2002.5	2033.7	1963.8
35.7	1550.7	1458.7	1647.3	1764.1	2001.5	2001.6	2030.6	1963.8
35.8	1505.4	1479.6	1655.7	1767.9	2004.4	2001	2032.9	1965.5
35.9	1475.1	1494.6	1648.8	1767	1998.6	2003.1	2048.5	1962.9
36	1459.2	1496.7	1646.1	1766.4	1998.1	2003.1	2051.7	1962.2
36.1	1450.5	1498.6	1651.2	1765	1999.9	2003.6	2028.4	1965.8
36.2	1446.6	1499.9	1650.8	1766.9	1997.6	2003.8	2030.5	1962.4
36.3	1447.9	1495.6	1649.3	1767.2	1991.2	2005	2030.1	1963.2
36.4	1456.8	1494.1	1651.2	1765.1	1995.6	2004.6	2029.2	1964.1
36.5	1457.3	1496.4	1652.8	1768	1992.8	2005.4	2030.2	1964.1
36.6	1462.5	1500.4	1652.7	1769.2	1994.2	2005.1	2031.6	1963.2
36.7	1470.8	1502.7	1656	1764.1	1999.8	2005.5	2044.1	1964.2
36.8	1475.4	1506	1660.4	1770.5	1988.7	2006.4	2044.9	1964.4
36.9	1480.8	1501.1	1658.4	1767.8	1988.6	2006.6	2046.5	1965.9
37	1487.1	1492.7	1657.3	1773	2000	2007.2	2047.3	1968.1
37.1	1487.9	1492.9	1661.5	1773.4	1990.8	2008.1	2037.7	1968.5
37.2	1492.1	1494.3	1659.4	1777.7	1990.2	2008.9	2052.1	1970.7
37.3	1497	1494.6	1663.7	1771.2	1997.6	2009.5	2028.9	1966.7
37.4	1504.4	1497.1	1667.3	1771.1	2004.4	2010.3	2031.6	1969.1
37.5	1506.4	1498.7	1669.9	1770.9	1997.6	2020.7	2024.7	1969.2
37.6	1521.7	1499.2	1667.8	1772.5	1989.6	2010.4	2036.6	1968
37.7	1547.2	1501.6	1670.1	1765.1	1988.3	2013.4	2045.3	1967.2
37.8	1574	1502.4	1674.1	1773.4	1985.7	2013.3	2054	1969.3
37.9	1580.8	1506.9	1677.8	1772.2	1989.3	2012.3	2057.9	1969.7
38	1574.8	1510.8	1674.5	1767.4	1983.8	2014	2055.7	1969.5
38.1	1571	1516	1674.5	1781.1	1998.2	2014.8	2056.1	1970.3
38.2	1564.3	1519.8	1678.2	1780.1	1990.7	2014.9	2056.2	1970.4
38.3	1576.5	1524	1678.2	1780.9	1986.3	2014.9	2057.6	1968.9
38.4	1579.4	1528.6	1683.2	1772.9	1987.1	2016.2	2057.7	1969.3
38.5	1585.8	1533.9	1681.5	1786	1996.4	2015.5	2058.2	1968.1
38.6	1596.7	1530.8	1682.1	1775.2	1983.7	2017.3	2061.6	1969.1
38.7	1586.6	1532.9	1680.2	1783.5	1987.4	2017.2	2060	1974
38.8	1592.4	1531.2	1682	1789.1	1988.9	2017.7	2062.8	1972.8
38.9	1593.4	1527.5	1684.8	1773.4	1982.2	2018.8	2064.2	1972.8

r →	0	10	20	25	30	35	40	50
t								
39	1595.3	1531.4	1690.7	1786.1	1993.7	2018.9	2058.2	1973.2
39.1	1599.8	1528.8	1693.3	1783.2	1980.8	2020.1	2060.9	1975.5
39.2	1600.5	1532.9	1690.9	1789.9	1986.7	2020.2	2058.4	1975.1
39.3	1601.4	1533.3	1689.2	1787.7	1996.8	2020.9	2068.2	1975.6
39.4	1606.9	1535.5	1690.4	1786.9	1986.3	2020.7	2066.6	1975.8
39.5	1610.3	1537.1	1690.6	1789.7	1985.4	2020.8	2068.8	1976.2
39.6	1612.1	1537.9	1694.3	1789.1	1992.3	2021	2066.5	1975.7
39.7	1615.9	1539.1	1704.6	1791.4	1997.7	2022.7	2070.1	1976.2
39.8	1625	1539.5	1693.7	1780.3	1982.8	2022.9	2063.3	1976.8
39.9	1630.2	1541.9	1692.1	1795.6	1987.3	2020.5	2064.2	1976
40	1635.3	1543.6	1694	1797.4	1993.1	2026.9	2059.4	1977.5
40.1	1632.7	1546	1694.1	1794.8	1985.3	2020.4	2063.7	1977.3
40.2	1629.6	1544.1	1693.6	1786.8	1988.3	2027.5	2065.1	1979.9
40.3	1629.6	1549.2	1695.3	1797.8	1992.3	2022.4	2066.9	1977.7
40.4	1629.9	1549.6	1696.4	1800.6	1989.7	2024.3	2065.7	1979.9
40.5	1630.6	1557.8	1692.1	1798.8	1986.7	2021.3	2067.3	1978.4
40.6	1631.8	1559.8	1691.7	1800.2	1981.7	2026.5	2063.6	1978.3
40.7	1632.3	1558.9	1686.5	1801	1988.9	2025	2070.2	1979.8
40.8	1630.2	1562.1	1701.2	1788.2	1984.7	2026	2067.4	1980
40.9	1628.6	1562.7	1698.7	1791.6	1986.5	2025.7	2068.6	1984
41	1627.7	1562.2	1698.3	1786.5	1998	2028	2071.9	1983.2
41.1	1628.6	1544.3	1699.7	1794.5	1992.7	2025.9	2064.6	1981.4
41.2	1628.6	1563.1	1699.1	1785.9	1989.4	2028.1	2065	1978.8
41.3	1628	1563.7	1701.8	1789.8	1983.5	2027.9	2065.2	1986.2
41.4	1627.4	1565.1	1701	1793.9	1991.3	2027.7	2064.7	1988.7
41.5	1627.4	1561.3	1705.5	1782.7	1987.4	2028.4	2065.6	1987.9
41.6	1627.8	1566.8	1703	1799.8	1995.3	2027.7	2069.8	1988.2
41.7	1629.2	1568.6	1701	1775.9		2027.8	2063.1	1988.8
41.8	1631.1	1570.5	1703.6	1789.8		2027.7	2066.3	1990.2
41.9	1635.6	1571.1	1705.3	1807.6		2028.2	2068.9	1988.4
42	1635.3	1571.6	1706.9	1790.7		2026.3	2065.2	1988.3
42.1	1635.2	1574.5	1706.9	1817.7		2027.8	2067.1	1989.9
42.2	1634	1578.1	1706.5	1807.5		2026.3	2066.5	1990.6
42.3	1634.2	1576.8	1703.9	1814.7		2026.6	2071	1986.5
42.4	1637.1	1577.5	1704.8	1817.3		2028	2066.5	1991.3
42.5	1635.7	1579.4	1706.6	1815.2		2026.2	2065.6	1993.3
42.6	1635.2	1581.8	1707.8	1820.7		2029.1	2068	1993.5
42.7	1633.9	1584.7	1709.3	1815.4		2028.2	2066.2	1991.9
42.8	1632.8	1584.4	1710.8	1815.5		2027.3	2066.7	1991.8
42.9	1632.5	1585	1706.3	1817.7		2023.4	2066.4	1990.8

r →	0	10	20	25	30	35	40	50
t								
43	1631.7	1585.8	1709.1	1820.6		2023.4	2067.5	1987.8
43.1	1631.7	1584.5	1710.9	1817.9		2022	2061.7	1993.9
43.2	1631.7	1586.3	1727.7	1821.4		2028.6	2063.8	1993.4
43.3	1630.7	1590.6	1717.6	1817.4		2028.1	2066.7	1994.9
43.4	1630.1	1589.4	1715	1821.7		2029.3	2066.9	1990.7
43.5	1628.8	1589.7	1716.9	1820.4		2029	2066.8	1991.5
43.6	1629.6	1589.3	1715.2	1817.7		2025.9	2062.2	1990.3
43.7	1628.7	1589.7	1709.9	1822.1		2020.8	2073	1992.7
43.8	1628.1	1592.3	1709.4	1828.8		2022.8	2071.3	1995.6
43.9	1629.1	1592.2	1713.2	1821.2		2023.5	2061.4	1992.2
44	1629.1	1594.3	1715.7	1819.5		2027.6	2062.9	1992.7
44.1	1627.4	1593.9	1716.3	1818.1		2027.5	2060.4	1994.5
44.2	1626.7	1596	1714.6	1821.8		2033.1	2062.7	1993.9
44.3	1625.8	1597.6	1727.3	1818.3		2026.4	2069.5	1996.4
44.4	1625.1	1600.9	1716.9	1821.7		2027.3	2066	1996.5
44.5	1624.4	1600.6	1717.3	1822.2		2027.6	2065.5	2006.9
44.6	1623.4	1601.6	1711.3	1823		2028.6	2065.2	1996.2
44.7	1622.2	1602.4	1717.9	1822		2028.9	2067.6	2000.6
44.8	1621.3	1604.1	1717.6	1819.9		2028	2063	2000
44.9	1619.7	1605.5	1720.7	1819.7		2030	2056.9	2003
45	1619.2	1606.6	1719.4	1820.5		2032.9	2065.7	2003.2
45.1	1617.8	1606.8	1720.8	1821.3		2028.8	2060.2	2004.3
45.2	1617.1	1609.8	1720.6	1821.3		2029.4	2066.6	2000.2
45.3	1614.8	1607.5	1722.8	1820.8		2029.6	2066	1997.6
45.4	1612.6	1610.6	1729.4	1822.4		2030.4	2065.9	2001.3
45.5	1609.4	1613.9	1724.1	1823.2		2029.8	2064.1	2006.3
45.6	1607.1	1613.7	1722.2	1824.2		2029.5	2066.5	2001.7
45.7	1608.1	1615.3	1721.9	1820		2030.1	2066.4	2002.7
45.8	1607.9	1614	1725			2030.4	2065.4	2003.7
45.9	1607	1613.3	1720.3			2030.7	2063.6	2002.5
46	1604.9	1614.4	1725.7			2032.3	2065.1	2004.9
46.1	1603.3	1615.4	1722.2			2030.7	2056	2004.5
46.2	1602.1	1616.9	1723.9			2030.2		2014.4
46.3	1600.9	1619.2	1718.8			2030.7		2003.3
46.4	1600	1620.8	1709.8			2031.8		2000.2
46.5	1598.1	1621.9	1722.2			2031.5		2003.7
46.6	1597	1622.3	1720.4			2032.5		2003.7
46.7	1594.9	1623.1	1725.4			2031.9		2003.9
46.8	1593.6	1623.7	1726.4			2030.8		2007.7
46.9	1593.6	1624.8	1725.8			2031.9		2006.7

r →	0	10	20	25	30	35	40	50
t								
47	1592.7	1625.9	1727.6			2033.3		2006.3
47.1	1592	1626.8	1729.3			2028.9		2006.3
47.2	1590.6	1628.1	1723.3			2034.5		2005.3
47.3	1588.2	1628.3	1728.4			2029.2		2004
47.4	1588.1	1629.1	1729.5			2033		2002
47.5	1587	1630	1739.8			2032.3		2004
47.6	1584.7	1629.5	1730.2			2029.8		2012.8
47.7	1586.6	1624.6	1728.8			2031.6		2007.7
47.8	1584.2	1632	1728.6			2031.2		2015.3
47.9	1584.6	1636.7	1730.2			2030.1		2011.4
48	1583.4	1635.4	1731.6			2030.6		2013.3
48.1	1582.6	1635	1731.4			2031.2		2001.8
48.2	1582.6	1634.5	1728.8			2032.2		2007.8
48.3	1581.3	1635.8	1731			2033.4		2008.5
48.4	1581.5	1637.1	1727.3			2033.9		2009.9
48.5	1580.6	1633.8	1728.3			2031.8		2005.5
48.6	1580.5	1637.3	1730.2			2032.3		2011.1
48.7	1580	1635.4	1732.2			2032.1		2007.6
48.8	1579.3	1650.6	1730.7			2033		2018.6
48.9	1579.2	1633	1731.4			2031.1		2010.5
49	1579.2	1641.9	1730.3			2031.5		2007.5
49.1	1579.8	1640.9	1730.1			2030.7		2000.9
49.2	1579.1	1641.4	1731.5			2032.1		2007.6
49.3	1579.5	1640.5	1735.6			2033.4		2005.8
49.4	1579.8	1647.6	1726.7			2031.8		2009.9
49.5	1581.3	1643.3	1729.6			2031.5		
49.6	1580.8	1642.8	1730.5			2032.1		
49.7	1579.8	1644.7	1727.5			2032.4		
49.8	1581.2	1644	1734			2031.1		
49.9	1582.2	1650.3	1726.2			2039.2		
50	1582.7	1646	1736.8			2034.2		
50.1	1582.9	1645.8	1734.8			2031.7		
50.2	1583.2	1647.8	1733.4			2031.5		
50.3	1583.9	1649.3	1727.5			2033.5		
50.4	1584.7	1650.6	1733.8			2025.2		
50.5	1585.5	1651.9	1730.5			2031.9		
50.6	1585.4	1652.8	1733.4			2029.9		
50.7	1587.9	1650.3	1735.8			2032.9		
50.8	1588.7	1651	1729.3			2032.5		
50.9	1587.4	1651.9	1739.1			2032.8		

r →	0	10	20	25	30	35	40	50
t								
51	1582.2	1654.6	1733.4			2032.4		
51.1	1590.7	1652.6	1733.9			2029.8		
51.2	1590.9	1658	1735.4			2029.5		
51.3	1590.3	1657.5	1736.3			2033.8		
51.4	1591.4	1656.1	1740.1			2031.9		
51.5	1595.2	1656.8	1740.1			2033.4		
51.6	1595.3	1664	1738.9			2031.1		
51.7	1595.4	1658.9	1739.3			2033.3		
51.8	1598.1	1658.7	1737.8			2032.3		
51.9	1597.8	1659.9	1723.5			2033.7		
52	1597.4	1661.1	1742.8			2033		
52.1	1597.4	1661.5	1737.7			2033.9		
52.2	1599.3	1662.7	1733.1			2035		
52.3	1599.1	1662.5	1736.6			2034.2		
52.4	1601	1664	1743.6			2032.9		
52.5	1602.3	1664.6	1738.7			2032.9		
52.6	1602.8	1661.2	1736.8			2034.1		
52.7	1604.3	1669	1741.1			2037.7		
52.8	1604.4	1659.7	1747			2035.7		
52.9	1605.5	1663.7	1740.2			2035.7		
53	1607.8	1663.2	1744			2038.9		
53.1	1607.8	1665	1740.7			2035.1		
53.2	1610.6	1666	1738.6			2035.6		
53.3	1609.9	1665.2	1732.5			2036.4		
53.4	1611.2	1665.2	1735.4			2036.5		
53.5	1612	1665.2	1743.8			2035.9		
53.6	1612.6	1665.2				2036.1		
53.7	1613	1665.3				2034.9		
53.8	1613.3	1668.5				2036		
53.9	1615.4	1670.6				2033.2		
54	1615.7	1669.9				2033.9		
54.1	1616.2	1671				2032.6		
54.2	1616.9	1670.2				2031.3		
54.3	1617.3	1671.3				2035.4		
54.4	1618.3	1671.3				2036.8		
54.5	1619.2	1672.2				2036.5		
54.6	1620.1	1672.4				2038		
54.7	1620.3	1668.4				2038.7		
54.8	1620.8	1672.6				2036.2		
54.9	1621.8	1672.6				2036.4		

r →	0	10	20	25	30	35	40	50
t								
55	1620.6	1672.6				2038.8		
55.1	1619.9	1673.1				2035.1		
55.2	1622.3	1672.5				2037.5		
55.3	1624.3	1674.5				2041		
55.4	1624.5	1667.6				2039.2		
55.5	1625.5	1675.3				2040.9		
55.6	1627.1	1676.1				2039.3		
55.7	1626.6	1676.9				2039.2		
55.8	1628.3	1676.9				2040.5		
55.9	1631	1676.7				2035.1		
56	1630.3	1678				2041.1		
56.1	1629.6	1678.6				2040.4		
56.2	1625.6	1676.6				2039.4		
56.3	1630.1	1679.6				2039.3		
56.4	1635.5	1680.2				2039.4		
56.5	1634.6	1679.6				2037.2		
56.6	1631.4	1683.1				2039.1		
56.7	1635.8	1681.9				2039		
56.8	1631.8	1674.9				2040.2		
56.9	1632.2	1683.3				2036.5		
57	1634.9	1684.5				2039.5		
57.1	1636.5	1684.5				2039		
57.2	1633.2	1682.6				2040.4		
57.3	1635.8	1678.4				2040.2		
57.4		1682.4				2039.6		
57.5		1686.6				2040.1		
57.6		1684.3				2050		
57.7		1684.5				2042.1		
57.8		1684.7				2039.7		
57.9		1686				2040.8		
58		1685.9				2041.8		
58.1		1687.5				2039.2		
58.2		1688.9				2042.1		
58.3		1686				2043.1		
58.4		1683.1				2043.2		
58.5		1687.4				2041.5		
58.6		1688.8				2039.9		
58.7		1689.9				2040		
58.8		1690.7				2040		
58.9		1692.1				2042.5		

r →	0	10	20	25	30	35	40	50
t								
59		1690.4				2041		
59.1		1688.7				2041.9		
59.2		1687.7				2042.1		
59.3		1692.1				2042.7		
59.4		1691.7				2040		
59.5		1691.3				2043		
59.6		1692.2				2041.9		
59.7		1693.6				2041		
59.8		1693.7				2041.8		
59.9		1694.5				2043.2		
60		1692.6				2041.8		
60.1		1691.7				2039.3		
60.2		1694.7				2040.7		
60.3		1696.1				2040.3		
60.4		1695.9				2040.2		
60.5		1694.9				2039.4		
60.6		1695.6				2048.1		
60.7		1698.4				2039		
60.8		1698.4				2034.1		
60.9		1695.5				2033		
61		1699.7				2042		
61.1		1700.9				2038.1		
61.2		1700				2037.9		
61.3		1699.8				2035.7		
61.4		1698.7				2039.7		
61.5		1701.1				2032.6		
61.6		1700.2				2031.9		
61.7		1701.7				2034.7		
61.8		1705.5				2044.9		
61.9		1694.5				2036.1		
62		1690.9				2029.2		
62.1		1704.8				2025.2		
62.2		1702.7				2027		
62.3		1703.2				2004.5		
62.4		1703						
62.5		1705.5						
62.6		1706.1						
62.7		1699.1						
62.8		1700.7						
62.9		1696.7						

r →	0	10	20	25	30	35	40	50
t								
63		1694.9						
63.1		1698.7						
63.2		1697.2						
63.3		1703						
63.4		1705.3						
63.5		1702.2						
63.6		1701.2						
63.7		1700.3						
63.8		1705.8						
63.9		1707.3						
64		1702.7						
64.1		1711.3						
64.2		1711.9						
64.3		1714.2						
64.4		1710.8						
64.5		1709.2						
64.6		1712.8						
64.7		1716						
64.9		1715.7						

2021E PT3 Diagnostic Plate Displacement Table

Diagnostic Plate Displacement of Jack Rabbit Pretest 2021E PT3; time is referenced in microseconds from detonator circuit current start

Jack Rabbit Pretest 2021E PT3 POSITION Data								
Columnar data: z = mm from top of diagnostic plate datum								
absolute timing accuracy relative to time zero = +/- 0.025 microseconds								
relative timing uncertainty between data channels = +/- 0.005 microseconds								
z position uncertainty = +/- 5 percent of measurement								
PDV measurement point position uncertainty = +/- 0.25 millimeters								
r →	0	10	20	25	30	35	40	50
t								
8	0	0	0	0	0	0	0	0
8.1	0	0	0	0	0	0	0	0
8.2	0	0	0	0	0	0	0	0
8.3	0	0	0	0	0	0	0	0
8.4	0	0	0	0	0	0	0	0
8.5	0	0	0	0	0	0	0	0
8.6	0	0	0	0	0	0	0	0
8.7	0.0001	0	0	0	0	0	0	0
8.8	0.0002	0	0	0	0	0	0	0
8.9	0.0004	0	0	0	0	0	0	0
9	0.0007	0	0	0	0	0	0	0
9.1	0.0011	4E-05	0	0	0	0	0	0
9.2	0.0015	0.0001	0	0	0	0	0	0
9.3	0.0019	0.0002	0	0	0	0	0	0
9.4	0.0025	0.0003	0	0	0	0	0	0
9.5	0.0031	0.0004	0	0	0	0	0	0
9.6	0.0037	0.0006	0	0	0	0	0	0
9.7	0.0043	0.0007	0	0	0	0	0	0
9.8	0.005	0.0009	0	0	0	0	0	0
9.9	0.0056	0.0011	0	0	0	0	0	0
10	0.0063	0.0013	0	0	0	0	0	0
10.1	0.007	0.0015	0	0	0	0	0	0
10.2	0.0077	0.0018	0	0	0	0	0	0
10.3	0.0084	0.002	0	0	0	0	0	0
10.4	0.0091	0.0023	0	0	0	0	0	0
10.5	0.0099	0.0025	0	0	0	0	0	0
10.6	0.0107	0.0029	0	0	0	0	0	0
10.7	0.0116	0.0032	0	0	0	0	0	0
10.8	0.0125	0.0037	0	0	0	0	0	0
10.9	0.0134	0.0042	0	0	0	0	0.105	0

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t								
11	0.0145	0.0048	0	0	0.0024	0.0963	0.3107	0
11.1	0.0157	0.0055	0	0.0035	0.1022	0.2867	0.5094	0
11.2	0.017	0.0063	0.0036	0.0378	0.2934	0.4715	0.7048	0
11.3	0.0207	0.0072	0.0358	0.1015	0.4783	0.6516	0.8981	0.0647
11.4	0.0277	0.0097	0.0938	0.1687	0.6593	0.8314	1.0898	0.2293
11.5	0.0391	0.015	0.1538	0.2385	0.8377	1.0124	1.2808	0.4254
11.6	0.0636	0.0237	0.2163	0.3118	1.0138	1.1927	1.471	0.6166
11.7	0.0979	0.0429	0.2815	0.389	1.1879	1.372	1.6609	0.8069
11.8	0.1323	0.0837	0.3494	0.4692	1.3604	1.5512	1.8503	0.9972
11.9	0.1663	0.1419	0.4201	0.5529	1.5313	1.7307	2.0393	1.1865
12	0.2006	0.2061	0.4937	0.644	1.7016	1.9099	2.2282	1.375
12.1	0.2361	0.2718	0.5703	0.7564	1.8713	2.0885	2.4169	1.5634
12.2	0.2736	0.3375	0.6495	0.8853	2.0405	2.2676	2.6055	1.752
12.3	0.314	0.4027	0.7313	1.015	2.2092	2.447	2.794	1.9404
12.4	0.3582	0.4677	0.816	1.1443	2.377	2.6258	2.9824	2.1279
12.5	0.4076	0.5328	0.9156	1.2718	2.5442	2.8047	3.1706	2.3153
12.6	0.4619	0.5985	1.0286	1.3973	2.711	2.984	3.3586	2.5035
12.7	0.5197	0.6644	1.1414	1.5222	2.8782	3.1632	3.5464	2.6917
12.8	0.5802	0.73	1.253	1.6467	3.0462	3.3422	3.734	2.8798
12.9	0.6435	0.7951	1.3623	1.7705	3.2152	3.5214	3.9215	3.0677
13	0.7088	0.8597	1.4696	1.8939	3.3853	3.7004	4.1088	3.255
13.1	0.7763	0.9244	1.5757	2.0169	3.5555	3.8795	4.296	3.4422
13.2	0.8464	0.9895	1.6819	2.1394	3.7261	4.0587	4.483	3.6299
13.3	0.9193	1.0556	1.7886	2.2612	3.8982	4.2379	4.6699	3.8176
13.4	0.9943	1.1228	1.8953	2.3823	4.0711	4.4171	4.8567	4.0053
13.5	1.0704	1.1917	2.0021	2.5034	4.2444	4.5965	5.0432	4.193
13.6	1.1469	1.2628	2.1091	2.6252	4.4178	4.7758	5.2297	4.3806
13.7	1.2235	1.3389	2.2164	2.748	4.5913	4.955	5.416	4.5681
13.8	1.2995	1.4229	2.3251	2.8722	4.7652	5.1341	5.6021	4.7555
13.9	1.3742	1.5161	2.4362	2.9974	4.939	5.3133	5.7881	4.9429
14	1.4475	1.6151	2.5504	3.1229	5.1133	5.4925	5.974	5.1301
14.1	1.5202	1.7155	2.6668	3.2484	5.2886	5.6715	6.1597	5.3173
14.2	1.5941	1.8168	2.7846	3.374	5.4641	5.8504	6.3453	5.5045
14.3	1.6714	1.9185	2.9035	3.4998	5.6402	6.0293	6.5309	5.6917
14.4	1.7542	2.0207	3.0231	3.6261	5.8174	6.2083	6.7164	5.8789
14.5	1.8444	2.1232	3.1435	3.7527	5.9955	6.3871	6.902	6.066
14.6	1.9419	2.2263	3.2642	3.8796	6.1741	6.566	7.0874	6.253
14.7	2.0441	2.3306	3.3849	4.007	6.3521	6.745	7.2725	6.4398
14.8	2.1488	2.4369	3.5061	4.1347	6.5297	6.9238	7.4575	6.6267
14.9	2.2547	2.5463	3.6272	4.2627	6.7068	7.1026	7.6423	6.8135

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t								
15	2.361	2.6587	3.7481	4.391	6.884	7.2813	7.827	7.0003
15.1	2.4676	2.7736	3.8689	4.52	7.0613	7.46	8.0117	7.1871
15.2	2.5754	2.8901	3.99	4.6498	7.2388	7.6387	8.1962	7.3738
15.3	2.6864	3.0075	4.1117	4.7798	7.4165	7.8173	8.3806	7.5604
15.4	2.8014	3.1264	4.2341	4.9095	7.5942	7.9959	8.5648	7.7469
15.5	2.9198	3.2492	4.3573	5.0391	7.772	8.1745	8.7489	7.9332
15.6	3.0409	3.3762	4.4813	5.1686	7.9501	8.3531	8.9329	8.1195
15.7	3.165	3.5058	4.6067	5.2982	8.1279	8.5318	9.1169	8.3059
15.8	3.2928	3.6377	4.7334	5.4281	8.3054	8.7104	9.3008	8.4921
15.9	3.424	3.771	4.8613	5.5584	8.4832	8.8888	9.4845	8.678
16	3.5588	3.9052	4.9905	5.6894	8.6612	9.0674	9.6682	8.8638
16.1	3.6994	4.04	5.1212	5.8214	8.8393	9.2461	9.8517	9.0499
16.2	3.8462	4.1751	5.2532	5.9543	9.0175	9.4246	10.035	9.2359
16.3	3.9979	4.3104	5.3863	6.088	9.1956	9.603	10.219	9.4217
16.4	4.1518	4.4458	5.5202	6.2223	9.3739	9.7814	10.402	9.6075
16.5	4.3056	4.5815	5.6544	6.3573	9.5526	9.9598	10.585	9.7932
16.6	4.459	4.7177	5.7888	6.493	9.7311	10.138	10.768	9.9789
16.7	4.6118	4.8544	5.9233	6.6296	9.9094	10.317	10.951	10.165
16.8	4.7638	4.9913	6.058	6.7668	10.088	10.495	11.134	10.35
16.9	4.9145	5.1282	6.1928	6.9048	10.267	10.673	11.317	10.536
17	5.0634	5.2647	6.3277	7.0433	10.446	10.851	11.5	10.722
17.1	5.2104	5.4008	6.4626	7.1824	10.626	11.03	11.683	10.907
17.2	5.3556	5.5364	6.5976	7.322	10.805	11.208	11.865	11.092
17.3	5.4992	5.6716	6.7326	7.4618	10.985	11.386	12.048	11.278
17.4	5.6413	5.8063	6.8676	7.6018	11.164	11.564	12.23	11.463
17.5	5.7814	5.9404	7.0027	7.7422	11.344	11.743	12.413	11.649
17.6	5.9196	6.0744	7.138	7.8829	11.524	11.921	12.595	11.834
17.7	6.0565	6.2086	7.2734	8.0239	11.704	12.099	12.777	12.019
17.8	6.193	6.343	7.4092	8.1652	11.884	12.277	12.959	12.204
17.9	6.3297	6.4775	7.5453	8.3068	12.064	12.455	13.141	12.389
18	6.4668	6.612	7.6816	8.4485	12.244	12.633	13.323	12.575
18.1	6.6046	6.7464	7.8182	8.5903	12.424	12.811	13.505	12.76
18.2	6.7431	6.8805	7.9551	8.7325	12.604	12.989	13.687	12.944
18.3	6.8825	7.0145	8.0921	8.875	12.784	13.167	13.868	13.129
18.4	7.0227	7.1481	8.2293	9.018	12.964	13.345	14.05	13.314
18.5	7.1635	7.2816	8.3665	9.1613	13.144	13.523	14.231	13.499
18.6	7.3049	7.415	8.5037	9.3053	13.324	13.701	14.413	13.683
18.7	7.4462	7.5486	8.6407	9.4498	13.504	13.879	14.594	13.868
18.8	7.5874	7.6826	8.7777	9.5947	13.684	14.056	14.775	14.052
18.9	7.7281	7.817	8.9147	9.7401	13.863	14.234	14.956	14.237

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t								
19	7.8687	7.952	9.0519	9.8861	14.043	14.412	15.137	14.421
19.1	8.0096	8.0875	9.1895	10.032	14.222	14.59	15.318	14.605
19.2	8.1507	8.2234	9.3275	10.179	14.401	14.768	15.499	14.789
19.3	8.2921	8.3595	9.4659	10.326	14.58	14.946	15.68	14.973
19.4	8.4333	8.4955	9.6045	10.474	14.759	15.124	15.861	15.157
19.5	8.5739	8.6312	9.7434	10.622	14.938	15.302	16.042	15.341
19.6	8.7137	8.7666	9.8824	10.77	15.117	15.48	16.223	15.525
19.7	8.8529	8.9017	10.022	10.918	15.296	15.658	16.404	15.709
19.8	8.9917	9.0364	10.161	11.067	15.475	15.836	16.584	15.892
19.9	9.1305	9.1709	10.3	11.216	15.654	16.014	16.765	16.076
20	9.2694	9.3051	10.44	11.365	15.832	16.193	16.945	16.259
20.1	9.4087	9.4393	10.58	11.514	16.01	16.371	17.126	16.443
20.2	9.5483	9.5733	10.72	11.663	16.189	16.549	17.307	16.626
20.3	9.6879	9.7074	10.86	11.813	16.367	16.728	17.487	16.81
20.4	9.8274	9.8416	11.001	11.963	16.545	16.906	17.667	16.993
20.5	9.9669	9.9757	11.142	12.113	16.723	17.084	17.846	17.177
20.6	10.107	10.11	11.283	12.264	16.901	17.263	18.026	17.36
20.7	10.246	10.244	11.424	12.415	17.078	17.441	18.206	17.543
20.8	10.386	10.378	11.566	12.566	17.256	17.619	18.386	17.726
20.9	10.527	10.512	11.707	12.717	17.434	17.798	18.566	17.909
21	10.667	10.647	11.849	12.869	17.611	17.976	18.747	18.092
21.1	10.808	10.781	11.991	13.021	17.789	18.155	18.928	18.275
21.2	10.949	10.916	12.133	13.173	17.966	18.334	19.109	18.458
21.3	11.09	11.052	12.275	13.326	18.144	18.512	19.29	18.642
21.4	11.231	11.187	12.417	13.479	18.321	18.691	19.471	18.825
21.5	11.373	11.323	12.559	13.632	18.499	18.87	19.652	19.008
21.6	11.514	11.459	12.702	13.785	18.676	19.048	19.834	19.191
21.7	11.655	11.595	12.845	13.939	18.853	19.227	20.016	19.374
21.8	11.797	11.731	12.988	14.092	19.031	19.405	20.198	19.557
21.9	11.937	11.867	13.131	14.246	19.208	19.584	20.38	19.739
22	12.078	12.003	13.274	14.4	19.385	19.763	20.563	19.922
22.1	12.218	12.138	13.418	14.554	19.563	19.942	20.745	20.105
22.2	12.358	12.273	13.561	14.708	19.74	20.121	20.928	20.287
22.3	12.497	12.408	13.705	14.863	19.917	20.299	21.111	20.47
22.4	12.636	12.542	13.849	15.017	20.094	20.478	21.293	20.653
22.5	12.775	12.677	13.993	15.172	20.271	20.657	21.476	20.835
22.6	12.913	12.811	14.136	15.328	20.448	20.836	21.659	21.017
22.7	13.052	12.946	14.281	15.483	20.626	21.015	21.841	21.199
22.8	13.19	13.08	14.425	15.639	20.804	21.193	22.024	21.381
22.9	13.328	13.215	14.569	15.796	20.982	21.372	22.206	21.563

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t								
23	13.466	13.35	14.714	15.952	21.16	21.551	22.389	21.744
23.1	13.604	13.484	14.859	16.109	21.337	21.73	22.572	21.926
23.2	13.742	13.619	15.004	16.266	21.514	21.909	22.755	22.107
23.3	13.88	13.753	15.149	16.422	21.69	22.087	22.938	22.289
23.4	14.017	13.888	15.294	16.579	21.867	22.266	23.121	22.471
23.5	14.155	14.022	15.44	16.736	22.044	22.445	23.304	22.652
23.6	14.292	14.157	15.586	16.894	22.221	22.623	23.488	22.834
23.7	14.43	14.292	15.732	17.051	22.398	22.802	23.671	23.015
23.8	14.567	14.428	15.879	17.209	22.575	22.982	23.855	23.196
23.9	14.704	14.563	16.026	17.367	22.751	23.161	24.038	23.378
24	14.841	14.698	16.174	17.525	22.927	23.341	24.222	23.559
24.1	14.978	14.834	16.321	17.683	23.103	23.52	24.405	23.74
24.2	15.114	14.969	16.469	17.841	23.28	23.7	24.589	23.921
24.3	15.25	15.104	16.617	18	23.456	23.88	24.774	24.102
24.4	15.386	15.24	16.765	18.16	23.633	24.06	24.958	24.283
24.5	15.521	15.375	16.914	18.319	23.81	24.24	25.142	24.464
24.6	15.657	15.51	17.063	18.479	23.986	24.42	25.326	24.644
24.7	15.791	15.644	17.212	18.639	24.163	24.6	25.511	24.825
24.8	15.925	15.779	17.362	18.8	24.339	24.781	25.695	25.006
24.9	16.059	15.914	17.512	18.961	24.516	24.962	25.879	25.187
25	16.193	16.05	17.662	19.122	24.692	25.143	26.062	25.367
25.1	16.327	16.185	17.812	19.283	24.869	25.324	26.245	25.548
25.2	16.461	16.32	17.963	19.445	25.046	25.506	26.429	25.728
25.3	16.595	16.456	18.114	19.607	25.222	25.688	26.613	25.908
25.4	16.728	16.592	18.265	19.769	25.399	25.87	26.796	26.089
25.5	16.862	16.728	18.417	19.931	25.576	26.053	26.979	26.269
25.6	16.995	16.864	18.569	20.094	25.753	26.236	27.162	26.449
25.7	17.129	17.001	18.721	20.257	25.93	26.42	27.345	26.628
25.8	17.262	17.137	18.873	20.42	26.107	26.605	27.528	26.808
25.9	17.395	17.274	19.026	20.584	26.284	26.79	27.712	26.988
26	17.528	17.411	19.179	20.747	26.461	26.975	27.895	27.167
26.1	17.66	17.549	19.332	20.912	26.639	27.162	28.078	27.347
26.2	17.793	17.687	19.486	21.076	26.816	27.349	28.26	27.526
26.3	17.925	17.825	19.639	21.241	26.993	27.536	28.443	27.705
26.4	18.058	17.963	19.793	21.406	27.171	27.725	28.626	27.885
26.5	18.19	18.102	19.947	21.571	27.348	27.913	28.809	28.064
26.6	18.322	18.24	20.102	21.737	27.526	28.103	28.992	28.243
26.7	18.454	18.379	20.256	21.902	27.703	28.293	29.174	28.422
26.8	18.586	18.518	20.411	22.068	27.881	28.483	29.354	28.601
26.9	18.718	18.657	20.566	22.234	28.059	28.674	29.533	28.78

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t								
27	18.849	18.796	20.721	22.401	28.237	28.865	29.711	28.958
27.1	18.98	18.935	20.877	22.567	28.414	29.057	29.889	29.137
27.2	19.111	19.074	21.032	22.734	28.592	29.249	30.065	29.316
27.3	19.242	19.213	21.188	22.901	28.77	29.441	30.241	29.494
27.4	19.372	19.352	21.344	23.068	28.948	29.634	30.416	29.672
27.5	19.503	19.491	21.5	23.236	29.126	29.826	30.589	29.851
27.6	19.634	19.63	21.656	23.403	29.305	30.018	30.761	30.029
27.7	19.765	19.769	21.813	23.57	29.482	30.212	30.933	30.207
27.8	19.896	19.908	21.969	23.738	29.66	30.405	31.103	30.385
27.9	20.027	20.047	22.126	23.906	29.837	30.599	31.272	30.564
28	20.158	20.187	22.283	24.074	30.014	30.793	31.441	30.742
28.1	20.289	20.326	22.44	24.243	30.191	30.988	31.609	30.92
28.2	20.419	20.466	22.597	24.411	30.368	31.183	31.776	31.098
28.3	20.55	20.605	22.754	24.58	30.544	31.377	31.945	31.276
28.4	20.681	20.745	22.912	24.749	30.721	31.572	32.114	31.453
28.5	20.812	20.885	23.07	24.918	30.898	31.767	32.285	31.631
28.6	20.943	21.025	23.228	25.087	31.074	31.962	32.457	31.809
28.7	21.074	21.165	23.385	25.256	31.25	32.158	32.63	31.988
28.8	21.205	21.306	23.544	25.426	31.426	32.354	32.803	32.165
28.9	21.336	21.446	23.702	25.596	31.602	32.55	32.978	32.344
29	21.467	21.587	23.86	25.765	31.777	32.745	33.155	32.522
29.1	21.597	21.728	24.019	25.936	31.951	32.941	33.334	32.7
29.2	21.728	21.869	24.177	26.106	32.126	33.137	33.514	32.878
29.3	21.858	22.011	24.336	26.276	32.301	33.334	33.695	33.057
29.4	21.989	22.152	24.496	26.446	32.475	33.53	33.879	33.235
29.5	22.119	22.293	24.654	26.617	32.65	33.726	34.065	33.415
29.6	22.249	22.435	24.813	26.788	32.824	33.923	34.255	33.594
29.7	22.38	22.577	24.973	26.959	32.997	34.119	34.448	33.773
29.8	22.51	22.719	25.132	27.13	33.169	34.316	34.644	33.952
29.9	22.64	22.861	25.292	27.302	33.342	34.512	34.843	34.131
30	22.771	23.003	25.451	27.473	33.515	34.709	35.044	34.312
30.1	22.902	23.145	25.611	27.644	33.687	34.905	35.247	34.494
30.2	23.033	23.288	25.771	27.815	33.859	35.102	35.451	34.675
30.3	23.164	23.43	25.931	27.987	34.03	35.3	35.656	34.856
30.4	23.295	23.573	26.091	28.159	34.201	35.497	35.862	35.039
30.5	23.426	23.716	26.251	28.331	34.372	35.694	36.069	35.222
30.6	23.557	23.858	26.411	28.504	34.542	35.892	36.276	35.406
30.7	23.688	24.001	26.571	28.676	34.713	36.089	36.483	35.589
30.8	23.82	24.144	26.732	28.848	34.885	36.286	36.69	35.774
30.9	23.951	24.287	26.892	29.021	35.056	36.483	36.895	35.959

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t								
31	24.083	24.43	27.053	29.194	35.227	36.681	37.1	36.144
31.1	24.215	24.573	27.214	29.367	35.399	36.878	37.305	36.331
31.2	24.346	24.715	27.375	29.539	35.571	37.076	37.509	36.518
31.3	24.478	24.858	27.536	29.712	35.744	37.274	37.714	36.705
31.4	24.61	25	27.697	29.885	35.918	37.472	37.917	36.893
31.5	24.741	25.143	27.858	30.059	36.093	37.669	38.121	37.082
31.6	24.872	25.286	28.02	30.232	36.269	37.867	38.324	37.271
31.7	25.003	25.428	28.181	30.406	36.447	38.065	38.526	37.46
31.8	25.134	25.571	28.343	30.579	36.624	38.263	38.729	37.651
31.9	25.265	25.714	28.504	30.753	36.803	38.461	38.932	37.841
32	25.396	25.857	28.666	30.927	36.984	38.659	39.135	38.032
32.1	25.526	26	28.828	31.101	37.166	38.857	39.337	38.223
32.2	25.657	26.143	28.99	31.275	37.349	39.055	39.54	38.415
32.3	25.787	26.285	29.152	31.449	37.533	39.253	39.744	38.607
32.4	25.917	26.428	29.314	31.624	37.718	39.451	39.947	38.799
32.5	26.048	26.572	29.476	31.798	37.906	39.65	40.15	38.992
32.6	26.178	26.715	29.638	31.973	38.094	39.848	40.354	39.185
32.7	26.308	26.858	29.8	32.148	38.284	40.047	40.557	39.378
32.8	26.438	27.002	29.962	32.323	38.477	40.245	40.761	39.572
32.9	26.568	27.145	30.125	32.498	38.67	40.444	40.965	39.766
33	26.698	27.289	30.287	32.673	38.865	40.643	41.168	39.96
33.1	26.828	27.432	30.45	32.848	39.06	40.842	41.372	40.154
33.2	26.958	27.576	30.613	33.023	39.257	41.04	41.576	40.349
33.3	27.088	27.719	30.776	33.198	39.454	41.239	41.78	40.544
33.4	27.218	27.862	30.939	33.373	39.652	41.439	41.984	40.739
33.5	27.348	28.006	31.102	33.548	39.85	41.638	42.187	40.934
33.6	27.479	28.15	31.265	33.724	40.049	41.837	42.391	41.129
33.7	27.609	28.293	31.428	33.899	40.248	42.036	42.595	41.325
33.8	27.74	28.437	31.591	34.075	40.448	42.236	42.799	41.52
33.9	27.871	28.581	31.754	34.251	40.648	42.435	43.003	41.716
34	28.002	28.725	31.918	34.426	40.847	42.635	43.207	41.912
34.1	28.133	28.869	32.081	34.603	41.048	42.834	43.411	42.107
34.2	28.264	29.013	32.245	34.779	41.25	43.034	43.615	42.302
34.3	28.395	29.156	32.408	34.956	41.451	43.233	43.819	42.498
34.4	28.526	29.299	32.572	35.134	41.651	43.433	44.022	42.694
34.5	28.658	29.443	32.736	35.311	41.852	43.633	44.226	42.89
34.6	28.789	29.587	32.9	35.488	42.053	43.833	44.431	43.086
34.7	28.92	29.731	33.063	35.665	42.255	44.032	44.635	43.282
34.8	29.052	29.875	33.227	35.842	42.456	44.232	44.839	43.478
34.9	29.183	30.02	33.391	36.019	42.657	44.432	45.043	43.674

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t								
35	29.314	30.164	33.556	36.196	42.859	44.632	45.247	43.871
35.1	29.446	30.309	33.72	36.373	43.06	44.832	45.45	44.067
35.2	29.577	30.453	33.885	36.55	43.26	45.032	45.653	44.263
35.3	29.708	30.597	34.049	36.726	43.46	45.232	45.857	44.459
35.4	29.84	30.742	34.213	36.903	43.661	45.432	46.06	44.656
35.5	29.979	30.887	34.378	37.08	43.862	45.632	46.263	44.852
35.6	30.129	31.032	34.543	37.257	44.062	45.832	46.466	45.049
35.7	30.284	31.177	34.707	37.433	44.262	46.033	46.67	45.245
35.8	30.437	31.324	34.872	37.61	44.463	46.233	46.873	45.442
35.9	30.586	31.473	35.038	37.786	44.663	46.433	47.077	45.638
36	30.732	31.622	35.202	37.963	44.863	46.633	47.282	45.834
36.1	30.878	31.772	35.367	38.14	45.062	46.834	47.486	46.031
36.2	31.023	31.922	35.532	38.316	45.262	47.034	47.689	46.227
36.3	31.167	32.072	35.697	38.493	45.462	47.234	47.892	46.423
36.4	31.313	32.221	35.862	38.67	45.661	47.435	48.095	46.62
36.5	31.458	32.371	36.028	38.846	45.861	47.635	48.298	46.816
36.6	31.604	32.521	36.193	39.023	46.06	47.836	48.501	47.012
36.7	31.751	32.671	36.358	39.2	46.26	48.036	48.705	47.209
36.8	31.898	32.821	36.524	39.377	46.459	48.237	48.909	47.405
36.9	32.046	32.972	36.69	39.553	46.658	48.438	49.114	47.602
37	32.194	33.121	36.856	39.73	46.857	48.638	49.318	47.798
37.1	32.343	33.271	37.022	39.908	47.057	48.839	49.523	47.995
37.2	32.492	33.42	37.188	40.085	47.256	49.04	49.727	48.192
37.3	32.642	33.569	37.354	40.263	47.455	49.241	49.931	48.389
37.4	32.792	33.719	37.521	40.44	47.655	49.442	50.134	48.586
37.5	32.942	33.869	37.687	40.617	47.855	49.643	50.337	48.783
37.6	33.094	34.019	37.854	40.794	48.055	49.845	50.54	48.98
37.7	33.247	34.169	38.021	40.971	48.254	50.046	50.744	49.176
37.8	33.403	34.319	38.188	41.148	48.452	50.247	50.949	49.373
37.9	33.561	34.469	38.356	41.325	48.651	50.449	51.155	49.57
38	33.719	34.62	38.524	41.502	48.85	50.65	51.36	49.767
38.1	33.876	34.772	38.691	41.68	49.049	50.852	51.566	49.964
38.2	34.033	34.923	38.859	41.858	49.248	51.053	51.772	50.161
38.3	34.19	35.076	39.027	42.036	49.447	51.254	51.977	50.358
38.4	34.348	35.228	39.195	42.213	49.646	51.456	52.183	50.555
38.5	34.506	35.381	39.363	42.391	49.845	51.658	52.389	50.752
38.6	34.665	35.535	39.531	42.569	50.044	51.859	52.595	50.949
38.7	34.824	35.688	39.699	42.747	50.243	52.061	52.801	51.146
38.8	34.983	35.841	39.867	42.926	50.441	52.263	53.007	51.343
38.9	35.142	35.994	40.036	43.104	50.64	52.465	53.213	51.541

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t								
39	35.302	36.147	40.204	43.282	50.839	52.666	53.419	51.738
39.1	35.462	36.3	40.374	43.461	51.038	52.868	53.625	51.935
39.2	35.622	36.453	40.543	43.639	51.236	53.07	53.831	52.133
39.3	35.782	36.606	40.712	43.818	51.435	53.272	54.038	52.33
39.4	35.942	36.76	40.881	43.997	51.634	53.475	54.244	52.528
39.5	36.103	36.913	41.05	44.176	51.833	53.677	54.451	52.726
39.6	36.264	37.067	41.219	44.355	52.032	53.879	54.658	52.923
39.7	36.425	37.221	41.389	44.534	52.231	54.081	54.865	53.121
39.8	36.587	37.375	41.559	44.712	52.43	54.283	55.071	53.318
39.9	36.75	37.529	41.728	44.891	52.629	54.485	55.278	53.516
40	36.914	37.683	41.897	45.071	52.828	54.688	55.484	53.714
40.1	37.077	37.838	42.067	45.25	53.027	54.89	55.69	53.911
40.2	37.24	37.992	42.236	45.429	53.225	55.092	55.897	54.109
40.3	37.403	38.147	42.406	45.609	53.424	55.295	56.103	54.307
40.4	37.566	38.302	42.575	45.789	53.623	55.497	56.31	54.505
40.5	37.729	38.457	42.745	45.968	53.822	55.7	56.516	54.703
40.6	37.892	38.613	42.914	46.148	54.021	55.902	56.723	54.901
40.7	38.055	38.769	43.083	46.329	54.219	56.105	56.93	55.099
40.8	38.218	38.925	43.252	46.508	54.418	56.307	57.137	55.297
40.9	38.381	39.081	43.422	46.687	54.616	56.51	57.343	55.495
41	38.544	39.237	43.592	46.866	54.816	56.712	57.55	55.693
41.1	38.707	39.393	43.762	47.045	55.015	56.915	57.757	55.891
41.2	38.87	39.548	43.932	47.224	55.214	57.118	57.964	56.089
41.3	39.033	39.704	44.102	47.403	55.413	57.321	58.17	56.288
41.4	39.195	39.861	44.272	47.582	55.612	57.523	58.377	56.486
41.5	39.358	40.017	44.442	47.761	55.811	57.726	58.583	56.685
41.6	39.521	40.174	44.613	47.94	56.01	57.929	58.79	56.884
41.7	39.684	40.33	44.783	48.119		58.132	58.997	57.083
41.8	39.847	40.487	44.953	48.297		58.334	59.203	57.282
41.9	40.01	40.644	45.124	48.477		58.537	59.41	57.481
42	40.174	40.802	45.294	48.657		58.74	59.617	57.68
42.1	40.337	40.959	45.465	48.837		58.943	59.823	57.879
42.2	40.501	41.117	45.636	49.018		59.145	60.03	58.078
42.3	40.664	41.274	45.806	49.199		59.348	60.237	58.276
42.4	40.828	41.432	45.977	49.381		59.551	60.444	58.475
42.5	40.991	41.59	46.147	49.563		59.753	60.65	58.675
42.6	41.155	41.748	46.318	49.745		59.956	60.857	58.874
42.7	41.318	41.906	46.489	49.926		60.159	61.064	59.073
42.8	41.482	42.065	46.66	50.108		60.362	61.27	59.272
42.9	41.645	42.223	46.831	50.29		60.564	61.477	59.471

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t								
43	41.808	42.382	47.001	50.471		60.767	61.684	59.67
43.1	41.971	42.54	47.172	50.653		60.969	61.89	59.869
43.2	42.134	42.699	47.344	50.835		61.172	62.096	60.069
43.3	42.298	42.858	47.517	51.017		61.374	62.303	60.268
43.4	42.461	43.017	47.688	51.199		61.577	62.51	60.468
43.5	42.624	43.176	47.86	51.381		61.78	62.716	60.667
43.6	42.786	43.334	48.031	51.563		61.983	62.923	60.866
43.7	42.949	43.493	48.203	51.745		62.185	63.129	61.065
43.8	43.112	43.653	48.374	51.928		62.387	63.337	61.264
43.9	43.275	43.812	48.545	52.11		62.59	63.543	61.464
44	43.438	43.971	48.716	52.292		62.792	63.75	61.663
44.1	43.601	44.13	48.888	52.474		62.995	63.956	61.862
44.2	43.764	44.29	49.059	52.656		63.198	64.162	62.062
44.3	43.926	44.45	49.231	52.838		63.401	64.368	62.261
44.4	44.089	44.61	49.404	53.02		63.604	64.575	62.461
44.5	44.251	44.77	49.575	53.202		63.806	64.782	62.661
44.6	44.414	44.93	49.747	53.385		64.009	64.988	62.861
44.7	44.576	45.09	49.918	53.567		64.212	65.195	63.061
44.8	44.738	45.25	50.09	53.749		64.415	65.402	63.261
44.9	44.9	45.411	50.262	53.931		64.618	65.608	63.461
45	45.062	45.571	50.434	54.113		64.821	65.814	63.662
45.1	45.224	45.732	50.606	54.295		65.024	66.02	63.862
45.2	45.386	45.893	50.778	54.477		65.227	66.226	64.062
45.3	45.547	46.054	50.95	54.659		65.43	66.433	64.262
45.4	45.709	46.215	51.123	54.841		65.633	66.64	64.462
45.5	45.87	46.376	51.296	55.024		65.836	66.846	64.662
45.6	46.031	46.537	51.468	55.206		66.039	67.053	64.863
45.7	46.191	46.699	51.64	55.388		66.242	67.259	65.063
45.8	46.352	46.86	51.812			66.445	67.466	65.263
45.9	46.513	47.022	51.985			66.648	67.672	65.464
46	46.673	47.183	52.157			66.851	67.879	65.664
46.1	46.834	47.344	52.329			67.054	68.085	65.864
46.2	46.994	47.506	52.502			67.257		66.065
46.3	47.154	47.668	52.674			67.46		66.266
46.4	47.314	47.83	52.845			67.664		66.466
46.5	47.474	47.992	53.017			67.867		66.667
46.6	47.634	48.154	53.189			68.07		66.867
46.7	47.794	48.316	53.361			68.273		67.067
46.8	47.953	48.479	53.534			68.476		67.268
46.9	48.112	48.641	53.706			68.679		67.469

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t								
47	48.272	48.804	53.879			68.883		67.669
47.1	48.431	48.966	54.052			69.086		67.87
47.2	48.59	49.129	54.225			69.289		68.071
47.3	48.749	49.292	54.397			69.492		68.271
47.4	48.908	49.455	54.57			69.695		68.471
47.5	49.067	49.618	54.744			69.899		68.672
47.6	49.225	49.781	54.917			70.102		68.872
47.7	49.384	49.943	55.09			70.305		69.073
47.8	49.542	50.106	55.263			70.508		69.275
47.9	49.701	50.27	55.436			70.711		69.476
48	49.859	50.433	55.609			70.914		69.677
48.1	50.017	50.597	55.782			71.117		69.878
48.2	50.176	50.76	55.955			71.32		70.078
48.3	50.334	50.924	56.128			71.523		70.279
48.4	50.492	51.087	56.301			71.727		70.48
48.5	50.65	51.251	56.474			71.93		70.681
48.6	50.808	51.415	56.647			72.133		70.882
48.7	50.966	51.578	56.82			72.337		71.083
48.8	51.124	51.743	56.993			72.54		71.284
48.9	51.282	51.907	57.166			72.743		71.485
49	51.44	52.07	57.339			72.946		71.686
49.1	51.598	52.235	57.512			73.149		71.887
49.2	51.756	52.399	57.685			73.352		72.087
49.3	51.914	52.563	57.859			73.556		72.288
49.4	52.072	52.727	58.032			73.759		72.489
49.5	52.23	52.892	58.204			73.962		
49.6	52.388	53.056	58.377			74.165		
49.7	52.546	53.22	58.55			74.368		
49.8	52.704	53.385	58.723			74.572		
49.9	52.862	53.55	58.896			74.775		
50	53.02	53.714	59.07			74.979		
50.1	53.179	53.879	59.243			75.182		
50.2	53.337	54.044	59.417			75.385		
50.3	53.495	54.209	59.59			75.589		
50.4	53.654	54.374	59.763			75.791		
50.5	53.812	54.539	59.936			75.994		
50.6	53.971	54.704	60.109			76.197		
50.7	54.129	54.869	60.283			76.401		
50.8	54.288	55.034	60.456			76.604		
50.9	54.447	55.199	60.629			76.807		

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t								
51	54.606	55.365	60.803			77.01		
51.1	54.764	55.53	60.976			77.213		
51.2	54.923	55.695	61.15			77.416		
51.3	55.082	55.861	61.323			77.62		
51.4	55.241	56.027	61.497			77.823		
51.5	55.401	56.193	61.671			78.026		
51.6	55.56	56.359	61.845			78.229		
51.7	55.72	56.525	62.019			78.433		
51.8	55.88	56.691	62.193			78.636		
51.9	56.039	56.857	62.366			78.839		
52	56.199	57.023	62.539			79.043		
52.1	56.359	57.189	62.713			79.246		
52.2	56.519	57.355	62.887			79.449		
52.3	56.679	57.521	63.06			79.653		
52.4	56.839	57.688	63.234			79.856		
52.5	56.999	57.854	63.408			80.059		
52.6	57.159	58.02	63.582			80.263		
52.7	57.319	58.187	63.756			80.466		
52.8	57.48	58.353	63.93			80.67		
52.9	57.64	58.519	64.105			80.874		
53	57.801	58.686	64.279			81.077		
53.1	57.962	58.852	64.453			81.281		
53.2	58.123	59.019	64.627			81.485		
53.3	58.284	59.185	64.801			81.688		
53.4	58.445	59.352	64.974			81.892		
53.5	58.606	59.518	65.148			82.095		
53.6	58.767	59.685				82.299		
53.7	58.928	59.851				82.503		
53.8	59.09	60.018				82.706		
53.9	59.251	60.185				82.91		
54	59.413	60.352				83.113		
54.1	59.574	60.519				83.316		
54.2	59.736	60.686				83.519		
54.3	59.898	60.853				83.723		
54.4	60.059	61.02				83.926		
54.5	60.221	61.187				84.13		
54.6	60.383	61.355				84.334		
54.7	60.545	61.522				84.538		
54.8	60.707	61.689				84.741		
54.9	60.87	61.856				84.945		

r →	0	10	20	25	30	35	40	50
t								
55	61.032	62.023				85.149		
55.1	61.194	62.191				85.352		
55.2	61.356	62.358				85.556		
55.3	61.518	62.525				85.76		
55.4	61.681	62.692				85.964		
55.5	61.843	62.859				86.168		
55.6	62.006	63.027				86.372		
55.7	62.168	63.195				86.576		
55.8	62.331	63.362				86.78		
55.9	62.494	63.53				86.984		
56	62.657	63.698				87.188		
56.1	62.82	63.866				87.392		
56.2	62.983	64.033				87.596		
56.3	63.146	64.201				87.8		
56.4	63.309	64.369				88.003		
56.5	63.472	64.537				88.207		
56.6	63.636	64.705				88.411		
56.7	63.799	64.874				88.615		
56.8	63.962	65.041				88.819		
56.9	64.126	65.209				89.023		
57	64.289	65.378				89.227		
57.1	64.453	65.546				89.431		
57.2	64.616	65.714				89.635		
57.3	64.78	65.883				89.839		
57.4		66.051				90.043		
57.5		66.219				90.247		
57.6		66.388				90.451		
57.7		66.556				90.656		
57.8		66.724				90.86		
57.9		66.893				91.064		
58		67.062				91.268		
58.1		67.23				91.472		
58.2		67.399				91.676		
58.3		67.568				91.88		
58.4		67.736				92.085		
58.5		67.905				92.289		
58.6		68.074				92.493		
58.7		68.243				92.697		
58.8		68.412				92.901		
58.9		68.581				93.105		

r →	0	10	20	25	30	35	40	50
t								
59		68.75				93.309		
59.1		68.919				93.513		
59.2		69.088				93.718		
59.3		69.257				93.922		
59.4		69.426				94.126		
59.5		69.595				94.33		
59.6		69.764				94.534		
59.7		69.933				94.738		
59.8		70.103				94.943		
59.9		70.272				95.147		
60		70.442				95.351		
60.1		70.611				95.555		
60.2		70.78				95.759		
60.3		70.95				95.963		
60.4		71.119				96.167		
60.5		71.289				96.371		
60.6		71.458				96.576		
60.7		71.628				96.78		
60.8		71.798				96.984		
60.9		71.968				97.187		
61		72.137				97.391		
61.1		72.307				97.595		
61.2		72.477				97.798		
61.3		72.647				98.002		
61.4		72.817				98.206		
61.5		72.987				98.41		
61.6		73.157				98.613		
61.7		73.327				98.816		
61.8		73.498				99.02		
61.9		73.668				99.224		
62		73.837				99.427		
62.1		74.007				99.63		
62.2		74.177				99.833		
62.3		74.348				100.03		
62.4		74.518						
62.5		74.688						
62.6		74.859						
62.7		75.029						
62.8		75.199						
62.9		75.369						

r →	0	10	20	25	30	35	40	50
t								
63		75.539						
63.1		75.708						
63.2		75.878						
63.3		76.048						
63.4		76.218						
63.5		76.389						
63.6		76.559						
63.7		76.729						
63.8		76.899						
63.9		77.07						
64		77.241						
64.1		77.411						
64.2		77.582						
64.3		77.754						
64.4		77.925						
64.5		78.096						
64.6		78.267						
64.7		78.438						
64.9		78.782						

2021E PT3 Diagnostic Plate Displacement Contour Table

Time referenced in microseconds from detonator circuit current start

Radial profiles vs time for PT3.

Displacements are given in mm.

Radius (mm)	t=15 μ s	t=20 μ s	t=25 μ s	t=30 μ s	t=35 μ s	t=40 μ s
0	2.361	9.269	16.193	22.770	29.314	36.914
10	2.658	9.305	16.050	23.004	30.166	37.686
20	3.755	10.446	17.668	25.458	33.564	41.906
25	4.405	11.378	19.136	27.486	36.209	45.087
30	6.844	15.793	24.654	33.477	42.909	52.784
35	7.305	16.217	25.166	34.732	44.655	54.710
40	7.803	16.921	26.037	35.017	45.219	55.481
50	6.978	16.237	25.345	34.289	43.846	53.705

JACK RABBIT PRETEST 2021E PT4

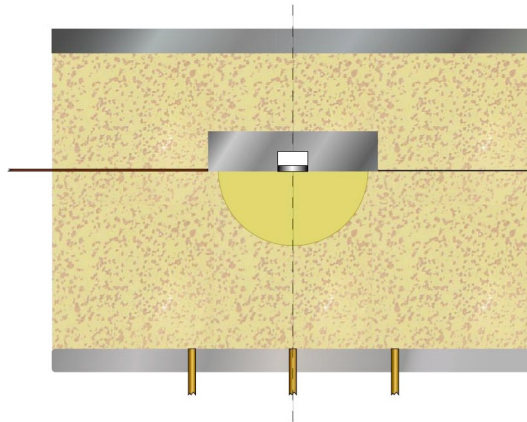


Figure 9. 2021E PT4 graphic cross section

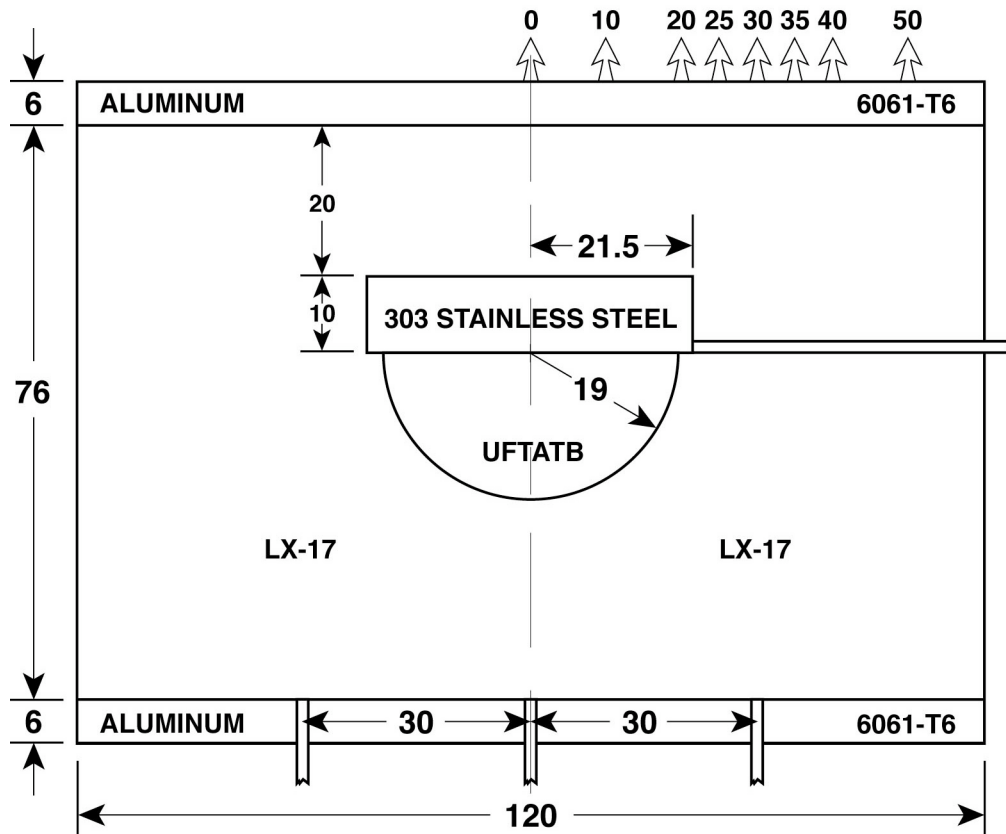


Figure 10. 2021E PT4 schematic cross section – dimensions in millimeters

The laser velocimetry points were measured on the aluminum diagnostic plate (top plate) at radial distances of 0, 10, 20, 25, 30, 35, 40 and 50 millimeters relative to the experiment's central axis. Seven timing pins were located on the bottom aluminum plate. One central surrounded by six in a circular pattern at 30 millimeters from the experiment's central axis. The hemispherical booster is pressed ultrafine TATB (UFTATB) and LX-17 is TATB with 7.5% Kel-F binder.

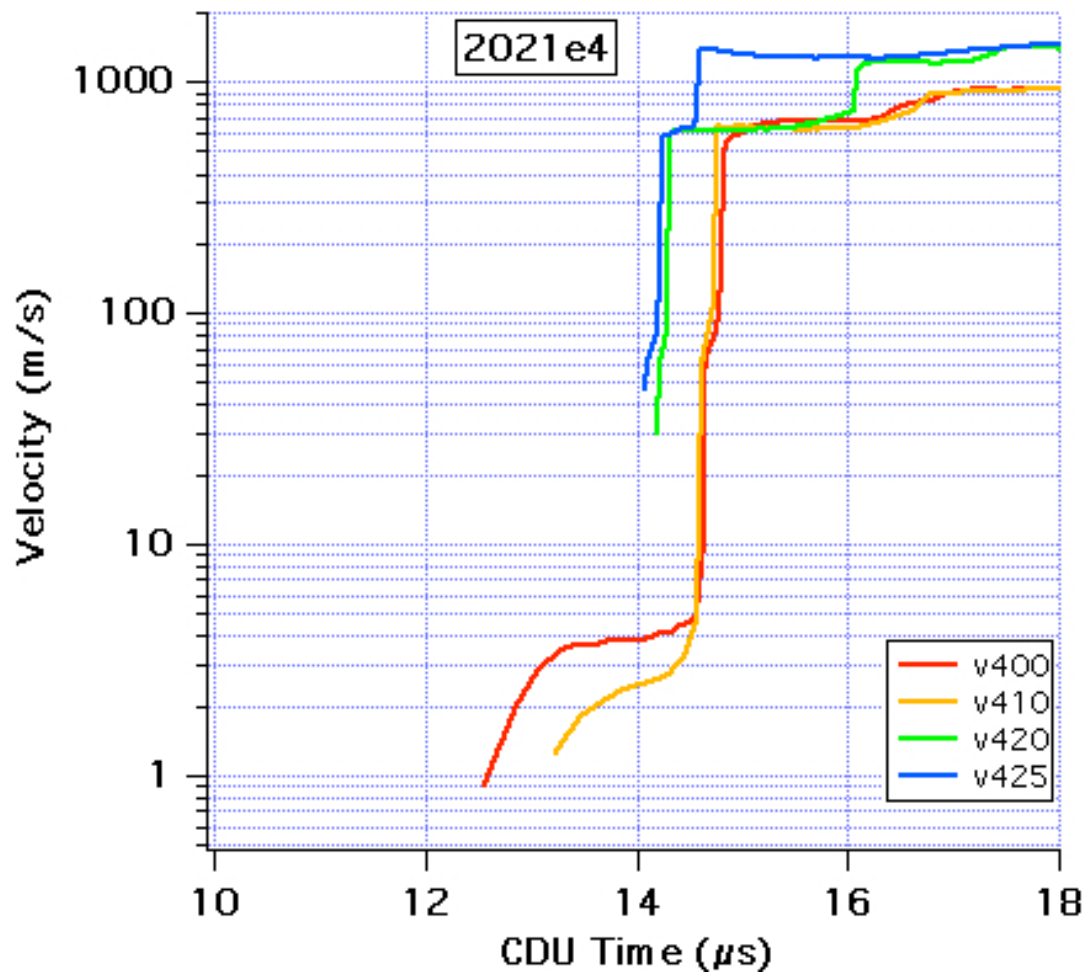


Figure 11. 2021E PT4 short time axis velocity plot for diagnostic plate radial measurement points 00, 10, 20, and 25; time is referenced from detonator circuit current start

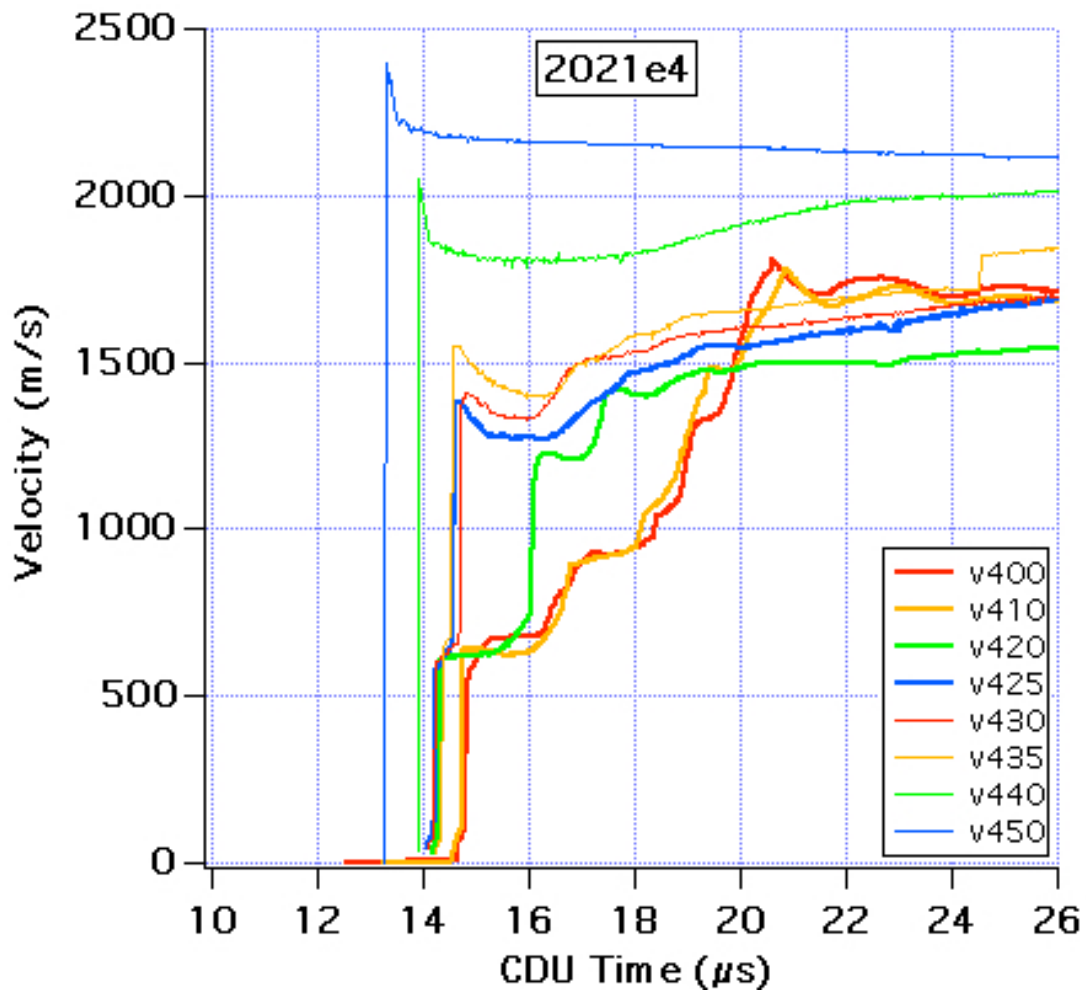


Figure 12. 2021E PT4 intermediate time axis velocity plot for diagnostic plate radial measurement points 00, 10, 20, 25, 30, 35, 40, and 50; time is referenced from detonator circuit current start

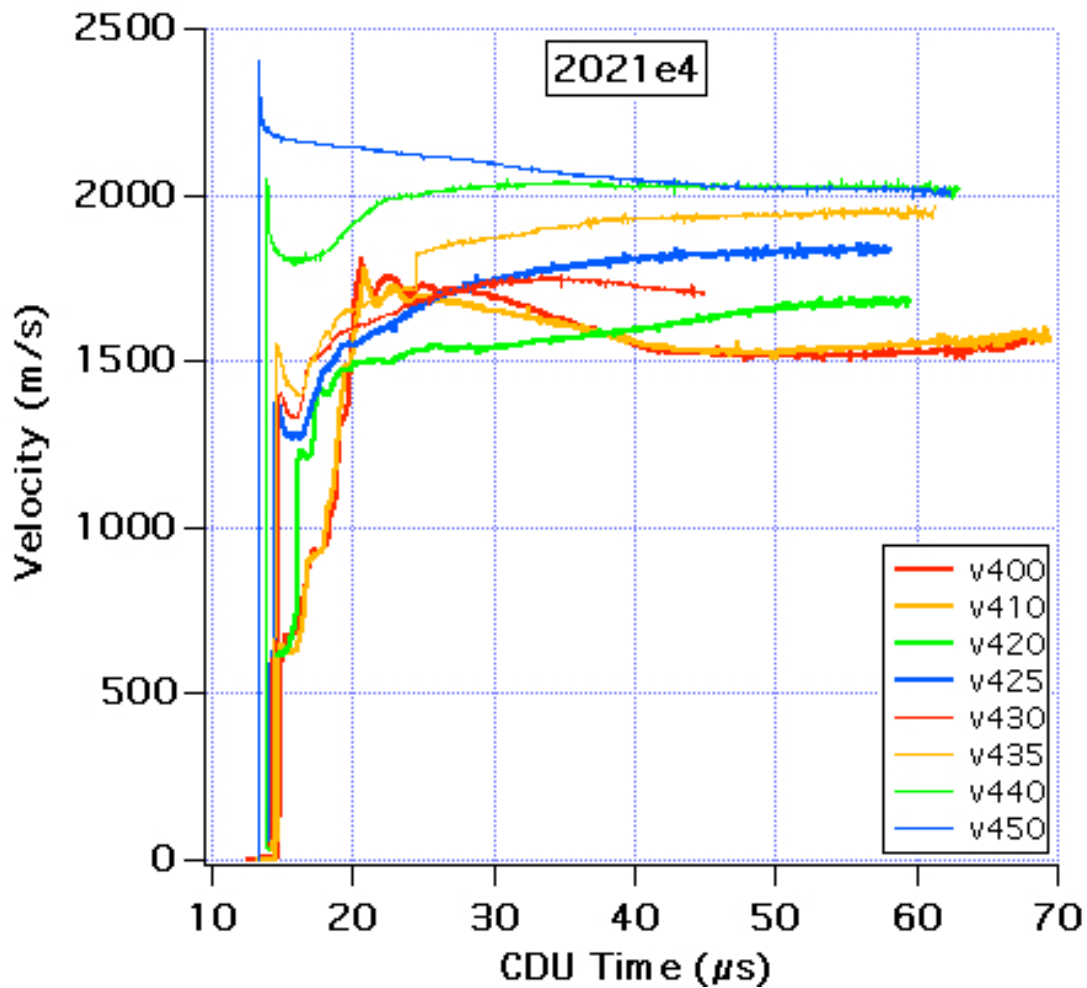


Figure 13. 2021E PT4 long time axis velocity plot for diagnostic plate radial measurement points 00, 10, 20, 25, 30, 35, 40, and 50; time is referenced from detonator circuit current start

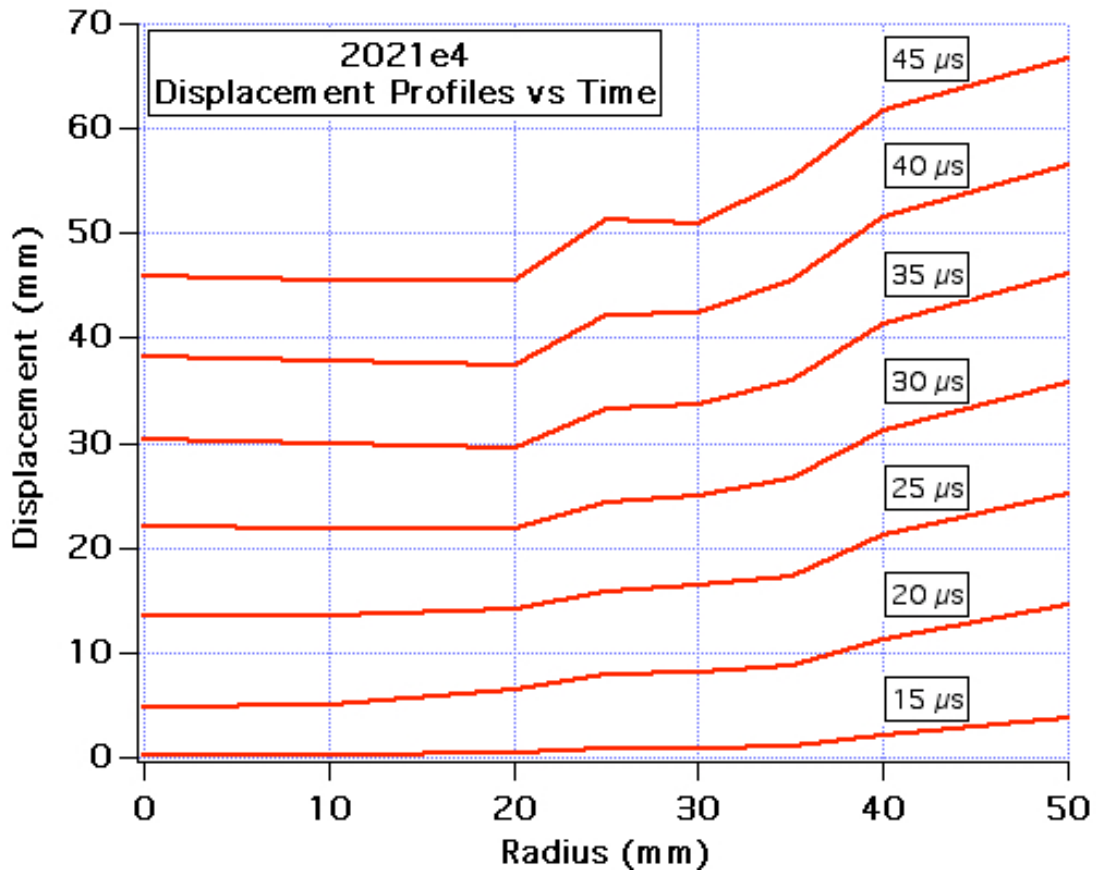


Figure 14. 2021E PT4 diagnostic plate displacement profiles; time is referenced from detonator circuit current start

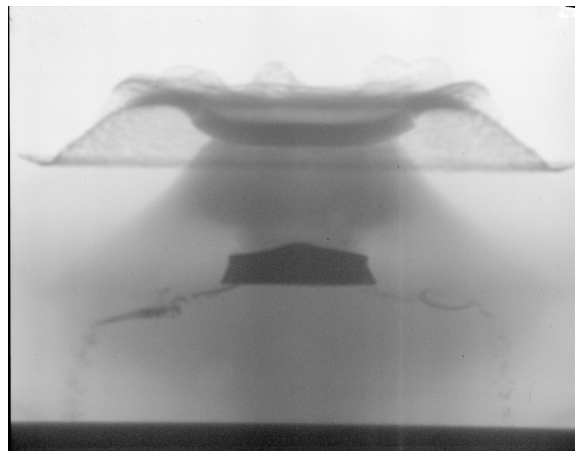


Figure 15. 2021E PT4 radiograph, 30 microseconds after detonator circuit current start, showing shadowplate, dead-zone conformation, dished diagnostic plate

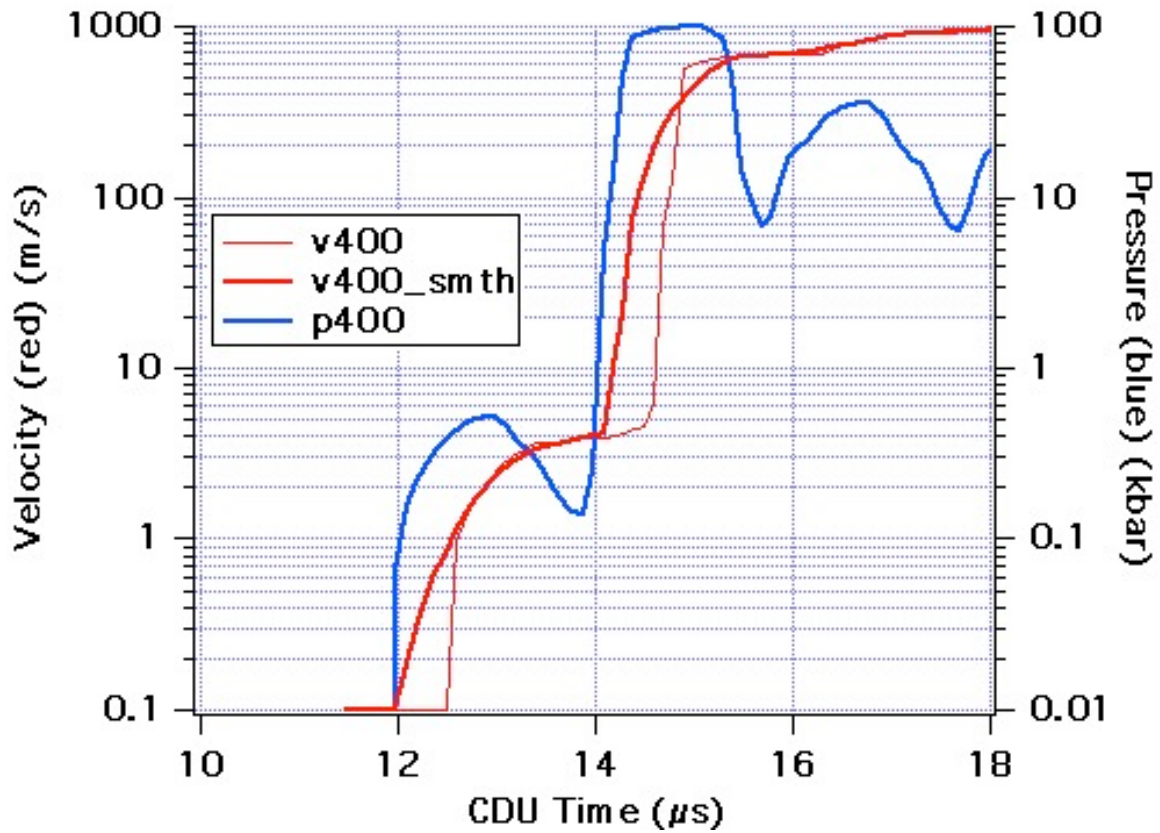


Figure 16. 2021E PT4 diagnostic plate velocity and pressure behind the diagnostic plate at the central axis, point 00; time is referenced from detonator circuit current start

2021E PT4 Diagnostic Plate Velocity Table

Diagnostic Plate Velocities of Jack Rabbit Pretest 2021E PT4; time is referenced in microseconds from detonator circuit current start.

Jack Rabbit Pretest 2021E PT4 VELOCITY Data								
Columnar data: meters per second								
absolute timing accuracy relative to time zero = +/- 0.025 microseconds								
relative timing uncertainty between data channels = +/- 0.005 microseconds								
z velocity uncertainty = +/- 5 percent of velocity								
PDV measurement point position uncertainty = +/- 0.25 millimeters								
r →	0	10	20	25	30	35	40	50
t								
12	0	0	0	0	0	0	0	0
12.1	0	0	0	0	0	0	0	0
12.2	0	0	0	0	0	0	0	0
12.3	0	0	0	0	0	0	0	0
12.4	0	0	0	0	0	0	0	0
12.5	0	0	0	0	0	0	0	0
12.6	1.0148	0	0	0	0	0	0	0
12.7	1.3666	0	0	0	0	0	0	0
12.8	1.7184	0	0	0	0	0	0	0
12.9	2.0844	0	0	0	0	0	0	0
13	2.5068	0	0	0	0	0	0	0
13.1	2.8825	0	0	0	0	0	0	0
13.2	3.197	0	0	0	0	0	0	0
13.3	3.4375	1.3658	0	0	0	0	0	2394.2
13.4	3.6432	1.5973	0	0	0	0	0	2300.2
13.5	3.6788	1.8289	0	0	0	0	0	2230.1
13.6	3.6634	1.9768	0	0	0	0	0	2226.3
13.7	3.8134	2.1175	0	0	0	0	0	2210.7
13.8	3.8572	2.24	0	0	0	0	0	2199
13.9	3.8464	2.3565	0	0	0	0	1152.7	2197.5
14	3.8556	2.4544	0	0	0	0	1955.5	2191.2
14.1	3.9119	2.5438	0	54.767	49.545	0	1885.7	2188.3
14.2	4.0651	2.6314	46.113	119.31	224.02	0	1860.9	2186.8
14.3	4.1181	2.753	297.85	589.77	607.33	64.776	1857.2	2178.8
14.4	4.4205	3.0277	609.84	612.9	624.19	662.28	1850.7	2178.5
14.5	4.5751	3.6884	616.79	633.35	642.24	681.5	1840.6	2182.6
14.6	7.3172	35.662	614.05	1359.9	656.51	1546.6	1829.1	2176
14.7	69.477	86.577	621.65	1376.7	1234.1	1542.6	1830	2174.5
14.8	152.27	635.21	619.97	1361.9	1402.6	1519.2	1824.3	2175.7
14.9	572.09	637.23	622.74	1338.2	1400.4	1496.5	1821	2171.8

r →	0	10	20	25	30	35	40	50
t								
15	605.52	641.49	620.67	1318.7	1391.3	1481.6	1816.6	2171.7
15.1	633.71	639.41	621.2	1308.4	1372.9	1467.8	1809.9	2169.2
15.2	655.41	634.24	624.03	1285.9	1365.1	1450.1	1809.3	2168.8
15.3	669.02	633.46	628.84	1279.1	1349.9	1442.9	1808.8	2169.1
15.4	671.81	629.52	631.96	1276.2	1342.1	1433.8	1815.1	2168.9
15.5	674.36	624.87	639.46	1279.8	1341.4	1427.4	1808.9	2165.3
15.6	673.87	621.33	656.4	1275.2	1336.5	1422.4	1811.9	2164.5
15.7	675.44	624.28	665.75	1266.1	1339.2	1416.2	1808.4	2164.5
15.8	679.23	625.71	687.94	1272.7	1333.4	1415.7	1811.2	2164.6
15.9	679.64	629.34	706.98	1272.7	1332.3	1403.2	1808.2	2162.9
16	680.07	629.86	733.08	1274.1	1333.8	1403.5	1811	2162.8
16.1	681.12	637.37	1126.1	1276.2	1336.3	1402.3	1804.8	2162.6
16.2	682.13	652.81	1200.1	1270.1	1350.8	1400	1808.1	2162.2
16.3	698.76	670.27	1224.5	1268.7	1369.6	1398.6	1801.4	2161.3
16.4	735.06	692.46	1225.2	1272.8	1386	1405.5	1800	2160.7
16.5	779.7	717.99	1222.8	1279.5	1412.9	1413.7	1802.9	2160.5
16.6	805.67	745.08	1215.3	1288	1445.4	1426.1	1803.9	2159.4
16.7	818.81	804.1	1210.9	1304.3	1472.1	1455.2	1807	2158.8
16.8	837.23	891.12	1209.2	1316.9	1485.2	1473.7	1809.3	2158.9
16.9	877.26	894.52	1211.4	1332.6	1493.8	1490.5	1807.9	2158
17	897.62	897.06	1213	1348.3	1499	1497.1	1810.9	2158.4
17.1	912.76	902.06	1220.3	1360.1	1508.2	1505.1	1810.5	2157
17.2	925.61	908.9	1240.5	1375.3	1514.2	1511	1813.3	2156.4
17.3	928.91	912.59	1284.9	1384.9	1518.5	1511.5	1817.3	2156.2
17.4	923.77	915.47	1343.5	1393.5	1515.6	1524.9	1815.1	2155.4
17.5	921.38	917.8	1400.8	1406.9	1513.3	1533.6	1819.1	2154.6
17.6	923.76	921.19	1412.5	1414.5	1518.8	1544.3	1819.2	2154.4
17.7	926.42	923.6	1414.5	1429.8	1522.3	1556	1801.8	2154.1
17.8	928.89	927.87	1414.9	1450	1527	1567.6	1830	2152.6
17.9	933.44	933.93	1408.9	1462.7	1528.7	1575.4	1825.7	2153.1
18	941.95	943.25	1401.1	1466.5	1534.5	1582.8	1827.9	2152.2
18.1	947.41	970.18	1398.4	1470.2	1536.3	1584.2	1828.3	2151.4
18.2	957.04	1037.4	1397.6	1474.3	1537.2	1585.6	1832	2151.3
18.3	969.35	1057.9	1398.9	1475.2	1542.9	1577.5	1836.4	2150.2
18.4	1006.2	1070.8	1404.3	1480.2	1551	1593.4	1839.6	2150.7
18.5	1041.5	1085.4	1413.7	1487.7	1559.1	1597.5	1845.6	2149.9
18.6	1051.2	1109.2	1426.2	1491.1	1567.3	1607.4	1850.5	2148.3
18.7	1065.8	1131.7	1436.8	1496.1	1573	1613.9	1853	2148.2
18.8	1083.3	1163	1446	1505.1	1577.2	1625.3	1859.3	2147.7
18.9	1116.9	1228	1452.1	1511.9	1580.7	1634.2	1864	2146.9

r →	0	10	20	25	30	35	40	50
t								
19	1202.5	1270.4	1457.9	1519.2	1585.8	1637.8	1869.5	2147.1
19.1	1283.2	1327.9	1463.1	1527.5	1586.8	1643	1873.3	2147.9
19.2	1314.3	1372.9	1469.5	1538.6	1582.1	1643.6	1875.8	2146.8
19.3	1326.6	1404.5	1472.2	1544.5	1590.3	1644.6	1881.9	2146.7
19.4	1327.7	1464	1472.8	1546.4	1592.7	1649	1886.8	2146.4
19.5	1335.7	1482.5	1471.6	1545.9	1592.9	1652.6	1891.8	2146.1
19.6	1348	1478.1	1470.5	1547.6	1594.9	1653	1896.2	2145.7
19.7	1375.1	1472	1470.8	1550.3	1597.1	1652.3	1899.9	2145.5
19.8	1425.1	1473.9	1472.9	1550.7	1598.5	1652.1	1901	2145.5
19.9	1496.9	1482.3	1476.5	1545.8	1603.4	1652.1	1909	2145.2
20	1559.4	1505.1	1481.3	1543.7	1605.5	1655.7	1912.9	2145.5
20.1	1605.3	1546.1	1486.8	1544.4	1605.9	1657.3	1916	2145.1
20.2	1671.2	1584.1	1490.7	1544.9	1608.4	1659	1922.6	2144.6
20.3	1710.9	1611.5	1492.6	1548.5	1609.1	1659.7	1923.5	2144.5
20.4	1739.6	1636.2	1496.5	1552.4	1608.7	1660.6	1925.8	2143.4
20.5	1761.8	1657.3	1497.1	1555.8	1608.5	1661	1929.1	2142.1
20.6	1792	1685.9	1497.7	1557.5	1609.6	1665.1	1932.1	2141.9
20.7	1793.4	1712.9	1497.2	1559.8	1610.8	1669.4	1936.5	2141.3
20.8	1772.6	1751.2	1496.1	1565.9	1611.4	1669.3	1940.3	2141.9
20.9	1753.5	1774.5	1495.4	1566.4	1613	1672.7	1944.1	2140.8
21	1737.9	1753.9	1495.2	1567.7	1614	1674.6	1946.3	2138.8
21.1	1727.3	1735.1	1495.7	1570.2	1614.9	1678	1950.1	2138.5
21.2	1717.1	1716.3	1497.2	1573.5	1626.8	1679.5	1955.3	2138
21.3	1710.1	1702.6	1498.9	1578.8	1619	1682.3	1957.5	2137.2
21.4	1706.3	1691.2	1499.2	1580.2	1620.3	1684.5	1961.4	2135.7
21.5	1703	1681.5	1497.4	1580.8	1623.1	1689.1	1964.2	2134.8
21.6	1703	1672.2	1499.7	1583.8	1625.2	1691.6	1968.9	2133.7
21.7	1704.3	1667.6	1499.7	1584.4	1627.4	1691.5	1968.6	2133.8
21.8	1716.7	1665.6	1499.8	1588	1629	1692	1973	2131.9
21.9	1729.4	1673	1499.7	1587.8	1630.8	1692.4	1978.2	2133.9
22	1734.7	1678.7	1499.6	1592.2	1633.6	1692.1	1976.6	2131.4
22.1	1739.8	1683.4	1499.2	1597.9	1635.2	1692.3	1981.6	2129.8
22.2	1745	1686.2	1497.8	1595.5	1634.7	1696	1984.3	2132
22.3	1747.6	1690.1	1496.3	1595.8	1640.5	1700.6	1986.3	2131.4
22.4	1749.1	1696.9	1495.2	1598.8	1641.5	1700.1	1986.6	2130
22.5	1751.1	1704.3	1494.2	1601.8	1642	1700.6	1987.1	2128.9
22.6	1751.1	1710.7	1493.1	1603	1642.3	1702.9	1989.6	2128
22.7	1752.3	1717.8	1492.7	1604.4	1642.3	1704.6	1988.4	2128.6
22.8	1749.5	1722	1492.2	1600.8	1644.2	1706.8	1991	2127.4
22.9	1746.1	1725.6	1493.5	1593.9	1639.7	1707.6	1989.5	2127.7

r →	0	10	20	25	30	35	40	50
t								
23	1743.1	1726.1	1498.2	1606.2	1647.6	1708.7	1991	2127.1
23.1	1739	1722.2	1503.3	1618.5	1651.9	1711.3	1991.8	2126.4
23.2	1734.5	1716.4	1508.9	1618.6	1652.4	1711.6	1994.6	2125.7
23.3	1729.5	1711.3	1510.5	1622.3	1656.2	1714.4	1995.2	2125.2
23.4	1723.3	1704.6	1510.8	1626.3	1659.1	1715.5	1996.7	2125.8
23.5	1716.3	1697.4	1512.4	1628.9	1660.9	1718	1995.7	2124.1
23.6	1709.2	1691.4	1513.8	1629	1662.8	1715.8	1997	2125
23.7	1702.2	1686.7	1515.8	1632	1663.9	1719.6	1995.8	2124.6
23.8	1696.2	1681.3	1518.2	1633.4	1665.9	1718.9	2002.6	2123.9
23.9	1695.6	1676.8	1520.8	1639.8	1668.1	1724.9	1996.8	2123.8
24	1696.4	1673.8	1521.3	1641.2	1671.5	1720.3	1997.1	2123.7
24.1	1696.7	1673.5	1521.9	1641.9	1672.5	1719.5	1995.1	2123.5
24.2	1698	1674.4	1525.1	1646.9	1673.9	1719.2	2000.3	2122.4
24.3	1699.9	1678	1528.2	1650.7	1675.3	1719.1	1997.5	2121.9
24.4	1703.7	1680.3	1529.6	1654.2	1675.6	1718.8	1999.3	2121.6
24.5	1709	1683.4	1530	1662.1	1677.6	1720.2	2000	2121.3
24.6	1717.6	1685.9	1529.2	1659.4	1682.9	1822.9	2000.2	2121.3
24.7	1718	1690.2	1527.9	1661.1	1681.1	1823.5	2001.1	2119.7
24.8	1722.5	1691.5	1527.8	1665.2	1681.3	1825.4	2002	2118.3
24.9	1726.1	1694.9	1528.7	1664.2	1684.7	1826.3	2003.8	2117.8
25	1726.5	1695.3	1531.2	1670.2	1683.2	1830.5	2004.9	2116.9
25.1	1725.6	1696.1	1531.8	1670.1	1685.5	1829.2	2005.7	2117.5
25.2	1724.7	1695.8	1533.6	1670.4	1687.2	1832.2	2007.5	2115.4
25.3	1723.5	1696.2	1534.5	1669.7	1688.7	1833.7	2006.2	2116.7
25.4	1722	1693.3	1536.5	1671.5	1685.2	1833.8	2009.4	2115
25.5	1720.1	1692.5	1539.9	1673.2	1692.4	1836.6	2009.1	2117.2
25.6	1718.8	1691.3	1539.9	1677.3	1694.3	1836.2	2010	2115.2
25.7	1714.1	1689.1	1541.8	1680.4	1694.3	1836.8	2010.8	2114.8
25.8	1717.4	1687.6	1543	1684.3	1711.5	1840.3	2011.7	2114.7
25.9	1711.8	1685.7	1543.8	1688.6	1698.9	1839.9	2012.5	2114.1
26	1709.2	1682.8	1544.3	1690	1696.3	1841.5	2012.2	2114
26.1	1707.5	1679.9	1543.9	1692.9	1696.6	1843.7	2012.4	2113.5
26.2	1707.4	1677.8	1543.2	1697	1699.9	1844.1	2014.1	2112.9
26.3	1707.3	1676.9	1542	1695.7	1701.9	1847.5	2014	2114.6
26.4	1708.5	1677.6	1540.2	1697	1701	1845.1	2013.8	2113.8
26.5	1709.5	1677.2	1538.3	1699.5	1703.3	1846.1	2015.7	2114.9
26.6	1711.2	1677.9	1537.3	1700.4	1705.1	1850.4	2015.9	2113
26.7	1713.2	1676	1537	1699.8	1703.3	1857.2	2015.9	2111.9
26.8	1712.5	1675.9	1535.1	1700.3	1703.3	1851.9	2015.2	2111.9
26.9	1713.5	1675.9	1533.5	1701.8	1704.7	1851.6	2017.7	2112.1

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t								
27	1714.1	1676.2	1533.2	1702.1	1706.2	1854	2016.5	2111.4
27.1	1714.7	1675.3	1534	1702.9	1706.6	1853.5	2011.4	2111.1
27.2	1715.2	1673.5	1530.3	1704.4	1709.4	1858.9	2013.1	2111.2
27.3	1715.4	1676.2	1534.4	1703.9	1710.5	1858.1	2017.8	2110.8
27.4	1715.2	1675.5	1536.1	1706.4	1710.4	1856.3	2017.8	2110.5
27.5	1714.9	1675	1536.5	1708.6	1715.8	1859.8	2019.4	2110.2
27.6	1714.3	1675.2	1535.1	1711.3	1712.8	1857.2	2019	2109.8
27.7	1714.1	1675	1537.6	1714.3	1712.1	1855.8	2021.8	2109.1
27.8	1713	1673.8	1538.2	1716.1	1719.8	1853.4	2019.8	2108.6
27.9	1712.5	1672.7	1538	1715	1718.1	1857	2019.8	2107.7
28	1711.9	1672	1537.7	1716.3	1718.7	1858.9	2021.7	2107.6
28.1	1711.6	1672	1539.3	1718.2	1715.3	1858	2021.9	2107.2
28.2	1710.1	1671.3	1539.8	1718.7	1718.8	1859	2021.2	2106.1
28.3	1708.5	1669.8	1539.2	1722.3	1721.7	1859	2021.2	2105.5
28.4	1707	1667.8	1540.9	1720.5	1716.6	1859.3	2020.1	2105.2
28.5	1706.4	1664.9	1538.8	1721.4	1731.5	1862.9	2023.1	2104
28.6	1705.7	1660.4	1540.1	1729.8	1723.9	1864.7	2022.6	2103.6
28.7	1704.4	1661.9	1540.6	1727.5	1728.3	1863.8	2023.8	2103.1
28.8	1702.5	1659.4	1532.9	1728.8	1730.8	1862.7	2024.2	2102.5
28.9	1702.4	1658.8	1536.6	1744.5	1730.6	1864.3	2023.7	2102
29	1701.9	1657.7	1528.2	1731.4	1732.4	1863.2	2024.3	2100.7
29.1	1701.4	1658.9	1535.1	1726.2	1732	1868.2	2024.3	2100.5
29.2	1700.8	1655	1532.2	1732.9	1730.7	1866.6	2025.2	2099.3
29.3	1700.1	1654	1533.5	1734.3	1739.4	1869.2	2025.2	2098.8
29.4	1699.4	1652.2	1532.1	1735.7	1731.4	1868.8	2025.6	2098.4
29.5	1698.7	1652.4	1534.6	1733.5	1733.1	1868.7	2024.8	2096.8
29.6	1698.1	1652.1	1535.7	1735.7	1744.1	1868.4	2026.3	2097
29.7	1696.7	1651.8	1537.4	1736.1	1731.8	1869.1	2026.5	2096.8
29.8	1694.9	1652.1	1536.5	1738.3	1735.5	1869	2027.5	2096.4
29.9	1690.2	1652	1539.8	1739.6	1731.7	1871.9	2026	2095.8
30	1693	1652.1	1538.4	1741	1735.5	1869.8	2026.5	2094.7
30.1	1692	1651.2	1538.2	1743.2	1739.9	1870.4	2027.4	2094
30.2	1690.9	1650.9	1537.5	1744	1734.5	1872.1	2027.2	2093.9
30.3	1690.1	1650.4	1541.9	1740.1	1741.2	1873.4	2023.6	2092.5
30.4	1689.1	1649.7	1538.3	1744.1	1742	1873.6	2028	2091.3
30.5	1688.4	1648.3	1541.8	1736.7	1737	1874	2026.8	2091
30.6	1687.6	1648.6	1540.2	1744.9	1738.8	1874.4	2028.5	2090.4
30.7	1686.9	1647	1537.5	1749.7	1738.1	1877.2	2032.6	2089.1
30.8	1686.7	1645.2	1539.8	1749.9	1739.1	1874.6	2025.7	2088.2
30.9	1684.2	1643.5	1538.8	1750.7	1739.3	1876.2	2047.9	2086.8

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t								
31	1682.1	1643.5	1543.8	1751.2	1741.2	1877.9	2028.5	2086.4
31.1	1680.5	1642.3	1543.5	1749.5	1740.5	1877.3	2029	2085.6
31.2	1678	1640.9	1544	1752	1746.6	1877.3	2030.2	2086
31.3	1674.5	1639.8	1543.8	1754.2	1738.8	1877	2029.4	2086.5
31.4	1674.5	1639	1545.4	1755.1	1743.1	1879.2	2030.3	2084.4
31.5	1673.5	1637.7	1544.1	1753.2	1742.9	1880.4	2031.7	2083.6
31.6	1672	1635.9	1546.2	1756.3	1739.1	1878.9	2026.3	2083.8
31.7	1670.3	1635.2	1547.6	1754.8	1739.2	1877.2	2031.9	2082.8
31.8	1667.1	1632.9	1548.6	1756.7	1740.9	1880.3	2028	2082.1
31.9	1667.9	1632.1	1548.7	1760.1	1739.7	1886.5	2031.8	2081.8
32	1667	1634.8	1549.8	1759.8	1739.1	1881.7	2035.2	2081.4
32.1	1662.4	1632.6	1551.4	1760.8	1736.4	1880.9	2028.2	2080.6
32.2	1663	1632	1552.3	1763.2	1745.3	1882.3	2032.7	2080.4
32.3	1662.2	1631.3	1553.9	1760.5	1743.3	1885.7	2032.8	2079.8
32.4	1661.4	1630.7	1554.3	1756.7	1742.7	1886.3	2031.5	2079.4
32.5	1661.3	1636.7	1555.5	1763.4	1741	1887.2	2032.9	2079.4
32.6	1658.1	1629.7	1554.9	1766.1	1738.6	1888.5	2032.9	2081.3
32.7	1656.5	1630.8	1556.5	1764.1	1745.5	1889.1	2033.8	2074.4
32.8	1655	1630.6	1557	1760.9	1746.8	1891	2033.7	2076.8
32.9	1653.6	1629.5	1557.6	1767.8	1744.5	1892.4	2034.2	2077.1
33	1652.1	1627.7	1558.5	1769.8	1745.8	1894.4	2034.3	2075.9
33.1	1649.9	1627.8	1559.8	1770.5	1747	1893.3	2034.1	2076.1
33.2	1648.3	1627.1	1559.5	1774.5	1749.6	1895.2	2034.4	2073.9
33.3	1646.5	1625	1560.3	1770.9	1747.7	1898.4	2034.6	2073.9
33.4	1644.1	1616.5	1559.6	1772.1	1749.8	1898.8	2035.3	2073.1
33.5	1642.8	1621.7	1559.1	1775.9	1748.2	1898.7	2035.8	2072.9
33.6	1640.8	1619.6	1558.9	1773.9	1745.8	1900.4	2036.1	2072.3
33.7	1639.6	1618.5	1559.8	1773.8	1747.2	1899.6	2036	2072.7
33.8	1637	1617.5	1558.7	1766.4	1747.8	1900.5	2036.6	2071.5
33.9	1635.5	1617.2	1560.6	1776.3	1749.9	1900.6	2036.6	2071.5
34	1634.5	1617.1	1560	1773.7	1751.5	1901.7	2037.1	2070.4
34.1	1632.4	1616.5	1560	1768.6	1749.8	1901.6	2037.1	2070.3
34.2	1629.5	1615.2	1565.8	1776.8	1747.7	1901.1	2036.9	2069.8
34.3	1629.4	1613.7	1563	1776.5	1747.8	1902.6	2038	2069.1
34.4	1628.1	1614.6	1563.6	1778.3	1748.6	1902	2037.3	2068.2
34.5	1627.3	1611.1	1563.2	1780.1	1747.1	1901.4	2037.8	2067.5
34.6	1626.3	1611.9	1563.1	1778	1747.2	1902.5	2037.7	2067.3
34.7	1625.6	1611.3	1563.4	1779.2	1742.7	1902	2037.7	2068.5
34.8	1624.5	1611	1563.6	1783.8	1740.9	1899.8	2037.3	2065.5
34.9	1623.6	1610.1	1563.5	1779	1747.6	1902.1	2036.8	2065.2

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t								
35	1622.2	1610.5	1565.3	1783.3	1747.8	1903.5	2036.1	2064.7
35.1	1620.9	1609.4	1565.7	1780	1747.8	1902.4	2037.6	2063.8
35.2	1619.1	1608.1	1565.8	1782.4	1749.6	1906.5	2037.4	2063.1
35.3	1617.5	1607.6	1566.8	1783.1	1747.5	1905.6	2036.6	2062.9
35.4	1616.1	1606.2	1566.6	1782.9	1746.3	1907	2035.8	2062.4
35.5	1613.9	1604.3	1568.4	1784.2	1746.3	1905.7	2035	2062
35.6	1613.8	1603.9	1568.9	1783.7	1740.7	1908.1	2035.8	2060.1
35.7	1608.1	1602	1569.3	1783.3	1745.5	1910.3	2034.5	2061.7
35.8	1607.3	1602.4	1567.1	1788.2	1745	1910.9	2035.9	2062.2
35.9	1608.8	1600.2	1569.5	1790.6	1746	1904.5	2034.9	2059.8
36	1606.7	1600	1570.3	1792.3	1746.8	1909.6	2034.1	2060.3
36.1	1604.6	1598	1570.4	1788.1	1746.4	1913.5	2034.1	2060
36.2	1602.8	1595.8	1571.1	1789.6	1742.4	1913.6	2033.6	2058.6
36.3	1600.9	1595.6	1571.7	1789.1	1740.8	1913.8	2033.8	2060.9
36.4	1599.2	1597.7	1572.7	1787.4	1742.8	1913.4	2033.3	2059.2
36.5	1598.1	1595.7	1573.8	1791.1	1743	1914	2033	2058.1
36.6	1597.7	1592.6	1574.2	1793.2	1742.2	1920	2032.7	2057.8
36.7	1597	1591.6	1572.9	1791	1743.3	1921.2	2032.9	2055.1
36.8	1595.4	1590.7	1575.4	1792.3	1741.1	1905.4	2032.5	2053
36.9	1594.2	1590.2	1575.9	1793.1	1741.5	1924.9	2030.3	2059
37	1593	1589.7	1576.2	1793.3	1742.7	1924.4	2031.5	2057.7
37.1	1587.9	1586.4	1576.6	1792.6	1743.5	1925.2	2030.5	2056.5
37.2	1592.3	1586.6	1576.3	1792.9	1742.9	1921.9	2031.9	2056.2
37.3	1589.4	1586.6	1579.2	1794.5	1742.3	1920.9	2030.8	2054.9
37.4	1587.7	1587.6	1578.4	1794.6	1740.5	1921.2	2036.7	2055.5
37.5	1585.6	1583.5	1582.4	1794.3	1740.7	1923.4	2030.5	2055.4
37.6	1585.1	1584.8	1581.2	1795.5	1732.5	1923.5	2030.1	2054.8
37.7	1584.1	1580.8	1581.5	1796.4	1739.2	1925.3	2028.9	2054.4
37.8	1582	1579.9	1581.4	1795	1737.6	1923.6	2029.6	2053.3
37.9	1580.4	1579	1581.7	1795.4	1735.1	1922.8	2029.1	2053
38	1579.7	1577.9	1582.7	1800.6	1740	1928.8	2030.7	2053.7
38.1	1577.4	1577	1583.3	1796.9	1743.2	1925.7	2024.5	2053.3
38.2	1576.2	1572.9	1582.4	1793.2	1739.4	1928.3	2030.1	2053.2
38.3	1574.3	1574.6	1583.1	1797	1737.3	1925.6	2028.1	2052.3
38.4	1572.6	1571.8	1583.3	1797.5	1736.5	1927.6	2027.5	2052.5
38.5	1570.1	1571.6	1583.9	1800.3	1736.3	1925.4	2028.5	2052
38.6	1568.5	1569.4	1585.6	1796.9	1736.4	1928.7	2027.6	2051.5
38.7	1568	1568.9	1582.4	1799.7	1736.4	1928.7	2027.7	2050.6
38.8	1566.5	1567.4	1585.7	1798.6	1734.9	1925.8	2028.8	2050.1
38.9	1564.3	1566.5	1584.7	1799	1734.3	1926.5	2027.2	2037.6

r →	0	10	20	25	30	35	40	50
t								
39	1564.4	1567.3	1586.2	1802.2	1734	1932.7	2027.2	2050.4
39.1	1563.2	1563.5	1586.5	1801.6	1734.9	1935.9	2029	2049.5
39.2	1562	1575.5	1588.3	1802.2	1734	1934.6	2027	2050.1
39.3	1560.9	1565.8	1588.1	1803.2	1732.2	1937.4	2030.1	2049.3
39.4	1558.9	1564.1	1589.6	1798.2	1730.8	1934.5	2027.2	2048.3
39.5	1557.5	1562.4	1587.3	1805.9	1732.3	1930.8	2027.5	2048.7
39.6	1555.9	1562.8	1591.2	1804.5	1731.3	1930.9	2025.5	2047.4
39.7	1556.3	1561.1	1589.7	1805.7	1728.4	1931.8	2029.3	2047.5
39.8	1553.4	1559.6	1591.3	1805.5	1729.1	1931.6	2026.9	2046.1
39.9	1551.7	1559	1592	1806	1728	1930.5	2026.3	2046.4
40	1550.1	1558.3	1592.4	1805.4	1727.4	1929.8	2024.4	2047
40.1	1548.3	1556.2	1592.2	1806.4	1726.5	1929.5	2027.5	2046.3
40.2	1547.2	1553.8	1591.9	1805.8	1726.6	1931	2027.3	2044.1
40.3	1545.9	1552.1	1592.9	1804.7	1725.1	1932.7	2025.5	2045.2
40.4	1546.8	1551.7	1594.1	1806.7	1726.1	1932.1	2018.3	2046.3
40.5	1544	1551.1	1593.8	1807.1	1722.7	1930	2028	2045
40.6	1540.1	1550	1595.2	1810.7	1721.6	1931	2026.3	2045.1
40.7	1539.5	1548.3	1595.5	1809.9	1723	1932.2	2026.6	2044.3
40.8	1537.6	1547.1	1596.2	1808	1722.4	1931.9	2028.2	2044
40.9	1536.3	1546.2	1597.3	1809.1	1721.6	1932.3	2027.8	2041.3
41	1533.3	1544.8	1596.2	1807.9	1720.8	1930.3	2026.3	2042.3
41.1	1534.4	1544.5	1597.2	1808.5	1719.8	1932.4	2029.6	2041.6
41.2	1530.9	1543.1	1598.6	1813.2	1720.9	1933.7	2028.1	2044.1
41.3	1532.1	1543.4	1598	1811	1720.2	1932.3	2026.7	2042.7
41.4	1532.2	1541.5	1598.9	1811.3	1719.5	1930	2027.2	2042.8
41.5	1533.1	1542.9	1601.5	1811.9	1721.7	1932.6	2028	2040.8
41.6	1533	1538.7	1601.8	1809.4	1718.5	1933.1	2026.6	2041
41.7	1531.7	1543.2	1601	1812	1718.2	1932.5	2025.8	2038.3
41.8	1528.5	1544.1	1601	1810.9	1717.9	1930.9	2026	2041
41.9	1531.3	1540.1	1603	1813.9	1717.4	1933.1	2024.8	2040.1
42	1529	1542.1	1605.6	1803.8	1717.7	1932.9	2026.8	2039.7
42.1	1528.1	1539.5	1605.4	1811.6	1718.5	1931.3	2026.8	2037.9
42.2	1527.6	1540.6	1605	1812.7	1717.1	1932.2	2026.5	2037.4
42.3	1530.4	1542.7	1606.3	1811.6	1716.7	1932.9	2033.4	2038.3
42.4	1528.4	1538.5	1607.8	1815.4	1715.4	1931.9	2030.5	2037.7
42.5	1526.2	1538.7	1608.2	1812.2	1716.2	1932.9	2025.8	2039.3
42.6	1527.1	1536.3	1609.6	1813.2	1714.9	1934.4	2028.8	2038.6
42.7	1526.1	1535.1	1613.5	1815	1714.2	1932.8	2025.4	2043.6
42.8	1526.5	1534	1611.1	1813.5	1713.8	1928.2	2018.8	2038.3
42.9	1525.1	1533.8	1611.1	1812.4	1711.7	1936	2031.7	2036.8

r →	0	10	20	25	30	35	40	50
t								
43	1523.7	1533.7	1610.8	1813	1713.4	1934.1	2028.5	2036.4
43.1	1524.1	1533.2	1611.5	1813	1712.5	1934.4	2025.7	2035.5
43.2	1523.2	1532.9	1612.9	1820.6	1710.4	1935.4	2031.8	2034.8
43.3	1524	1532.9	1612.9	1811.2	1710.8	1932.2	2024.1	2036
43.4	1523.8	1531.2	1614.5	1816.7	1713.6	1934.1	2029.5	2035.4
43.5	1523.6	1531	1615.8	1823.4	1711.1	1932.2	2027.6	2035.8
43.6	1522.7	1531	1614.7	1816.9	1714.8	1934.8	2025.7	2037.9
43.7	1523	1530.4	1617.9	1817	1715	1934.3	2028.7	2035.7
43.8	1522.3	1531.9	1617.6	1817.6	1708.9	1935	2027.5	2033.4
43.9	1522	1530.6	1618	1817.4	1714.8	1932.8	2029.5	2033.9
44	1522.7	1532	1617.8	1818.4	1705.7	1933.7	2030.9	2033.8
44.1	1522.2	1531.4	1619.6	1818	1707.4	1934.3	2029.9	2034.2
44.2	1523.5	1529.2	1621.1	1818.2	1696.3	1933	2026.6	2034.3
44.3	1525.3	1530.9	1621.5	1817.9	1708.3	1936.2	2025.9	2034.2
44.4	1524.3	1530.5	1622.1	1818	1707.7	1943.4	2027.6	2034.8
44.5	1522.6	1529.9	1622.4	1817.5	1708.7	1939.2	2024.5	2031.3
44.6	1521.9	1529.2	1636.3	1818.2	1709.1	1933.4	2026.8	2032.1
44.7	1522.5	1530.6	1624.5	1818.5	1708.4	1935.3	2031.1	2030.9
44.8	1521.6	1529.3	1629.1	1817.3	1707	1934	2019	2030.2
44.9	1522	1529.3	1625.7	1818		1937.2	2027.9	2029.2
45	1521.7	1527.2	1626.8	1816.6		1936.7	2026.6	2029.8
45.1	1521.8	1529.2	1626.6	1816.3		1935.8	2024.1	2023.8
45.2	1521.4	1528.6	1626.7	1817.6		1933.1	2027.7	2028.7
45.3	1521.2	1528.8	1629.5	1815.5		1933.4	2026.5	2026.7
45.4	1520.5	1528.4	1628.3	1815.6		1936.2	2032.5	2027.2
45.5	1521.6	1528.4	1629.8	1816.9		1933.2	2028.6	2027.1
45.6	1520.4	1527.8	1628.6	1818.9		1937	2031.1	2027.2
45.7	1518.2	1529.6	1630.6	1819.1		1936.9	2030.6	2029.2
45.8	1521.6	1526.5	1630.8	1815		1935.4	2025	2027.7
45.9	1533.5	1528.1	1633	1819.3		1934.9	2027.9	2025.5
46	1520.5	1529	1634.1	1819.6		1936.4	2026	2024.4
46.1	1519.8	1529.1	1633.9	1821.9		1937.7	2027.5	2023.4
46.2	1520.3	1528.6	1635.2	1822.2		1937.1	2027.3	2024.8
46.3	1519.5	1529.3	1636.2	1819.1		1935.9	2029.2	2024.7
46.4	1517	1530	1636.9	1820.2		1935.7	2031.5	2023
46.5	1516.1	1529.8	1638.2	1828.4		1936.3	2029.2	2023.3
46.6	1514	1528.4	1635.9	1813.1		1936.1	2028.6	2024.6
46.7	1519.3	1527.3	1639.7	1820.7		1936.6	2019.5	2022.9
46.8	1518.2	1515.4	1641.7	1820.5		1936	2024.4	2024.3
46.9	1517.7	1526.4	1640.9	1828.2		1937.2	2025	2025

r →	0	10	20	25	30	35	40	50
t								
47	1516.4	1526.7	1642.1	1820.4		1937.8	2029.1	2024.7
47.1	1517.3	1527.1	1640.6	1820.7		1936.5	2027.5	2023.7
47.2	1516.6	1524.6	1643.3	1821.8		1938	2029.9	2023.1
47.3	1517.7	1527.1	1641.8	1823		1937.6	2029	2021.9
47.4	1518.8	1526.7	1643.9	1823.6		1937.9	2027.4	2022.4
47.5	1517.6	1527.6	1644.8	1821.1		1935.4	2027.2	2021.8
47.6	1516.9	1525.7	1645.6	1822		1941.1	2024.9	2022.2
47.7	1513.1	1525	1646.3	1823		1939	2026.8	2021.8
47.8	1505.9	1520.7	1644.8	1825.2		1935.9	2028.3	2021
47.9	1504.6	1523.4	1648.4	1821.8		1939.9	2028.3	2021.4
48	1520.1	1521.8	1647.5	1820.9		1939	2023.2	2020.4
48.1	1505.9	1522.6	1649.8	1820.2		1940.6	2030.3	2020.4
48.2	1507.3	1524.8	1641.6	1824.9		1939.8	2024.9	2020.8
48.3	1515.8	1524.9	1649	1827.9		1939.4	2028.2	2021.2
48.4	1517.4	1524.8	1649.3	1823.4		1940.2	2025.8	2021.8
48.5	1518.5	1526.2	1647.9	1820.1		1939.9	2022	2021.7
48.6	1519.3	1526	1651.6	1827.2		1938.7	2019	2022.5
48.7	1520.4	1526.1	1652.8	1822.6		1939.7	2027.2	2021.2
48.8	1521.1	1523.4	1654.4	1823.8		1942.2	2027.6	2021.2
48.9	1527.6	1525.4	1652.2	1825.6		1939.8	2029.7	2022
49	1519.8	1524.5	1649.6	1827.2		1939.5	2026.3	2020.6
49.1	1520.6	1522.7	1654.6	1824.5		1940	2026.5	2020.8
49.2	1518.5	1522.5	1655.9	1823.8		1939.4	2025.3	2014.3
49.3	1519.1	1524.8	1655.8	1826.1		1938.9	2026.7	2019.3
49.4	1519.4	1522.5	1658.7	1825.7		1939.1	2027	2019.8
49.5	1518.8	1522.2	1655.3	1825.8		1941.5	2030.3	2019.1
49.6	1518.7	1521.1	1656.2	1823		1939.3	2026.3	2028.4
49.7	1518.6	1512.7	1658	1824.1		1939.6	2021.4	2021
49.8	1517.7	1519	1657.8	1821		1941.1	2022.9	2020.2
49.9	1517.1	1522	1655.5	1824.4		1942.1	2023.9	2020.8
50	1517.3	1520.5	1657.8	1826.2		1938.8	2025.8	2020.3
50.1	1517.1	1521.2	1658.8	1824.8		1945.4	2028.7	2022.6
50.2	1516.2	1521	1659.2	1828.2		1939.4	2026.5	2024
50.3	1516.5	1527.4	1658.2	1826.6		1935.2	2026.8	2021.7
50.4	1516.8	1522.2	1655.6	1830.2		1940	2026.5	2021.9
50.5	1517.4	1523.7	1660.5	1827.7		1935.7	2025.1	2016.5
50.6	1517.7	1527.3	1663.5	1828.3		1938.4	2023.5	2021.8
50.7	1516.2	1528.2	1662.5	1827.6		1940.4	2026.3	2021.2
50.8	1515.6	1527.1	1661.8	1825.1		1944.1	2025.9	2021.4
50.9	1513.2	1528.5	1661.8	1826.8		1942.2	2026.8	2021

r →	0	10	20	25	30	35	40	50
t								
51	1515.5	1528.2	1670.2	1827.9		1944.1	2027.1	2018.8
51.1	1516.1	1528.5	1658.6	1826.2		1942.9	2026.7	2021.5
51.2	1515.3	1527.3	1661.4	1827.7		1942.1	2026.8	2021.3
51.3	1514.5	1528.4	1662.8	1827.8		1945.5	2026.1	2021
51.4	1515.8	1533.3	1661.9	1826.8		1943.9	2027.1	2021.2
51.5	1511.4	1532.2	1663.7	1827.4		1942.4	2025.8	2021.5
51.6	1516	1533	1660.5	1827		1942.1	2026.1	2020.8
51.7	1517.8	1535.4	1663	1846.3		1938.3	2025.1	2021.1
51.8	1515.1	1532.4	1667.7	1824.6		1937.5	2024.6	2021.6
51.9	1515.2	1534.1	1666.3	1835.1		1938.8	2026.3	2020.5
52	1514.6	1534.3	1664.6	1824.3		1939	2025.3	2021
52.1	1514.1	1533.8	1664.9	1821.4		1939	2025.5	2022.3
52.2	1515.7	1534.3	1667.2	1828.5		1934.6	2028.8	2019.5
52.3	1514.6	1531.7	1664.9	1825.7		1941.1	2025.5	2021.1
52.4	1515	1533	1670	1829		1941.2	2026.3	2022.1
52.5	1515.2	1531.4	1666.7	1827.4		1937.8	2026.5	2022.1
52.6	1514.8	1531.1	1666	1827.6		1943.6	2025.5	2021.5
52.7	1514	1532	1665	1829.4		1944.2	2024.7	2021.3
52.8	1510.9	1531.6	1661.2	1827.9		1944.1	2024.1	2021.6
52.9	1514.6	1532	1669.6	1829.4		1947.4	2026	2027.6
53	1514.2	1533.2	1664.6	1829.3		1949.7	2026.1	2022.1
53.1	1513.6	1530.5	1668	1829		1946.6	2023.4	2021.4
53.2	1513.5	1527	1668.9	1825.3		1946.6	2024.7	2020.2
53.3	1513.2	1532.7	1671.5	1828.4		1945.5	2026.2	2021.8
53.4	1508.4	1533.6	1668.7	1828.2		1951	2026.4	2021.4
53.5	1514.8	1534.6	1669.6	1829.3		1935.5	2026	2020.5
53.6	1514.2	1534.8	1666.6	1825.5		1939.7	2026.6	2021.1
53.7	1513.7	1536.4	1671.6	1828.5		1948.4	2019.5	2021.4
53.8	1514.2	1535.9	1671.2	1830		1944.6	2029.1	2021.4
53.9	1515	1534.9	1671	1831.1		1946.9	2026.6	2021.3
54	1515.4	1535.3	1670.7	1829.8		1951	2026.5	2020.1
54.1	1517.7	1535.3	1668.2	1821.2		1947.5	2025.2	2022.1
54.2	1516.8	1535	1668.8	1836		1947.4	2020.7	2021
54.3	1514.1	1533.8	1670.7	1822.3		1950.2	2026.8	2020.9
54.4	1513.5	1532.7	1671.8	1830.7		1949	2027.4	2021.6
54.5	1515.1	1535	1674.5	1826.8		1948	2028	2020.8
54.6	1514.9	1535	1666.7	1835.6		1951.5	2028.6	2018
54.7	1514.6	1532.6	1674.4	1829.7		1944.3	2042.4	2020.5
54.8	1514.1	1534.7	1671.9	1832.4		1944.9	2029.1	2021.4
54.9	1515.1	1536.5	1671.1	1832.2		1945.4	2026	2020.7

r →	0	10	20	25	30	35	40	50
t								
55	1516.2	1537.1	1672.2	1830.6		1946	2022.4	2020.5
55.1	1516	1535.6	1671.2	1834.6		1952.6	2023.2	2019.2
55.2	1515.5	1535.8	1671.9	1833.3		1946.4	2026.5	2018.1
55.3	1515.2	1537.1	1684.7	1833		1947.8	2026.7	2019.8
55.4	1520.1	1538.3	1669.8	1834.8		1950.8	2021.8	2020.3
55.5	1514.2	1537.7	1681.1	1834.7		1942.5	2026.2	2019.8
55.6	1516	1537.2	1672.8	1836.1		1946.3	2025.8	2018.8
55.7	1515.9	1537.3	1672.5	1834.1		1941.7	2027.3	2019.6
55.8	1516	1538	1674.4	1833.4		1947	2023.7	2020.4
55.9	1516	1538.7	1673	1831.5		1948.5	2026.6	2019.2
56	1515.9	1538.2	1676.8	1835.8		1956.1	2023.7	2020
56.1	1516.5	1540.4	1674.7	1845.1		1947.8	2031.2	2018.1
56.2	1517	1539.1	1673.1	1833.3		1946.8	2022.7	2019.2
56.3	1517.9	1537.9	1671.2	1828.6		1947	2024	2020.3
56.4	1516.2	1538.9	1676.2	1842.7		1954.5	2025.7	2019.5
56.5	1517	1539	1675.5	1838.8		1950.2	2021	2014.3
56.6	1517.8	1540.1	1673.6	1831		1948.6	2025.2	2018.3
56.7	1517.1	1542.2	1675.1	1829.4		1949.9	2025.3	2016
56.8	1518.5	1541.4	1673.6	1839.8		1952.7	2027.9	2018
56.9	1517.6	1541.8	1671.4	1837		1955.2	2024.8	2016.6
57	1518.5	1543.5	1672.4	1831		1951.1	2026.6	2018.2
57.1	1520.9	1541.6	1678.3	1836.1		1950.3	2025.8	2016.6
57.2	1519.3	1540.7	1674.1	1833		1947.7	2026.9	2018
57.3	1518.6	1541.9	1673.7	1832.3		1949.1	2026.3	2018
57.4	1519	1542.3	1676.9	1834.9		1949.3	2025.9	2018.6
57.5	1519.1	1543.3	1678.2	1832.9		1948.8	2026.6	2018.9
57.6	1531.5	1544.2	1677.7	1833.1		1946.6	2028.1	2018.8
57.7	1520.1	1544.3	1676.2	1829.3		1951.6	2025.1	2018.2
57.8	1519.1	1547.6	1673.8	1833.1		1949.9	2032.2	2016.6
57.9	1518.5	1545.3	1674.9	1834.2		1941.7	2028	2017.9
58	1520.1	1545.9	1673.7	1832		1944.5	2027.2	2018.4
58.1	1523.5	1549.3	1674.9			1950.1	2029.7	2015.5
58.2	1519.2	1549.2	1675.1			1948.2	2026.9	2017.8
58.3	1520.5	1546.9	1681.5			1947.8	2025.2	2017.6
58.4	1524.6	1546.6	1676.6			1947.5	2025.4	2013.6
58.5	1521.4	1546.3	1673.5			1950.9	2025.5	2016.4
58.6	1520.1	1545.9	1674.4			1948.6	2036.6	2013.7
58.7	1521.1	1543.5	1674			1948.3	2037.5	2016.3
58.8	1522.1	1544.7	1679.4			1936.9	2024.7	2016.8
58.9	1521.8	1544.6	1676.6			1938.2	2022.8	2017.2

r →	0	10	20	25	30	35	40	50
t								
59	1523	1546.5	1678			1941.3	2020.8	2016.9
59.1	1523.5	1546.6	1677.8			1935.2	2013.5	2011.7
59.2	1522.2	1545.9	1676.4			1940.1	2021.5	2015.9
59.3	1522.1	1548	1678.6			1942.9	2022.4	2014.7
59.4	1523.6	1547.5				1947.1	2020.2	2018.8
59.5	1525.7	1548.4				1951.7	2020.1	2018.3
59.6	1523.2	1549				1950.9	2020.8	2017.1
59.7	1525.4	1556.5				1950.5	2025.8	2024.5
59.8	1522.3	1549.2				1946.1	2025.8	2016.3
59.9	1524.4	1550.9				1951.9	2021.5	2017
60	1525.2	1552				1940	2020	2018.7
60.1	1527.9	1551.5				1949.5	2019.1	2013.8
60.2	1525.6	1551.6				1950.6	2015.8	2019.1
60.3	1524.3	1551.9				1934.7	2022.2	2013.2
60.4	1523.8	1553.5				1954	2021.9	2015.4
60.5	1523.5	1554.3				1944.7	2026.4	2015.3
60.6	1525.3	1555.3				1956.3	2018.4	2012.3
60.7	1524.7	1553.9				1941.9	2022.7	2016.8
60.8	1525.4	1553.7				1941.6	2024.3	2014.4
60.9	1524.1	1555.6				1943.2	2030.6	2012.2
61	1524	1555.7				1935.5	2021.1	2011.3
61.1	1526.1	1555.3					2016.5	2009.3
61.2	1527.3	1558.6					2008.5	2007.6
61.3	1528.4	1561.4					2027.2	2004.3
61.4	1528.4	1558.6					2013.8	2012.3
61.5	1530	1561.3					2014.7	2007.3
61.6	1529.9	1553.8					2021.6	2008.3
61.7	1533.2	1554.9					2010.8	2014.8
61.8	1529	1557.2					2009.2	1994.4
61.9	1528.9	1570.2					2011.3	2016.2
62	1531.3	1561.9					2014	2007.3
62.1	1533.2	1566.2					2017.1	2004.6
62.2	1524.4	1559.6					2000.2	2005.6
62.3	1533.8	1555.2					2005.5	
62.4	1532.4	1566.3					1994.4	
62.5	1524.3	1558.5					2017.9	
62.6	1527.9	1555.6					2010.8	
62.7	1528.2	1555.4					2007.6	
62.8	1528.1	1544.5					2020.6	
62.9	1514.7	1555.8					2018.9	

r →	0	10	20	25	30	35	40	50
t								
63	1527.6	1546.3						
63.1	1517.5	1546.7						
63.2	1521.8	1546.1						
63.3	1523.3	1548.4						
63.4	1532.7	1555.4						
63.5	1532.1	1557.5						
63.6	1532.6	1560.9						
63.7	1529.7	1555						
63.8	1528.5	1560.5						
63.9	1532.1	1557.4						
64	1538.8	1553.3						
64.1	1535.1	1551						
64.2	1535.8	1546						
64.3	1534	1550						
64.4	1539.8	1555.5						
64.5	1542.1	1556.5						
64.6	1543.3	1562.7						
64.7	1530.9	1564.1						
64.8	1542.9	1547						
64.9	1544	1570.4						
65	1551	1566.1						
65.1	1545.7	1558.7						
65.2	1546.7	1562.9						
65.3	1548.3	1568.3						
65.4	1541	1572.9						
65.5	1538.7	1561.9						
65.6	1539.6	1558.2						
65.7	1538.4	1557.6						
65.8	1540	1567.5						
65.9	1539.6	1556.5						
66	1536.8	1558.1						
66.1	1539	1557.4						
66.2	1533.2	1566.7						
66.3	1546.9	1569.4						
66.4	1544	1565.7						
66.5	1554.7	1571.4						
66.6	1545.2	1566.1						
66.7	1551.6	1564.6						
66.8	1550	1569.2						
66.9	1549.4	1578.3						

r →	0	10	20	25	30	35	40	50
t								
67	1552.1	1580.9						
67.1	1557.5	1579.7						
67.2	1553.7	1573.4						
67.3	1550.5	1572.8						
67.4	1559.6	1578.2						
67.5	1559.6	1575.5						
67.6	1558.8	1577.7						
67.7	1559.6	1581.9						
67.8	1553.5	1585.4						
67.9	1565.8	1580.1						
68	1560.3	1571.6						
68.1	1572.5	1570.2						
68.2	1566	1574						
68.3	1563.3	1579.8						
68.4	1570.8	1570.1						
68.5	1568.2	1567.3						
68.6	1565	1569.8						
68.7	1558.1	1563						
68.8		1570.6						
68.9		1562.7						
69		1556.1						
69.1		1569						
69.2		1592.7						
69.4		1558.4						

2021E PT4 Diagnostic Plate Displacement Table

Diagnostic Plate Displacement of Jack Rabbit Pretest 2021E PT4; time is referenced in microseconds from detonator circuit current start

Jack Rabbit Pretest 2021E PT4 POSITION Data								
Columnar data: z = mm from top of diagnostic plate datum								
absolute timing accuracy relative to time zero = +/- 0.025 microseconds								
relative timing uncertainty between data channels = +/- 0.005 microseconds								
z position uncertainty = +/- 5 percent of measurement								
PDV measurement point position uncertainty = +/- 0.25 millimeters								
r →	0	10	20	25	30	35	40	50
t								
12	0	0	0	0	0	0	0	0
12.1	0	0	0	0	0	0	0	0
12.2	0	0	0	0	0	0	0	0
12.3	0	0	0	0	0	0	0	0
12.4	0	0	0	0	0	0	0	0
12.5	0	0	0	0	0	0	0	0
12.6	5E-05	0	0	0	0	0	0	0
12.7	0.0002	0	0	0	0	0	0	0
12.8	0.0003	0	0	0	0	0	0	0
12.9	0.0005	0	0	0	0	0	0	0
13	0.0007	0	0	0	0	0	0	0
13.1	0.001	0	0	0	0	0	0	0
13.2	0.0013	0	0	0	0	0	0	0
13.3	0.0016	7E-05	0	0	0	0	0	0.1197
13.4	0.002	0.0002	0	0	0	0	0	0.3544
13.5	0.0024	0.0004	0	0	0	0	0	0.5809
13.6	0.0027	0.0006	0	0	0	0	0	0.8038
13.7	0.0031	0.0008	0	0	0	0	0	1.0256
13.8	0.0035	0.001	0	0	0	0	0	1.2461
13.9	0.0039	0.0012	0	0	0	0	0.0576	1.4659
14	0.0043	0.0015	0	0	0	0	0.213	1.6854
14.1	0.0047	0.0017	0	0.0027	0.0025	0	0.4051	1.9043
14.2	0.0051	0.002	0.0023	0.0114	0.0162	0	0.5924	2.1231
14.3	0.0055	0.0022	0.0195	0.0469	0.0577	0.0032	0.7783	2.3414
14.4	0.0059	0.0025	0.0649	0.107	0.1193	0.0396	0.9637	2.5592
14.5	0.0063	0.0029	0.1262	0.1693	0.1826	0.1068	1.1483	2.7773
14.6	0.0069	0.0048	0.1878	0.269	0.2476	0.2182	1.3318	2.9952
14.7	0.0108	0.011	0.2495	0.4058	0.3421	0.3726	1.5147	3.2127
14.8	0.0219	0.047	0.3116	0.5428	0.4739	0.5257	1.6975	3.4303
14.9	0.0581	0.1107	0.3738	0.6778	0.6141	0.6765	1.8797	3.6476

r →	0	10	20	25	30	35	40	50
t								
15	0.117	0.1746	0.4359	0.8106	0.7537	0.8254	2.0616	3.8648
15.1	0.1789	0.2386	0.498	0.942	0.8919	0.9729	2.2429	4.0819
15.2	0.2434	0.3023	0.5603	1.0717	1.0288	1.1188	2.4239	4.2988
15.3	0.3096	0.3657	0.6229	1.1999	1.1645	1.2634	2.6048	4.5157
15.4	0.3766	0.4289	0.686	1.3277	1.2991	1.4073	2.786	4.7326
15.5	0.4439	0.4916	0.7495	1.4555	1.4333	1.5503	2.9672	4.9493
15.6	0.5114	0.5539	0.8143	1.5833	1.5672	1.6928	3.1482	5.1658
15.7	0.5788	0.6162	0.8804	1.7103	1.701	1.8348	3.3292	5.3822
15.8	0.6466	0.6787	0.9481	1.8373	1.8346	1.9763	3.5102	5.5987
15.9	0.7145	0.7414	1.0179	1.9645	1.9679	2.1173	3.6912	5.815
16	0.7825	0.8044	1.0899	2.0919	2.1012	2.2576	3.8722	6.0313
16.1	0.8505	0.8677	1.1828	2.2194	2.2347	2.3979	4.053	6.2476
16.2	0.9187	0.9323	1.2992	2.3467	2.3691	2.538	4.2336	6.4638
16.3	0.9878	0.9984	1.4204	2.4736	2.5051	2.678	4.4141	6.68
16.4	1.0594	1.0665	1.5429	2.6007	2.6429	2.8182	4.5942	6.8961
16.5	1.1352	1.1371	1.6653	2.7283	2.7828	2.9591	4.7743	7.1122
16.6	1.2145	1.2102	1.7872	2.8567	2.9257	3.1011	4.9546	7.3282
16.7	1.2957	1.2877	1.9085	2.9863	3.0716	3.2452	5.1352	7.5441
16.8	1.3785	1.3724	2.0295	3.1174	3.2195	3.3916	5.316	7.76
16.9	1.4642	1.4617	2.1505	3.2498	3.3684	3.5398	5.4969	7.9758
17	1.5529	1.5513	2.2717	3.3839	3.518	3.6892	5.6778	8.1916
17.1	1.6435	1.6413	2.3934	3.5193	3.6684	3.8393	5.8589	8.4074
17.2	1.7354	1.7318	2.5164	3.6561	3.8195	3.9901	6.0401	8.6231
17.3	1.8281	1.8229	2.6427	3.7941	3.9712	4.1413	6.2216	8.8387
17.4	1.9207	1.9143	2.7741	3.933	4.1229	4.2931	6.4032	9.0543
17.5	2.013	2.0059	2.9114	4.073	4.2743	4.446	6.5849	9.2698
17.6	2.1053	2.0979	3.052	4.2141	4.4259	4.5999	6.7669	9.4852
17.7	2.1978	2.1901	3.1934	4.3563	4.578	4.7549	6.9479	9.7006
17.8	2.2905	2.2827	3.3348	4.5003	4.7304	4.9111	7.1295	9.916
17.9	2.3836	2.3758	3.476	4.646	4.8832	5.0682	7.3123	10.131
18	2.4774	2.4697	3.6165	4.7924	5.0364	5.2262	7.495	10.347
18.1	2.5719	2.5653	3.7565	4.9392	5.1899	5.3845	7.6778	10.562
18.2	2.6671	2.6657	3.8963	5.0865	5.3436	5.543	7.8608	10.777
18.3	2.7634	2.7705	4.0361	5.2339	5.4976	5.7011	8.0442	10.992
18.4	2.8622	2.8769	4.1763	5.3817	5.6523	5.8597	8.228	11.207
18.5	2.9646	2.9847	4.3172	5.5301	5.8078	6.0192	8.4123	11.422
18.6	3.0692	3.0944	4.4592	5.6791	5.9641	6.1795	8.5971	11.637
18.7	3.1751	3.2065	4.6023	5.8284	6.1211	6.3406	8.7822	11.852
18.8	3.2825	3.3212	4.7465	5.9785	6.2786	6.5025	8.9679	12.067
18.9	3.3925	3.4408	4.8914	6.1293	6.4365	6.6655	9.154	12.281

r →	0	10	20	25	30	35	40	50
t								
19	3.5085	3.5657	5.0369	6.2809	6.5948	6.8291	9.3407	12.496
19.1	3.6328	3.6956	5.1829	6.4332	6.7535	6.9931	9.5278	12.711
19.2	3.7627	3.8306	5.3295	6.5865	6.9119	7.1575	9.7153	12.925
19.3	3.8947	3.9695	5.4766	6.7407	7.0705	7.3219	9.9032	13.14
19.4	4.0274	4.1129	5.6239	6.8952	7.2297	7.4865	10.092	13.355
19.5	4.1606	4.2603	5.7711	7.0498	7.389	7.6516	10.281	13.569
19.6	4.2948	4.4083	5.9182	7.2045	7.5484	7.8169	10.47	13.784
19.7	4.4309	4.5558	6.0653	7.3594	7.708	7.9822	10.66	13.999
19.8	4.5709	4.7031	6.2125	7.5144	7.8677	8.1474	10.85	14.213
19.9	4.717	4.8509	6.3599	7.6693	8.0278	8.3126	11.04	14.428
20	4.8699	5.0003	6.5078	7.8237	8.1883	8.478	11.231	14.642
20.1	5.0281	5.1528	6.6562	7.9782	8.3488	8.6436	11.423	14.857
20.2	5.1919	5.3093	6.8051	8.1326	8.5096	8.8095	11.615	15.071
20.3	5.361	5.4691	6.9543	8.2873	8.6704	8.9754	11.807	15.286
20.4	5.5336	5.6315	7.1037	8.4423	8.8313	9.1414	12	15.5
20.5	5.7086	5.7962	7.2534	8.5977	8.9922	9.3075	12.192	15.714
20.6	5.8863	5.9633	7.4031	8.7534	9.1531	9.4738	12.385	15.928
20.7	6.0656	6.1333	7.5529	8.9093	9.3141	9.6405	12.579	16.143
20.8	6.2439	6.3065	7.7025	9.0655	9.4752	9.8075	12.773	16.357
20.9	6.4202	6.4828	7.8521	9.2222	9.6364	9.9746	12.967	16.571
21	6.5948	6.6592	8.0016	9.3789	9.7978	10.142	13.161	16.785
21.1	6.768	6.8336	8.1512	9.5358	9.9592	10.31	13.356	16.999
21.2	6.9402	7.0062	8.3008	9.6929	10.121	10.477	13.551	17.213
21.3	7.1116	7.1772	8.4506	9.8506	10.284	10.646	13.747	17.426
21.4	7.2824	7.3468	8.6006	10.009	10.446	10.814	13.943	17.64
21.5	7.4529	7.5155	8.7504	10.167	10.608	10.983	14.139	17.854
21.6	7.6232	7.6832	8.9002	10.325	10.77	11.152	14.336	18.067
21.7	7.7936	7.8501	9.0502	10.483	10.933	11.321	14.533	18.28
21.8	7.9646	8.0168	9.2002	10.642	11.096	11.49	14.73	18.494
21.9	8.1369	8.1837	9.3502	10.801	11.259	11.659	14.927	18.707
22	8.3101	8.3513	9.5001	10.96	11.422	11.828	15.125	18.92
22.1	8.4838	8.5194	9.6501	11.119	11.585	11.998	15.323	19.133
22.2	8.6581	8.6879	9.7999	11.279	11.749	12.167	15.521	19.346
22.3	8.8327	8.8567	9.9496	11.438	11.913	12.337	15.72	19.56
22.4	9.0075	9.0261	10.099	11.598	12.077	12.507	15.919	19.773
22.5	9.1826	9.1961	10.249	11.758	12.241	12.677	16.117	19.986
22.6	9.3577	9.3669	10.398	11.918	12.405	12.847	16.316	20.198
22.7	9.5328	9.5383	10.547	12.079	12.569	13.017	16.515	20.411
22.8	9.7079	9.7103	10.697	12.239	12.734	13.188	16.714	20.624
22.9	9.8827	9.8827	10.846	12.399	12.898	13.359	16.913	20.837

r →	0	10	20	25	30	35	40	50
t								
23	10.057	10.055	10.995	12.559	13.062	13.53	17.112	21.049
23.1	10.231	10.228	11.146	12.72	13.227	13.701	17.311	21.262
23.2	10.405	10.4	11.296	12.882	13.392	13.872	17.51	21.475
23.3	10.578	10.571	11.447	13.044	13.558	14.043	17.71	21.687
23.4	10.751	10.742	11.598	13.206	13.724	14.214	17.91	21.9
23.5	10.923	10.912	11.749	13.369	13.89	14.386	18.109	22.112
23.6	11.094	11.081	11.901	13.532	14.056	14.558	18.309	22.325
23.7	11.265	11.25	12.052	13.695	14.222	14.73	18.508	22.537
23.8	11.435	11.419	12.204	13.858	14.389	14.902	18.708	22.75
23.9	11.604	11.587	12.356	14.022	14.555	15.074	18.908	22.962
24	11.774	11.754	12.508	14.186	14.722	15.246	19.108	23.174
24.1	11.943	11.921	12.66	14.35	14.889	15.418	19.308	23.387
24.2	12.113	12.089	12.812	14.515	15.057	15.59	19.507	23.599
24.3	12.283	12.256	12.965	14.679	15.224	15.762	19.707	23.811
24.4	12.453	12.424	13.118	14.845	15.392	15.934	19.907	24.024
24.5	12.624	12.593	13.271	15.011	15.559	16.106	20.107	24.236
24.6	12.795	12.761	13.424	15.177	15.727	16.283	20.307	24.448
24.7	12.967	12.93	13.577	15.343	15.896	16.465	20.507	24.66
24.8	13.139	13.099	13.73	15.509	16.064	16.648	20.707	24.872
24.9	13.311	13.268	13.882	15.675	16.232	16.83	20.908	25.084
25	13.484	13.438	14.035	15.842	16.4	17.013	21.108	25.295
25.1	13.657	13.607	14.188	16.009	16.569	17.196	21.309	25.507
25.2	13.829	13.777	14.342	16.176	16.738	17.379	21.509	25.719
25.3	14.002	13.946	14.495	16.343	16.906	17.562	21.71	25.93
25.4	14.174	14.116	14.649	16.51	17.075	17.746	21.911	26.142
25.5	14.346	14.285	14.803	16.677	17.244	17.929	22.112	26.353
25.6	14.518	14.454	14.957	16.845	17.413	18.113	22.313	26.565
25.7	14.69	14.623	15.111	17.013	17.583	18.297	22.514	26.777
25.8	14.861	14.792	15.265	17.181	17.753	18.48	22.715	26.988
25.9	15.033	14.961	15.419	17.35	17.923	18.664	22.916	27.2
26	15.204	15.129	15.574	17.519	18.093	18.848	23.117	27.411
26.1	15.374	15.298	15.728	17.688	18.263	19.033	23.318	27.622
26.2	15.545	15.465	15.882	17.857	18.433	19.217	23.52	27.834
26.3	15.716	15.633	16.037	18.027	18.603	19.402	23.721	28.045
26.4	15.887	15.801	16.191	18.197	18.773	19.586	23.923	28.256
26.5	16.058	15.969	16.345	18.366	18.943	19.771	24.124	28.468
26.6	16.229	16.136	16.498	18.536	19.114	19.956	24.326	28.679
26.7	16.4	16.304	16.652	18.706	19.284	20.141	24.527	28.89
26.8	16.571	16.472	16.806	18.876	19.454	20.327	24.729	29.102
26.9	16.742	16.639	16.959	19.047	19.625	20.512	24.93	29.313

r →	0	10	20	25	30	35	40	50
t								
27	16.914	16.807	17.113	19.217	19.795	20.697	25.132	29.524
27.1	17.085	16.974	17.266	19.387	19.966	20.882	25.333	29.735
27.2	17.257	17.142	17.419	19.557	20.137	21.068	25.535	29.946
27.3	17.428	17.309	17.572	19.728	20.308	21.254	25.736	30.157
27.4	17.6	17.477	17.726	19.898	20.479	21.44	25.938	30.368
27.5	17.771	17.644	17.879	20.069	20.65	21.625	26.14	30.579
27.6	17.943	17.812	18.033	20.24	20.821	21.811	26.342	30.79
27.7	18.114	17.979	18.187	20.411	20.993	21.997	26.544	31.001
27.8	18.286	18.147	18.34	20.583	21.164	22.182	26.746	31.212
27.9	18.457	18.314	18.494	20.754	21.336	22.368	26.948	31.423
28	18.628	18.481	18.648	20.926	21.508	22.554	27.15	31.634
28.1	18.799	18.649	18.802	21.098	21.68	22.739	27.352	31.845
28.2	18.97	18.816	18.956	21.27	21.851	22.925	27.554	32.055
28.3	19.141	18.983	19.11	21.442	22.023	23.111	27.756	32.266
28.4	19.312	19.15	19.264	21.614	22.195	23.297	27.959	32.476
28.5	19.483	19.316	19.418	21.786	22.368	23.483	28.161	32.687
28.6	19.653	19.483	19.572	21.958	22.541	23.67	28.363	32.897
28.7	19.824	19.649	19.726	22.131	22.713	23.856	28.565	33.108
28.8	19.994	19.815	19.879	22.304	22.886	24.042	28.768	33.318
28.9	20.164	19.981	20.033	22.478	23.059	24.229	28.97	33.528
29	20.335	20.147	20.186	22.652	23.232	24.415	29.172	33.738
29.1	20.505	20.312	20.339	22.824	23.406	24.602	29.375	33.948
29.2	20.675	20.478	20.493	22.997	23.579	24.788	29.577	34.158
29.3	20.845	20.644	20.646	23.171	23.752	24.975	29.78	34.368
29.4	21.015	20.809	20.799	23.344	23.926	25.162	29.982	34.578
29.5	21.185	20.974	20.953	23.518	24.099	25.349	30.185	34.788
29.6	21.355	21.139	21.106	23.691	24.273	25.536	30.388	34.997
29.7	21.524	21.305	21.26	23.865	24.447	25.723	30.59	35.207
29.8	21.694	21.47	21.413	24.038	24.62	25.91	30.793	35.417
29.9	21.863	21.635	21.567	24.212	24.793	26.097	30.996	35.626
30	22.032	21.8	21.721	24.386	24.967	26.284	31.198	35.836
30.1	22.202	21.965	21.875	24.561	25.141	26.471	31.401	36.045
30.2	22.371	22.13	22.029	24.735	25.314	26.658	31.604	36.255
30.3	22.54	22.295	22.183	24.909	25.488	26.845	31.806	36.464
30.4	22.709	22.46	22.337	25.083	25.662	27.033	32.009	36.673
30.5	22.878	22.625	22.491	25.257	25.836	27.22	32.211	36.882
30.6	23.046	22.79	22.645	25.431	26.01	27.407	32.414	37.091
30.7	23.215	22.955	22.799	25.606	26.184	27.595	32.617	37.3
30.8	23.384	23.12	22.953	25.781	26.358	27.782	32.82	37.509
30.9	23.552	23.284	23.107	25.956	26.532	27.97	33.024	37.718

r →	0	10	20	25	30	35	40	50
t								
31	23.721	23.448	23.261	26.131	26.706	28.158	33.228	37.927
31.1	23.889	23.613	23.415	26.306	26.88	28.345	33.431	38.135
31.2	24.057	23.777	23.569	26.481	27.054	28.533	33.634	38.344
31.3	24.224	23.941	23.724	26.657	27.228	28.721	33.837	38.553
31.4	24.392	24.105	23.878	26.832	27.402	28.909	34.039	38.761
31.5	24.559	24.269	24.033	27.008	27.577	29.097	34.243	38.969
31.6	24.727	24.432	24.187	27.183	27.751	29.285	34.445	39.178
31.7	24.894	24.596	24.342	27.359	27.925	29.472	34.648	39.386
31.8	25.061	24.759	24.497	27.534	28.099	29.66	34.851	39.594
31.9	25.227	24.923	24.652	27.71	28.273	29.849	35.054	39.803
32	25.394	25.086	24.807	27.886	28.447	30.037	35.258	40.011
32.1	25.561	25.249	24.962	28.062	28.62	30.225	35.461	40.219
32.2	25.727	25.413	25.117	28.238	28.794	30.413	35.664	40.427
32.3	25.893	25.576	25.272	28.414	28.969	30.602	35.867	40.635
32.4	26.059	25.739	25.428	28.59	29.143	30.79	36.07	40.843
32.5	26.225	25.902	25.583	28.766	29.317	30.979	36.274	41.051
32.6	26.391	26.065	25.739	28.943	29.491	31.168	36.477	41.259
32.7	26.557	26.228	25.894	29.119	29.666	31.357	36.68	41.467
32.8	26.723	26.392	26.05	29.296	29.84	31.546	36.884	41.674
32.9	26.888	26.555	26.206	29.472	30.015	31.735	37.087	41.882
33	27.053	26.717	26.361	29.649	30.189	31.924	37.29	42.09
33.1	27.218	26.88	26.517	29.826	30.364	32.114	37.494	42.297
33.2	27.383	27.043	26.673	30.003	30.539	32.303	37.697	42.505
33.3	27.548	27.206	26.829	30.18	30.714	32.493	37.901	42.712
33.4	27.713	27.368	26.985	30.358	30.889	32.683	38.104	42.919
33.5	27.877	27.53	27.141	30.535	31.063	32.872	38.308	43.127
33.6	28.041	27.692	27.297	30.712	31.238	33.062	38.511	43.334
33.7	28.205	27.853	27.453	30.89	31.413	33.252	38.715	43.541
33.8	28.369	28.015	27.609	31.067	31.588	33.442	38.919	43.748
33.9	28.533	28.177	27.765	31.244	31.762	33.633	39.122	43.956
34	28.696	28.339	27.921	31.421	31.937	33.823	39.326	44.163
34.1	28.859	28.5	28.077	31.599	32.113	34.013	39.53	44.37
34.2	29.023	28.662	28.233	31.776	32.287	34.203	39.733	44.577
34.3	29.186	28.823	28.39	31.954	32.462	34.393	39.937	44.784
34.4	29.348	28.985	28.546	32.131	32.637	34.583	40.141	44.991
34.5	29.511	29.146	28.702	32.309	32.812	34.774	40.345	45.197
34.6	29.674	29.307	28.859	32.487	32.986	34.964	40.548	45.404
34.7	29.836	29.468	29.015	32.665	33.161	35.154	40.752	45.611
34.8	29.999	29.63	29.171	32.843	33.335	35.344	40.956	45.818
34.9	30.161	29.791	29.328	33.021	33.51	35.534	41.16	46.024

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t								
35	30.324	29.952	29.484	33.199	33.684	35.724	41.363	46.231
35.1	30.486	30.113	29.641	33.378	33.859	35.915	41.567	46.437
35.2	30.648	30.273	29.797	33.556	34.034	36.105	41.771	46.643
35.3	30.81	30.434	29.954	33.734	34.209	36.296	41.974	46.85
35.4	30.971	30.595	30.11	33.912	34.384	36.486	42.178	47.056
35.5	31.133	30.755	30.267	34.091	34.558	36.677	42.382	47.262
35.6	31.294	30.916	30.424	34.269	34.733	36.868	42.585	47.468
35.7	31.455	31.076	30.581	34.447	34.907	37.059	42.789	47.674
35.8	31.616	31.236	30.738	34.626	35.081	37.25	42.992	47.88
35.9	31.777	31.397	30.895	34.805	35.256	37.44	43.196	48.087
36	31.938	31.557	31.052	34.984	35.431	37.631	43.399	48.293
36.1	32.098	31.716	31.209	35.163	35.605	37.822	43.603	48.499
36.2	32.259	31.876	31.366	35.342	35.78	38.014	43.806	48.705
36.3	32.419	32.036	31.523	35.521	35.954	38.205	44.009	48.911
36.4	32.579	32.195	31.68	35.7	36.128	38.396	44.213	49.117
36.5	32.739	32.355	31.837	35.879	36.302	38.588	44.416	49.322
36.6	32.898	32.514	31.995	36.058	36.477	38.779	44.619	49.528
36.7	33.058	32.674	32.152	36.237	36.651	38.972	44.823	49.734
36.8	33.218	32.833	32.31	36.416	36.825	39.163	45.026	49.939
36.9	33.377	32.992	32.467	36.595	36.999	39.354	45.229	50.145
37	33.537	33.151	32.625	36.775	37.173	39.547	45.432	50.351
37.1	33.696	33.31	32.782	36.954	37.348	39.739	45.635	50.556
37.2	33.855	33.468	32.94	37.133	37.522	39.932	45.838	50.762
37.3	34.014	33.627	33.098	37.313	37.696	40.124	46.041	50.968
37.4	34.173	33.786	33.256	37.492	37.87	40.316	46.245	51.173
37.5	34.331	33.944	33.414	37.672	38.044	40.508	46.448	51.379
37.6	34.49	34.103	33.572	37.851	38.218	40.7	46.651	51.584
37.7	34.648	34.261	33.73	38.031	38.392	40.893	46.854	51.79
37.8	34.807	34.419	33.888	38.21	38.566	41.085	47.057	51.995
37.9	34.965	34.577	34.046	38.39	38.739	41.278	47.26	52.2
38	35.123	34.735	34.205	38.57	38.913	41.47	47.463	52.406
38.1	35.281	34.892	34.363	38.749	39.087	41.663	47.666	52.611
38.2	35.438	35.05	34.521	38.929	39.261	41.856	47.868	52.816
38.3	35.596	35.207	34.679	39.108	39.435	42.048	48.071	53.022
38.4	35.753	35.365	34.838	39.288	39.609	42.241	48.274	53.227
38.5	35.91	35.522	34.996	39.468	39.782	42.434	48.477	53.432
38.6	36.067	35.679	35.155	39.648	39.956	42.626	48.68	53.637
38.7	36.224	35.836	35.313	39.828	40.13	42.819	48.883	53.842
38.8	36.381	35.993	35.471	40.008	40.303	43.012	49.085	54.047
38.9	36.537	36.149	35.63	40.188	40.477	43.205	49.288	54.252

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t								
39	36.694	36.306	35.788	40.368	40.65	43.398	49.491	54.456
39.1	36.85	36.463	35.947	40.548	40.824	43.591	49.694	54.661
39.2	37.006	36.619	36.106	40.728	40.997	43.785	49.896	54.866
39.3	37.162	36.777	36.265	40.908	41.17	43.978	50.099	55.071
39.4	37.318	36.933	36.424	41.088	41.343	44.172	50.302	55.276
39.5	37.474	37.089	36.582	41.269	41.517	44.365	50.505	55.481
39.6	37.63	37.246	36.741	41.449	41.69	44.558	50.708	55.686
39.7	37.786	37.402	36.9	41.63	41.863	44.751	50.91	55.89
39.8	37.941	37.558	37.059	41.81	42.036	44.944	51.113	56.095
39.9	38.096	37.714	37.219	41.991	42.208	45.138	51.316	56.3
40	38.251	37.87	37.378	42.171	42.381	45.331	51.518	56.504
40.1	38.406	38.025	37.537	42.352	42.554	45.523	51.721	56.709
40.2	38.561	38.181	37.696	42.532	42.727	45.717	51.924	56.914
40.3	38.716	38.336	37.855	42.713	42.899	45.91	52.126	57.118
40.4	38.87	38.491	38.015	42.894	43.072	46.103	52.329	57.323
40.5	39.025	38.646	38.174	43.074	43.244	46.296	52.531	57.527
40.6	39.179	38.802	38.334	43.255	43.416	46.489	52.734	57.732
40.7	39.333	38.956	38.493	43.436	43.589	46.682	52.936	57.936
40.8	39.487	39.111	38.653	43.617	43.761	46.875	53.139	58.14
40.9	39.641	39.266	38.812	43.798	43.933	47.069	53.342	58.345
41	39.794	39.42	38.972	43.979	44.105	47.262	53.544	58.549
41.1	39.948	39.575	39.132	44.16	44.277	47.455	53.747	58.753
41.2	40.101	39.729	39.292	44.341	44.449	47.648	53.95	58.957
41.3	40.254	39.884	39.451	44.522	44.621	47.842	54.153	59.162
41.4	40.407	40.038	39.611	44.703	44.793	48.035	54.356	59.366
41.5	40.56	40.192	39.771	44.884	44.965	48.228	54.558	59.57
41.6	40.714	40.346	39.931	45.065	45.137	48.421	54.761	59.774
41.7	40.867	40.5	40.092	45.246	45.309	48.614	54.964	59.978
41.8	41.02	40.655	40.252	45.427	45.481	48.808	55.166	60.182
41.9	41.173	40.809	40.412	45.609	45.653	49.001	55.369	60.386
42	41.326	40.963	40.572	45.79	45.825	49.194	55.571	60.59
42.1	41.479	41.117	40.733	45.97	45.996	49.387	55.774	60.794
42.2	41.632	41.271	40.893	46.152	46.168	49.58	55.977	60.998
42.3	41.785	41.425	41.054	46.333	46.34	49.774	56.18	61.202
42.4	41.937	41.579	41.215	46.514	46.511	49.967	56.383	61.406
42.5	42.09	41.733	41.375	46.695	46.683	50.16	56.586	61.609
42.6	42.243	41.887	41.536	46.877	46.855	50.353	56.788	61.813
42.7	42.396	42.04	41.698	47.058	47.026	50.547	56.991	62.017
42.8	42.548	42.194	41.859	47.24	47.197	50.74	57.193	62.221
42.9	42.701	42.347	42.02	47.421	47.369	50.933	57.396	62.425

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t								
43	42.853	42.501	42.181	47.602	47.54	51.127	57.599	62.629
43.1	43.006	42.654	42.342	47.783	47.711	51.32	57.802	62.832
43.2	43.158	42.807	42.503	47.965	47.882	51.514	58.004	63.036
43.3	43.31	42.961	42.665	48.147	48.053	51.707	58.207	63.24
43.4	43.463	43.114	42.826	48.328	48.225	51.9	58.41	63.443
43.5	43.615	43.267	42.987	48.51	48.396	52.094	58.613	63.647
43.6	43.767	43.42	43.149	48.692	48.567	52.287	58.815	63.85
43.7	43.92	43.573	43.311	48.874	48.739	52.48	59.018	64.054
43.8	44.072	43.726	43.472	49.056	48.91	52.674	59.221	64.257
43.9	44.224	43.879	43.634	49.237	49.081	52.867	59.424	64.461
44	44.376	44.032	43.796	49.419	49.252	53.061	59.627	64.664
44.1	44.529	44.186	43.958	49.601	49.423	53.254	59.83	64.868
44.2	44.681	44.339	44.12	49.783	49.593	53.447	60.033	65.071
44.3	44.833	44.492	44.282	49.965	49.763	53.641	60.235	65.274
44.4	44.986	44.645	44.444	50.146	49.934	53.835	60.438	65.478
44.5	45.138	44.798	44.606	50.328	50.105	54.029	60.641	65.681
44.6	45.29	44.951	44.769	50.51	50.276	54.222	60.843	65.884
44.7	45.443	45.104	44.932	50.692	50.447	54.416	61.046	66.088
44.8	45.595	45.257	45.095	50.874	50.617	54.609	61.249	66.291
44.9	45.747	45.41	45.258	51.055		54.803	61.451	66.494
45	45.899	45.562	45.42	51.237		54.997	61.654	66.697
45.1	46.051	45.715	45.583	51.419		55.19	61.856	66.899
45.2	46.204	45.868	45.746	51.6		55.384	62.059	67.102
45.3	46.356	46.021	45.909	51.782		55.577	62.261	67.305
45.4	46.508	46.174	46.071	51.964		55.771	62.464	67.507
45.5	46.66	46.327	46.234	52.145		55.964	62.667	67.71
45.6	46.812	46.48	46.397	52.327		56.157	62.87	67.913
45.7	46.964	46.632	46.56	52.509		56.351	63.074	68.116
45.8	47.116	46.785	46.723	52.691		56.545	63.276	68.318
45.9	47.269	46.938	46.887	52.872		56.738	63.479	68.521
46	47.421	47.091	47.05	53.054		56.932	63.682	68.724
46.1	47.573	47.244	47.213	53.236		57.126	63.884	68.926
46.2	47.725	47.397	47.377	53.419		57.319	64.087	69.128
46.3	47.877	47.549	47.54	53.601		57.513	64.29	69.331
46.4	48.029	47.702	47.704	53.783		57.707	64.493	69.533
46.5	48.181	47.855	47.868	53.965		57.9	64.696	69.736
46.6	48.332	48.008	48.031	54.147		58.094	64.899	69.938
46.7	48.484	48.161	48.195	54.329		58.287	65.101	70.14
46.8	48.636	48.313	48.359	54.511		58.481	65.303	70.343
46.9	48.788	48.465	48.523	54.693		58.675	65.506	70.545

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t								
47	48.939	48.618	48.688	54.876		58.868	65.709	70.748
47.1	49.091	48.771	48.852	55.058		59.062	65.911	70.95
47.2	49.243	48.923	49.016	55.24		59.256	66.114	71.152
47.3	49.394	49.076	49.18	55.422		59.45	66.317	71.355
47.4	49.546	49.229	49.344	55.604		59.643	66.52	71.557
47.5	49.698	49.381	49.509	55.787		59.837	66.723	71.759
47.6	49.85	49.534	49.673	55.969		60.031	66.925	71.961
47.7	50.001	49.686	49.838	56.151		60.225	67.128	72.163
47.8	50.152	49.839	50.003	56.333		60.419	67.331	72.366
47.9	50.303	49.991	50.167	56.516		60.612	67.534	72.568
48	50.454	50.143	50.332	56.698		60.806	67.736	72.77
48.1	50.605	50.295	50.497	56.88		61	67.939	72.972
48.2	50.756	50.448	50.661	57.062		61.194	68.142	73.174
48.3	50.907	50.6	50.826	57.245		61.388	68.344	73.376
48.4	51.059	50.753	50.991	57.427		61.582	68.547	73.578
48.5	51.211	50.905	51.156	57.61		61.776	68.749	73.78
48.6	51.362	51.058	51.321	57.792		61.97	68.951	73.983
48.7	51.514	51.21	51.486	57.975		62.164	69.154	74.185
48.8	51.667	51.363	51.651	58.157		62.358	69.356	74.387
48.9	51.819	51.515	51.817	58.339		62.552	69.559	74.589
49	51.971	51.668	51.982	58.522		62.746	69.762	74.791
49.1	52.123	51.82	52.147	58.705		62.94	69.965	74.993
49.2	52.275	51.973	52.312	58.887		63.134	70.167	75.195
49.3	52.427	52.125	52.478	59.069		63.328	70.37	75.397
49.4	52.579	52.277	52.644	59.252		63.522	70.573	75.599
49.5	52.731	52.429	52.809	59.435		63.716	70.776	75.801
49.6	52.883	52.582	52.975	59.617		63.91	70.978	76.003
49.7	53.035	52.733	53.141	59.799		64.104	71.181	76.205
49.8	53.187	52.885	53.307	59.982		64.298	71.383	76.407
49.9	53.338	53.037	53.472	60.164		64.492	71.585	76.609
50	53.49	53.189	53.638	60.346		64.686	71.788	76.812
50.1	53.642	53.341	53.804	60.529		64.881	71.99	77.014
50.2	53.793	53.493	53.97	60.712		65.075	72.193	77.216
50.3	53.945	53.646	54.135	60.894		65.269	72.396	77.418
50.4	54.097	53.798	54.301	61.077		65.462	72.599	77.62
50.5	54.248	53.95	54.467	61.26		65.656	72.801	77.822
50.6	54.4	54.103	54.633	61.443		65.85	73.004	78.024
50.7	54.552	54.256	54.799	61.626		66.044	73.206	78.226
50.8	54.703	54.409	54.966	61.808		66.238	73.409	78.429
50.9	54.855	54.561	55.132	61.991		66.432	73.611	78.631

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t								
51	55.006	54.714	55.298	62.174		66.627	73.814	78.833
51.1	55.158	54.867	55.465	62.356		66.821	74.017	79.035
51.2	55.31	55.02	55.631	62.539		67.015	74.219	79.237
51.3	55.461	55.173	55.797	62.722		67.21	74.422	79.439
51.4	55.613	55.326	55.963	62.905		67.404	74.625	79.641
51.5	55.764	55.479	56.13	63.087		67.598	74.827	79.843
51.6	55.915	55.632	56.296	63.27		67.793	75.03	80.045
51.7	56.067	55.786	56.462	63.454		67.987	75.233	80.247
51.8	56.219	55.939	56.629	63.637		68.18	75.435	80.45
51.9	56.37	56.092	56.795	63.82		68.374	75.638	80.652
52	56.522	56.246	56.962	64.003		68.568	75.84	80.854
52.1	56.673	56.399	57.128	64.185		68.762	76.043	81.056
52.2	56.825	56.553	57.295	64.368		68.956	76.245	81.258
52.3	56.976	56.706	57.461	64.551		69.149	76.448	81.46
52.4	57.128	56.859	57.628	64.733		69.344	76.651	81.662
52.5	57.279	57.012	57.795	64.916		69.538	76.853	81.864
52.6	57.431	57.165	57.962	65.099		69.732	77.056	82.067
52.7	57.582	57.319	58.128	65.282		69.926	77.258	82.269
52.8	57.733	57.472	58.295	65.465		70.12	77.461	82.471
52.9	57.884	57.625	58.461	65.648		70.315	77.663	82.673
53	58.036	57.778	58.628	65.83		70.51	77.866	82.876
53.1	58.187	57.931	58.794	66.013		70.705	78.068	83.078
53.2	58.339	58.084	58.961	66.196		70.899	78.271	83.28
53.3	58.49	58.237	59.128	66.379		71.094	78.473	83.482
53.4	58.641	58.391	59.295	66.562		71.289	78.676	83.684
53.5	58.792	58.544	59.462	66.745		71.483	78.879	83.886
53.6	58.944	58.697	59.629	66.927		71.677	79.081	84.088
53.7	59.095	58.851	59.796	67.11		71.871	79.284	84.291
53.8	59.246	59.005	59.963	67.293		72.066	79.486	84.493
53.9	59.398	59.158	60.13	67.476		72.26	79.689	84.695
54	59.549	59.312	60.297	67.659		72.455	79.891	84.897
54.1	59.701	59.465	60.464	67.842		72.65	80.094	85.099
54.2	59.853	59.619	60.631	68.024		72.845	80.296	85.301
54.3	60.004	59.772	60.798	68.207		73.04	80.499	85.503
54.4	60.156	59.925	60.965	68.39		73.235	80.701	85.705
54.5	60.307	60.079	61.132	68.573		73.43	80.904	85.908
54.6	60.459	60.232	61.3	68.756		73.625	81.107	86.11
54.7	60.61	60.386	61.467	68.939		73.82	81.311	86.311
54.8	60.762	60.539	61.634	69.122		74.014	81.514	86.514
54.9	60.913	60.693	61.801	69.306		74.208	81.717	86.716

r →	0	10	20	25	30	35	40	50
t								
55	61.065	60.846	61.968	69.489		74.403	81.919	86.918
55.1	61.216	61	62.135	69.672		74.598	82.122	87.12
55.2	61.368	61.154	62.302	69.855		74.793	82.324	87.322
55.3	61.519	61.307	62.47	70.039		74.988	82.527	87.523
55.4	61.671	61.461	62.638	70.222		75.183	82.729	87.725
55.5	61.823	61.615	62.806	70.406		75.377	82.932	87.927
55.6	61.974	61.769	62.973	70.589		75.572	83.134	88.129
55.7	62.126	61.922	63.141	70.773		75.766	83.337	88.331
55.8	62.278	62.076	63.308	70.956		75.961	83.539	88.533
55.9	62.429	62.23	63.475	71.139		76.155	83.742	88.735
56	62.581	62.384	63.643	71.323		76.351	83.944	88.937
56.1	62.732	62.538	63.81	71.507		76.546	84.147	89.139
56.2	62.884	62.692	63.978	71.691		76.74	84.35	89.341
56.3	63.036	62.845	64.145	71.874		76.935	84.552	89.543
56.4	63.187	62.999	64.312	72.057		77.13	84.755	89.745
56.5	63.339	63.153	64.48	72.241		77.325	84.957	89.947
56.6	63.491	63.307	64.647	72.425		77.52	85.159	90.148
56.7	63.643	63.461	64.815	72.608		77.715	85.362	90.35
56.8	63.794	63.615	64.982	72.791		77.91	85.565	90.552
56.9	63.946	63.77	65.149	72.975		78.106	85.767	90.753
57	64.098	63.924	65.317	73.158		78.301	85.97	90.955
57.1	64.25	64.078	65.484	73.342		78.496	86.172	91.157
57.2	64.402	64.232	65.652	73.525		78.691	86.375	91.359
57.3	64.554	64.386	65.819	73.709		78.886	86.578	91.56
57.4	64.706	64.541	65.987	73.892		79.081	86.78	91.762
57.5	64.858	64.695	66.154	74.075		79.276	86.983	91.964
57.6	65.01	64.849	66.322	74.259		79.471	87.186	92.166
57.7	65.163	65.004	66.49	74.442		79.665	87.388	92.368
57.8	65.315	65.158	66.657	74.625		79.861	87.591	92.57
57.9	65.467	65.313	66.825	74.808		80.055	87.794	92.771
58	65.619	65.467	66.992	74.991		80.249	87.997	92.973
58.1	65.771	65.622	67.16			80.444	88.2	93.175
58.2	65.923	65.777	67.327			80.639	88.403	93.377
58.3	66.075	65.932	67.495			80.834	88.605	93.578
58.4	66.227	66.087	67.663			81.029	88.808	93.78
58.5	66.379	66.241	67.831			81.224	89.01	93.981
58.6	66.532	66.396	67.998			81.419	89.213	94.183
58.7	66.684	66.55	68.165			81.613	89.417	94.384
58.8	66.836	66.705	68.333			81.808	89.62	94.586
58.9	66.988	66.859	68.501			82.001	89.822	94.788

r →	0	10	20	25	30	35	40	50
t								
59	67.14	67.014	68.669			82.195	90.025	94.989
59.1	67.293	67.168	68.836			82.389	90.226	95.191
59.2	67.445	67.323	69.004			82.583	90.428	95.392
59.3	67.597	67.478	69.172			82.777	90.63	95.594
59.4	67.749	67.633				82.972	90.832	95.795
59.5	67.902	67.787				83.167	91.034	95.997
59.6	68.054	67.942				83.362	91.237	96.199
59.7	68.207	68.097				83.557	91.439	96.401
59.8	68.359	68.253				83.752	91.641	96.603
59.9	68.511	68.408				83.947	91.844	96.805
60	68.664	68.563				84.141	92.046	97.007
60.1	68.816	68.718				84.336	92.248	97.208
60.2	68.969	68.873				84.531	92.45	97.41
60.3	69.122	69.028				84.725	92.651	97.612
60.4	69.274	69.184				84.919	92.854	97.813
60.5	69.426	69.339				85.114	93.056	98.015
60.6	69.579	69.495				85.309	93.258	98.216
60.7	69.731	69.65				85.504	93.46	98.417
60.8	69.884	69.805				85.698	93.663	98.619
60.9	70.036	69.961				85.893	93.865	98.82
61	70.189	70.116				86.087	94.068	99.021
61.1	70.341	70.272					94.27	99.222
61.2	70.494	70.428					94.471	99.423
61.3	70.647	70.584					94.673	99.624
61.4	70.8	70.74					94.875	99.825
61.5	70.952	70.896					95.076	100.03
61.6	71.105	71.051					95.278	100.23
61.7	71.259	71.207					95.48	100.43
61.8	71.412	71.362					95.681	100.63
61.9	71.565	71.519					95.882	100.83
62	71.718	71.675					96.083	101.03
62.1	71.871	71.832					96.285	101.23
62.2	72.024	71.988					96.486	101.43
62.3	72.177	72.144					96.686	
62.4	72.33	72.3					96.886	
62.5	72.483	72.456					97.087	
62.6	72.635	72.612					97.288	
62.7	72.788	72.767					97.489	
62.8	72.941	72.922					97.69	
62.9	73.093	73.077					97.892	

r →	0	10	20	25	30	35	40	50
t								
63	73.245	73.233						
63.1	73.398	73.387						
63.2	73.55	73.542						
63.3	73.702	73.697						
63.4	73.855	73.852						
63.5	74.008	74.007						
63.6	74.161	74.163						
63.7	74.314	74.319						
63.8	74.467	74.475						
63.9	74.62	74.631						
64	74.774	74.786						
64.1	74.927	74.942						
64.2	75.081	75.096						
64.3	75.234	75.251						
64.4	75.388	75.406						
64.5	75.542	75.562						
64.6	75.696	75.718						
64.7	75.85	75.874						
64.8	76.004	76.03						
64.9	76.158	76.186						
65	76.313	76.343						
65.1	76.468	76.499						
65.2	76.622	76.655						
65.3	76.777	76.811						
65.4	76.932	76.969						
65.5	77.086	77.125						
65.6	77.24	77.281						
65.7	77.393	77.437						
65.8	77.547	77.593						
65.9	77.701	77.75						
66	77.855	77.905						
66.1	78.009	78.061						
66.2	78.163	78.217						
66.3	78.317	78.374						
66.4	78.471	78.531						
66.5	78.626	78.688						
66.6	78.781	78.845						
66.7	78.936	79.001						
66.8	79.091	79.158						
66.9	79.246	79.315						

r →	0	10	20	25	30	35	40	50
t								
67	79.401	79.473						
67.1	79.556	79.631						
67.2	79.712	79.789						
67.3	79.867	79.946						
67.4	80.023	80.104						
67.5	80.179	80.261						
67.6	80.335	80.419						
67.7	80.491	80.577						
67.8	80.646	80.735						
67.9	80.802	80.894						
68	80.958	81.051						
68.1	81.115	81.208						
68.2	81.272	81.365						
68.3	81.428	81.523						
68.4	81.585	81.681						
68.5	81.742	81.838						
68.6	81.899	81.994						
68.7		82.151						
68.8		82.308						
68.9		82.464						
69		82.62						
69.1		82.777						
69.2		82.935						
69.4		83.25						

2021E PT4 Diagnostic Plate Displacement Contour Table

Time referenced in microseconds from detonator circuit current start

Radial profiles vs time for PT4.

Displacements are given in mm.

Radius (mm)	t=15 μ s	t=20 μ s	t=25 μ s	t=30 μ s	t=35 μ s	t=40 μ s	t=45 μ s
0	0.127	4.879	13.494	22.042	30.333	38.261	45.909
10	0.181	5.005	13.444	21.806	29.958	37.875	45.567
20	0.438	6.503	14.031	21.717	29.480	37.374	45.416
25	0.796	7.809	15.828	24.373	33.186	42.158	51.222
30	0.746	8.181	16.393	24.957	33.686	42.371	50.846
35	1.045	8.697	17.234	26.504	35.946	45.550	55.215
40	2.050	11.219	21.095	31.187	41.351	51.506	61.643
50	3.783	14.560	25.214	35.755	46.149	56.424	66.616

JACK RABBIT PRETEST 2021E PT5

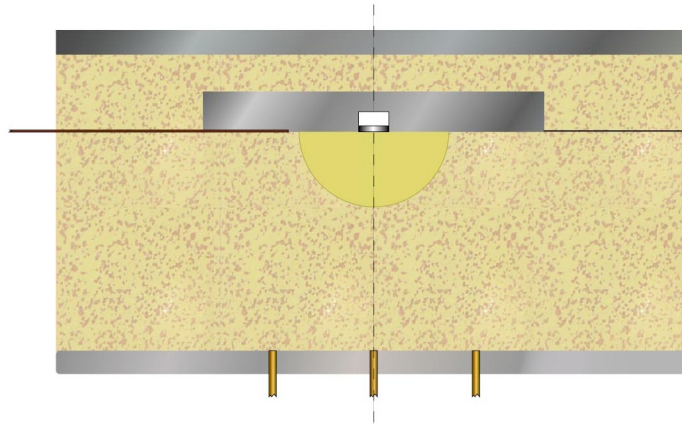


Figure 17. 2021E PT5 graphic cross section

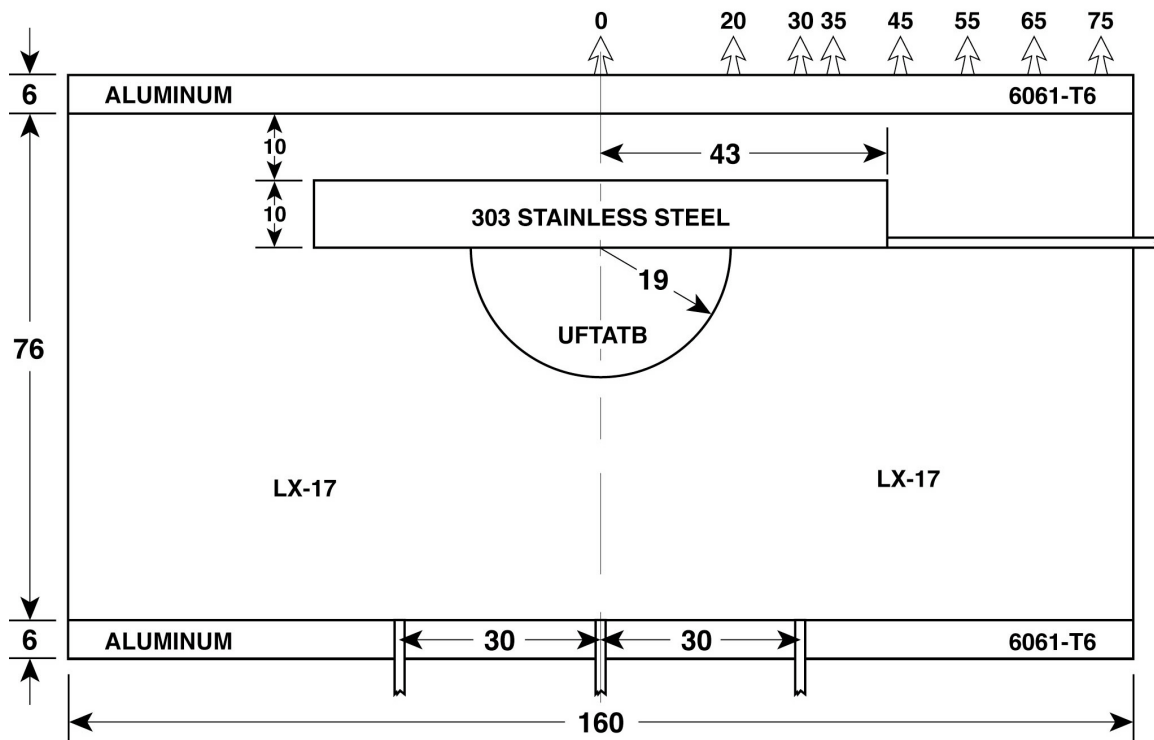


Figure 18. 2021E PT5 schematic cross section – dimensions in millimeters

The laser velocimetry points were measured on the aluminum diagnostic plate (top plate) at radial distances of 0, 20, 30, 35, 45, 55, 65 and 75 millimeters relative to the experiment's central axis. Seven timing pins were located on the bottom aluminum plate. One central surrounded by six in a circular pattern at 30 millimeters from the experiment's central axis. The hemispherical booster is pressed ultrafine TATB (UFTATB) and LX-17 is TATB with 7.5% Kel-F binder.

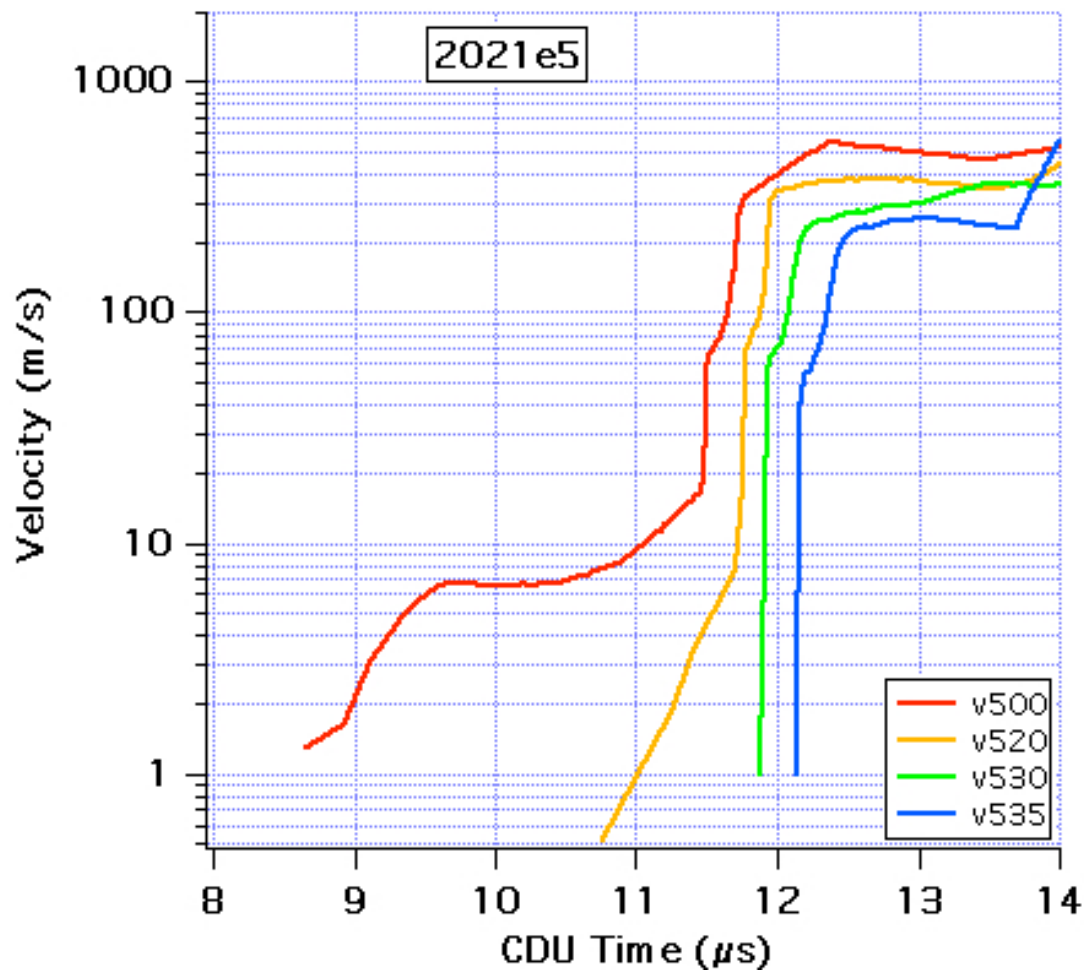


Figure 19. 2021E PT5 short time axis velocity plot for diagnostic plate radial measurement points 00, 20, 30, and 35; time is referenced from detonator circuit current start

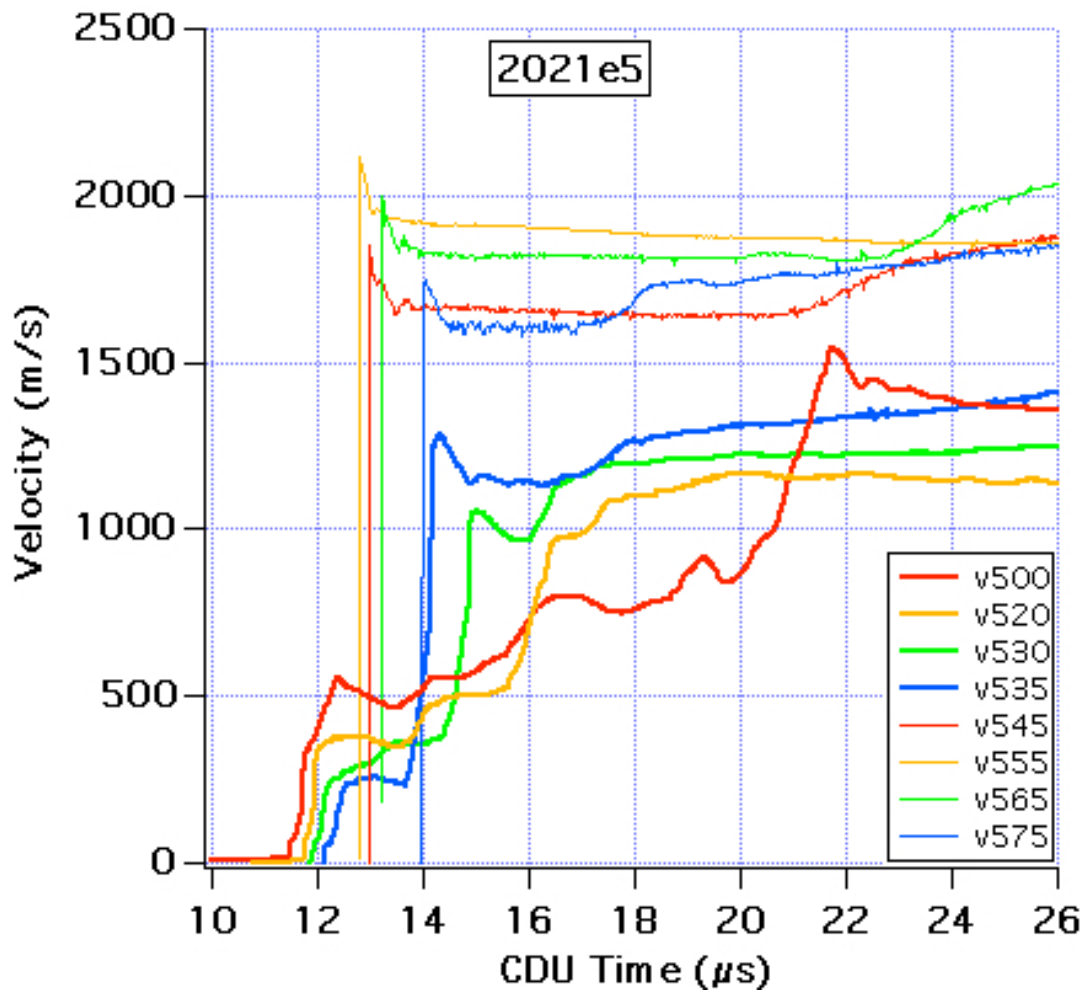


Figure 20. 2021E PT5 intermediate time axis velocity plot for diagnostic plate radial measurement points 00, 20, 30, 35, 45, 55, 65, and 75; time is referenced from detonator circuit current start

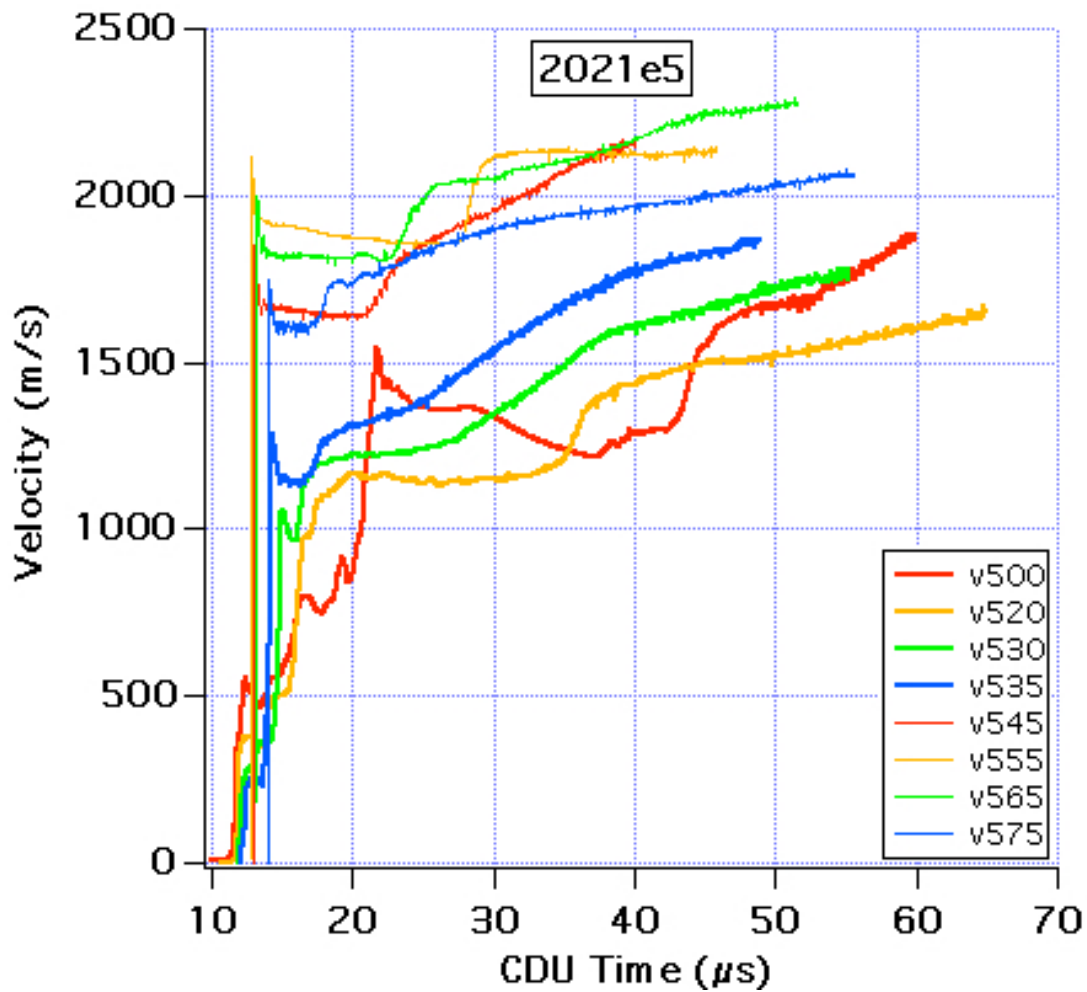


Figure 21. 2021E PT5 long time axis velocity plot for diagnostic plate radial measurement points 00, 20, 30, 35, 45, 55, 65, and 75; time is referenced from detonator circuit current start

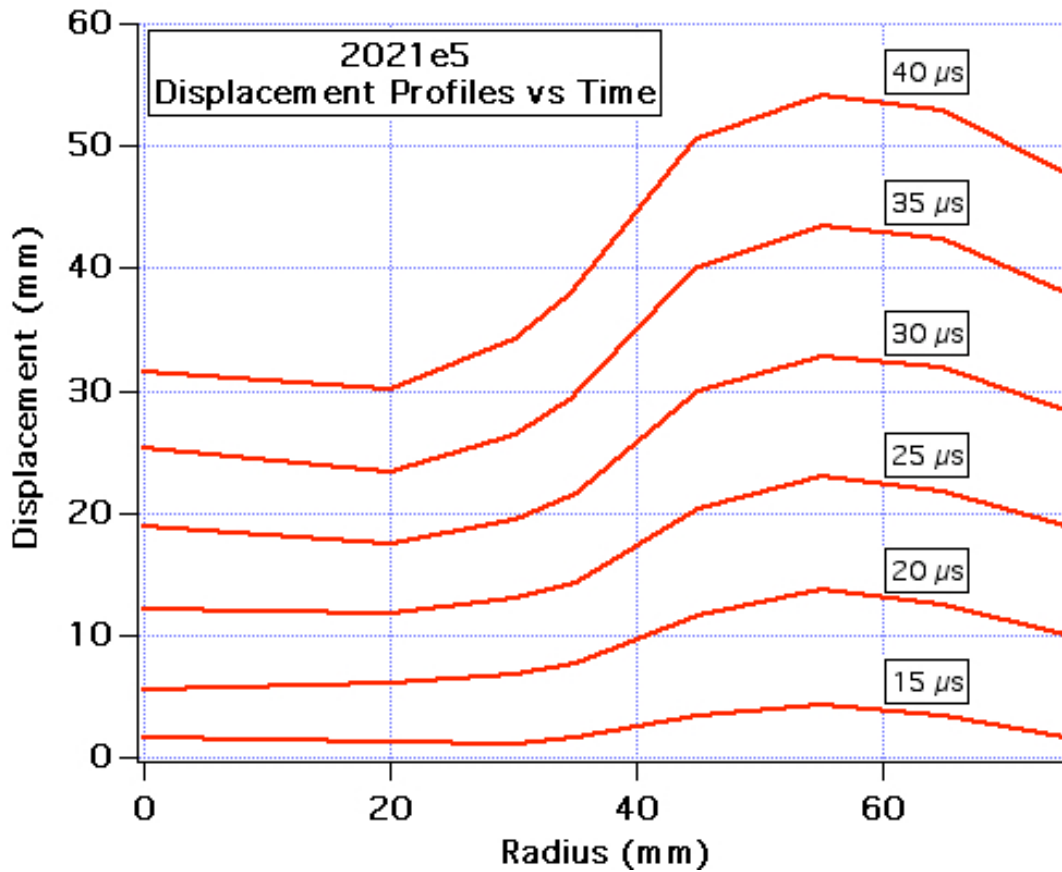


Figure 22. 2021E PT5 diagnostic plate displacement profiles; time is referenced from detonator circuit current start

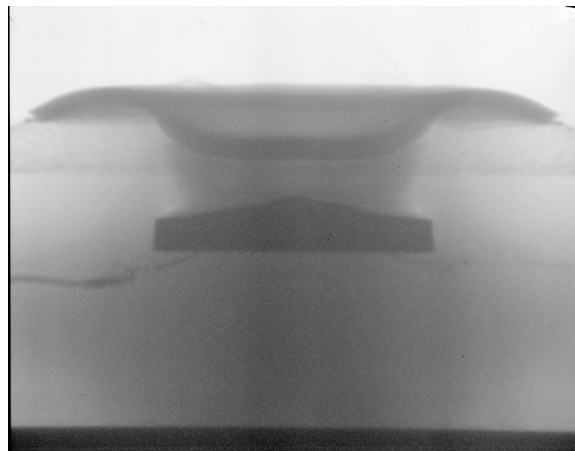


Figure 23. 2021E PT5 radiograph, 30 microseconds after detonator circuit current start, showing shadowplate, dead-zone conformation, dished diagnostic plate

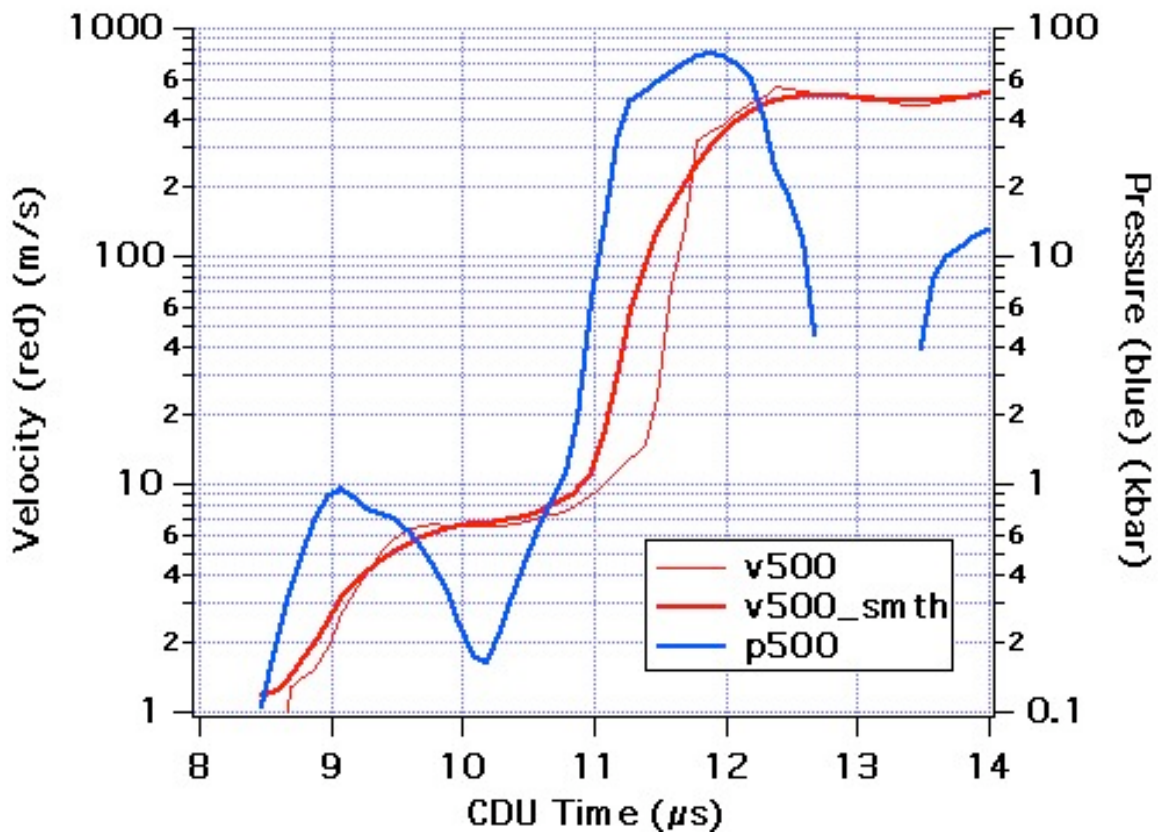


Figure 24. 2021E PT5 diagnostic plate velocity and pressure behind the diagnostic plate at the central axis, point 00; time is referenced from detonator circuit current start

2021E PT5 Diagnostic Plate Velocity Table

Diagnostic Plate Velocities of Jack Rabbit Pretest 2021E PT5; time is referenced in microseconds from detonator circuit current start.

Jack Rabbit Pretest 2021E PT5 VELOCITY Data								
Columnar data: meters per second								
absolute timing accuracy relative to time zero = +/- 0.025 microseconds								
relative timing uncertainty between data channels = +/- 0.005 microseconds								
z velocity uncertainty = +/- 5 percent of velocity								
PDV measurement point position uncertainty = +/- 0.25 millimeters								
r →	0	20	30	35	45	55	65	75
t								
8	0	0	0	0	0	0	0	0
8.1	0	0	0	0	0	0	0	0
8.2	0	0	0	0	0	0	0	0
8.3	0	0	0	0	0	0	0	0
8.4	0	0	0	0	0	0	0	0
8.5	0	0	0	0	0	0	0	0
8.6	0	0	0	0	0	0	0	0
8.7	1.3279	0	0	0	0	0	0	0
8.8	1.4631	0	0	0	0	0	0	0
8.9	1.5983	0	0	0	0	0	0	0
9	2.1076	0	0	0	0	0	0	0
9.1	2.8217	0	0	0	0	0	0	0
9.2	3.5247	0	0	0	0	0	0	0
9.3	4.2997	0	0	0	0	0	0	0
9.4	5.1261	0	0	0	0	0	0	0
9.5	5.9271	0	0	0	0	0	0	0
9.6	6.4728	0	0	0	0	0	0	0
9.7	6.6152	0	0	0	0	0	0	0
9.8	6.6276	0	0	0	0	0	0	0
9.9	6.462	0	0	0	0	0	0	0
10	6.5631	0	0	0	0	0	0	0
10.1	6.5755	0	0	0	0	0	0	0
10.2	6.6418	0	0	0	0	0	0	0
10.3	6.6018	0	0	0	0	0	0	0
10.4	6.7281	0	0	0	0	0	0	0
10.5	6.9486	0	0	0	0	0	0	0
10.6	7.1554	0	0	0	0	0	0	0
10.7	7.5463	0	0	0	0	0	0	0
10.8	7.8434	0.5907	0	0	0	0	0	0
10.9	8.4243	0.8644	0	0	0	0	0	0

r →	0	20	30	35	45	55	65	75
t								
11	9.2991	1.1382	0	0	0	0	0	0
11.1	10.314	1.412	0	0	0	0	0	0
11.2	11.796	1.6858	0	0	0	0	0	0
11.3	13.462	2.2707	0	0	0	0	0	0
11.4	15.299	3.2197	0	0	0	0	0	0
11.5	50.398	4.3764	0	0	0	0	0	0
11.6	78.685	5.7549	0	0	0	0	0	0
11.7	159.83	7.2813	0	0	0	0	0	0
11.8	328.01	72.346	0	0	0	0	0	0
11.9	357.88	121.41	7.8754	0	0	0	0	0
12	389.19	329.84	68.447	0	0	0	0	0
12.1	434.06	347.11	119.77	0	0	0	0	0
12.2	473.63	359.23	223.76	53.612	0	0	0	0
12.3	515.63	368.29	248.29	72.687	0	0	0	0
12.4	552.18	372.34	253.58	148.66	0	0	0	0
12.5	534.71	375.65	267.27	212.68	0	0	0	0
12.6	523.96	375.42	272.19	234.52	0	0	0	0
12.7	519.61	376.32	281.75	236.09	0	0	0	0
12.8	512.98	376.49	288.29	249.74	0	1185.6	0	0
12.9	501.82	376.17	291.48	251.53	0	2039.1	0	0
13	493.99	370.35	296.51	254.37	1828.8	1959.3	0	0
13.1	486.35	363.41	307.85	255.82	1747.6	1952	0	0
13.2	479.8	357.59	323.34	249.89	1743.6	1946.4	515.1	0
13.3	470.21	355.5	337.86	246.58	1702.2	1930.3	1937.8	0
13.4	464.29	347.9	347.91	240.88	1671.4	1929.7	1889.3	0
13.5	462.54	345.71	359.9	238.19	1649.4	1931.1	1851.1	0
13.6	471.33	345.15	361.22	232.39	1674.4	1923.6	1876	0
13.7	482.86	360.76	357.75	235.24	1686.7	1923.1	1851.7	0
13.8	493.86	374.02	354.64	317.29	1662.8	1922.3	1840.8	0
13.9	504.37	399.2	353.78	414.5	1661.9	1922.1	1824.1	0
14	519.27	438.48	356.68	542.07	1668.5	1917.7	1825.8	1726.4
14.1	539.81	460.96	359.77	659.96	1663.7	1914.9	1828.5	1717.4
14.2	551.95	472.22	366.23	1233.6	1663.5	1914.1	1825.3	1691.8
14.3	550.81	478.9	370.59	1276.6	1660.6	1913	1823.6	1651
14.4	549.77	488.45	380.29	1266.9	1670	1913.4	1821.4	1621.8
14.5	550.91	491.61	430.47	1238.9	1661.4	1911.2	1813.1	1614.7
14.6	552.75	495.58	480.33	1207.9	1665.9	1913.9	1824.8	1599.5
14.7	554.91	498.39	585.8	1183.1	1661.6	1912.9	1817.9	1614.6
14.8	556.9	501.48	706.68	1157.1	1664	1912.6	1815.8	1593.9
14.9	563.24	500.86	995.98	1138.7	1664.2	1910.3	1819.5	1619.6

r →	0	20	30	35	45	55	65	75
t								
15	572.32	499.96	1053.3	1144.2	1663.4	1913.4	1810.8	1609.9
15.1	583.78	500.51	1049.7	1160.1	1662.7	1911.4	1812.7	1599.5
15.2	595.65	503.38	1035.3	1160.3	1661.8	1910.8	1818	1608
15.3	604.62	507.05	1018.9	1152.8	1656.1	1912.1	1824.7	1613.9
15.4	610.99	511.5	1007	1146.6	1650.3	1910.5	1819.5	1620.5
15.5	617.57	516.85	988.62	1139.5	1651.3	1907.5	1818.7	1598.1
15.6	630.06	525.02	978.06	1134.7	1659.7	1909.8	1820.3	1606.3
15.7	655.05	563.63	967.02	1137.3	1652.9	1909.2	1824.5	1616.9
15.8	675.38	590.84	965.13	1143.7	1656.6	1907	1825.7	1604.5
15.9	696.99	626.14	966.82	1142	1656.4	1907.2	1819.7	1585.9
16	722.52	691.45	966.27	1142.4	1654.4	1904.5	1820.9	1610.3
16.1	748.34	752.38	987.32	1134.5	1654.2	1903.2	1823.1	1611.7
16.2	766.02	813.55	1017.9	1131.6	1657.1	1902.6	1824.4	1593.3
16.3	778.73	845.42	1044.1	1131.8	1653.9	1902.5	1817.9	1623.2
16.4	787.21	928.07	1072.6	1133	1653.4	1901.8	1819.4	1607
16.5	793.52	962.22	1118	1142.7	1650.3	1900.6	1821.8	1604.7
16.6	797.02	975.18	1130.4	1148.5	1653.3	1900.2	1822	1603.6
16.7	799.28	975.06	1139.1	1155.6	1654.6	1899.7	1820.6	1612.9
16.8	799.22	977.81	1149.1	1157.4	1650.5	1898.1	1820.2	1593.7
16.9	797.73	976.72	1157.5	1159.3	1651.5	1897.7	1820.4	1612.4
17	794.15	982.5	1157.6	1160.9	1649.4	1896.8	1818	1620.4
17.1	788.05	993.73	1161.7	1169.3	1645.9	1896.2	1816.8	1613.5
17.2	779.86	1007.4	1175.2	1176.7	1651.2	1894.4	1817.2	1617.1
17.3	771.3	1029.5	1186.6	1187.6	1647.4	1894.4	1820.1	1625.2
17.4	762.98	1057.6	1190.4	1199.7	1651.7	1893.6	1816.8	1629.4
17.5	755.26	1077.1	1190.6	1211.4	1640.4	1891.9	1818.2	1632.4
17.6	750.97	1083.8	1192.9	1225.2	1643.4	1890.8	1817.8	1634.9
17.7	749.16	1084.2	1195.2	1238.1	1647	1889.3	1818.8	1652.7
17.8	748.63	1090.6	1195.4	1251.1	1643.2	1889.1	1822.7	1656.4
17.9	751.12	1097.2	1193.9	1262.7	1632.8	1887.3	1816.9	1664.3
18	756.46	1097.9	1192	1264.5	1641.6	1886.5	1815.9	1691.5
18.1	763.69	1096.4	1191.3	1263.5	1643.4	1884.8	1817.3	1706.4
18.2	771.58	1095.7	1194.2	1262.3	1641.4	1883.1	1805.5	1719.1
18.3	778.48	1097.2	1198.4	1270.9	1641.6	1884	1815.2	1727.8
18.4	782.67	1101	1201.4	1275.1	1644.7	1883.4	1815.3	1734.2
18.5	784.93	1111.7	1203.7	1278.8	1640.7	1883.2	1815	1735.6
18.6	786.27	1110.8	1206.1	1278.4	1638.9	1881.1	1815.5	1735.5
18.7	794.6	1113.6	1208.9	1280.1	1638.7	1880.6	1815.1	1738.3
18.8	815.89	1118.1	1209	1283.4	1640.4	1879.7	1814.5	1738.5
18.9	838.6	1121.8	1209	1286.2	1642.2	1878.2	1814.7	1746.5

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t								
19	864.71	1127.7	1209.9	1287.7	1642.8	1880.2	1813.9	1746.7
19.1	879.19	1130	1209.4	1287.8	1642.1	1879.5	1814.3	1747.2
19.2	898.15	1138.9	1210.2	1289.8	1639	1877.6	1814.2	1744.5
19.3	912	1142.1	1210.2	1291.9	1642.3	1876.2	1814.6	1741.2
19.4	901.99	1148.2	1210.9	1293.7	1638.4	1875.4	1813.2	1733.3
19.5	885.27	1152.3	1212.5	1296.3	1640.2	1876.5	1814.5	1732
19.6	854.26	1155.1	1214.6	1300.2	1644	1875.8	1814.3	1731.7
19.7	839.71	1160.2	1216	1303.5	1643.8	1875.6	1812.2	1731.7
19.8	841.27	1163	1218.4	1307.2	1644.8	1879.6	1812.5	1733.5
19.9	849.29	1166.2	1221	1308.6	1642.3	1872.4	1814	1736.2
20	861.01	1167.7	1223.4	1309.5	1641.9	1872.2	1816.8	1742
20.1	882.45	1168.2	1223.5	1309.5	1642.5	1873.1	1816.1	1746.5
20.2	910.47	1167	1223.5	1310.3	1640.7	1873.4	1822.4	1748.4
20.3	939.85	1164.4	1222.8	1311.4	1633.5	1872.3	1824.3	1750.4
20.4	961.6	1163.4	1221	1310.6	1642.1	1872.6	1826.5	1755.9
20.5	975.43	1163.2	1219.5	1312.2	1638.8	1871.7	1825.3	1759.1
20.6	987.55	1158.4	1218.8	1311.7	1643	1871.3	1825.9	1760.1
20.7	1012.5	1153.4	1218.6	1313.1	1646.7	1870.7	1825	1762.8
20.8	1067	1152	1219.5	1313.5	1647.7	1871.6	1826.7	1763.8
20.9	1132.7	1152.3	1220.4	1314.5	1645.2	1870.9	1823.5	1766.7
21	1180.4	1156	1221.1	1316	1662.8	1870	1821.6	1767
21.1	1220.3	1152.9	1222.6	1319.9	1655.4	1871.4	1824.3	1767.1
21.2	1258.8	1153.1	1223	1321.3	1656.9	1872.4	1822.2	1765
21.3	1307.4	1153.3	1222.6	1320.5	1660.7	1872	1815	1762.4
21.4	1372.5	1153.7	1221.8	1321.9	1666.9	1870.8	1816.1	1760.4
21.5	1424	1154.1	1224	1323.2	1676.3	1870.9	1813.8	1762.7
21.6	1465.4	1155.5	1218.8	1325.3	1678.4	1869.2	1811.3	1767.1
21.7	1532.3	1154.2	1218.3	1328.1	1690.5	1867.9	1809	1766.1
21.8	1534.5	1155	1218.4	1330.5	1702.2	1874.3	1807.8	1767.9
21.9	1524.2	1159.5	1219.3	1333.1	1710.5	1866.4	1809	1767.7
22	1500.2	1160.1	1221.3	1335.8	1718.7	1864.4	1807.4	1778.5
22.1	1465.6	1161.9	1221.8	1337.9	1715.5	1863.3	1807	1777.3
22.2	1437.3	1162.1	1222.9	1335.9	1734.6	1863.6	1806.2	1780.4
22.3	1425.2	1162.4	1224	1339.3	1741.1	1863	1826.9	1781.2
22.4	1438.8	1162.8	1224.9	1338	1752.3	1863.3	1810	1783.4
22.5	1447.7	1161.8	1224.2	1347.1	1759.3	1862.4	1814.6	1785.6
22.6	1443.7	1160.7	1225	1334.8	1760.5	1860	1815	1787.7
22.7	1435.9	1158.9	1225.4	1347.7	1767.4	1860.4	1821.1	1788.9
22.8	1422.3	1156.9	1225.8	1345.5	1775.4	1858.7	1825.9	1791.4
22.9	1413.9	1154.7	1225.9	1338.8	1778.8	1858.3	1834.9	1788

r →	0	20	30	35	45	55	65	75
t								
23	1413.2	1152.5	1226.9	1343.5	1788.6	1857.1	1837.9	1791.3
23.1	1416.5	1151	1226	1342.2	1802.6	1857.3	1842	1792.6
23.2	1419.6	1149.8	1227.2	1346.2	1793.4	1858.4	1848.1	1794.1
23.3	1415.3	1149.4	1228	1347.1	1808.2	1859.9	1860.9	1795.1
23.4	1407.8	1148	1226.6	1348.3	1807.1	1858.9	1866.6	1795.9
23.5	1400.5	1146.9	1227.7	1349.5	1810.2	1859.9	1876.2	1797.2
23.6	1396.7	1146.5	1227.7	1351.4	1813.3	1859.8	1883.6	1799.9
23.7	1395.8	1146.1	1226.4	1354.2	1831.8	1859.6	1895.4	1804.9
23.8	1394.5	1145	1224.9	1355.9	1822.5	1859.1	1907.5	1806.7
23.9	1390.4	1144.6	1228.6	1356.3	1821.8	1858.3	1935.3	1811.6
24	1385.1	1145.5	1228.8	1357.6	1829.2	1857.9	1935.4	1815
24.1	1379.9	1145.6	1229.2	1361	1829	1858.1	1942.5	1818.3
24.2	1375	1147.3	1230.6	1365.2	1831.6	1858	1961.3	1826.9
24.3	1373.3	1151.3	1233.1	1366.3	1835.7	1859.7	1960.4	1819.7
24.4	1371.4	1147.6	1234.3	1367.7	1836.9	1849.9	1964.8	1823.5
24.5	1371.2	1144.1	1236.5	1370.3	1840.4	1858.3	1959.4	1828.4
24.6	1369.8	1141.1	1238.9	1372.9	1842.3	1858.3	1966	1824.8
24.7	1367.6	1138.2	1238.9	1375.9	1849.4	1858.4	1978.6	1830.3
24.8	1364.7	1134.8	1238.9	1371.7	1846.8	1856	1981.4	1831.3
24.9	1363.1	1132.8	1239.1	1379	1847.2	1858.8	1991.7	1832.5
25	1362.8	1132.4	1239.9	1378.5	1860.4	1857.3	1991.2	1826
25.1	1362.6	1134.3	1240.8	1383.9	1853.5	1858.9	1995.7	1836.8
25.2	1362.3	1137.6	1240.2	1384.5	1865	1857	2000.4	1833.7
25.3	1361.6	1141.8	1242.6	1387.4	1861.8	1858.5	2005	1831.9
25.4	1360.9	1145.9	1244.1	1365.7	1864.2	1859.9	2009.4	1840.3
25.5	1360.3	1148.4	1245.4	1392.2	1863.9	1860.8	2018.6	1841.5
25.6	1359.2	1146.5	1246.8	1394.6	1869.1	1859	2020.3	1839.6
25.7	1358.6	1145	1248	1399	1870.2	1860.9	2024.5	1845.2
25.8	1357.8	1140.7	1248.9	1404.2	1872.6	1859.6	2028.3	1845.8
25.9	1357.1	1137.5	1248.5	1406.1	1876.8	1860.5	2032.4	1844.8
26	1356.2	1134.3	1248.4	1409.1	1874.9	1857.8	2033.2	1850.1
26.1	1355.6	1132.3	1248.4	1411.4	1875.6	1856.1	2034.4	1851
26.2	1355	1131.3	1249.5	1414.9	1875.9	1855.6	2035.2	1852.7
26.3	1354.8	1130.7	1249.7	1416	1884.9	1856.4	2035.1	1855.1
26.4	1354.8	1132.2	1252.5	1418.9	1880.7	1857.1	2036.7	1854.3
26.5	1354.8	1133.5	1255.8	1419.8	1887.5	1857.2	2036.2	1855.9
26.6	1355.3	1134.4	1258.5	1429.4	1890.9	1858.2	2036.4	1856.5
26.7	1355.7	1136.5	1260	1431.8	1895.6	1857.7	2037.7	1857.2
26.8	1355.9	1139	1260.6	1432.4	1892.9	1859.5	2037.8	1859.6
26.9	1356.2	1140.6	1261.3	1435.7	1893.8	1858.6	2038.6	1862.2

r →	0	20	30	35	45	55	65	75
t								
27	1356.6	1141.1	1262.2	1439.6	1900.5	1860.1	2040.1	1862.7
27.1	1356.9	1141.8	1262.1	1443.7	1895.8	1861	2040.4	1863.7
27.2	1357.2	1144.2	1263.7	1449.5	1903.4	1860.5	2042.4	1865.9
27.3	1357.9	1143.8	1264.5	1447.1	1908	1860	2043.1	1867.9
27.4	1358.3	1144.3	1264.5	1451.3	1912.7	1863.4	2044.9	1873.6
27.5	1359	1142.5	1270.3	1457.5	1913.5	1868	2045.1	1868.8
27.6	1360	1142.9	1272.4	1459.5	1902.7	1870.7	2049.8	1873.1
27.7	1361.1	1142.1	1276.2	1462.3	1909.5	1874.5	2048.8	1866.6
27.8	1361.7	1141.1	1280.3	1465.8	1925.3	1884.7	2049.3	1876
27.9	1362.8	1140.1	1282.1	1470	1915.9	1897.7	2046.7	1878.4
28	1362.8	1141.3	1288.5	1470.9	1923.9	1914.6	2044.9	1877.7
28.1	1363.1	1138.7	1292.3	1468.5	1922.5	1934.3	2042.4	1879
28.2	1363.2	1139.6	1295.6	1476.3	1939.1	1959.5	2045.6	1880.9
28.3	1362.5	1141.7	1299.7	1479.3	1926.9	1977.2	2045.6	1878.3
28.4	1362.3	1140.2	1301	1479	1921.9	2003.7	2046	1887.8
28.5	1361.5	1143.5	1299.9	1489.8	1930.9	2020.9	2049.4	1885.5
28.6	1361.6	1144.1	1304	1491.8	1934.1	2041.1	2047.9	1887.3
28.7	1361.3	1145.3	1307.3	1494.2	1934.8	2048.5	2046.6	1886.5
28.8	1359.5	1147	1307.6	1493.8	1935.1	2048	2047.9	1884.3
28.9	1358.4	1147.9	1310	1503.6	1937.7	2063.2	2047	1888.6
29	1357.3	1150.2	1312.5	1505.2	1940.6	2075.4	2048.7	1892.2
29.1	1356.1	1149.6	1313.8	1506.2	1935.9	2084.7	2050.3	1887.1
29.2	1354.3	1149.5	1317.8	1507.8	1942	2086.3	2051	1887.2
29.3	1352	1151.3	1320.1	1512.2	1939.4	2091.5	2050.4	1896
29.4	1349.6	1151.3	1323.4	1518.8	1945.4	2092.2	2051	1887.2
29.5	1346.8	1151	1327.1	1518.5	1948	2101.7	2053.1	1888.1
29.6	1344	1150.2	1332.2	1521.1	1937.1	2104.2	2051.2	1891
29.7	1342.2	1149.9	1334.2	1520.5	1944	2109.5	2050.9	1901.7
29.8	1341	1149.6	1337.3	1525.9	1951	2113.8	2052	1899.2
29.9	1339	1148.9	1340	1530.4	1953.8	2115.6	2053.5	1900
30	1336.6	1148.4	1342	1530.2	1959.9	2117	2054.1	1899.6
30.1	1334.6	1147.9	1344.8	1533.8	1959.4	2120	2050.5	1901.6
30.2	1332.1	1147.3	1347.8	1535.4	1956.1	2120.8	2048.8	1901.1
30.3	1329.8	1147.2	1351	1541.6	1956.8	2118.2	2053.3	1903.5
30.4	1327.5	1146.9	1353.2	1544.2	1962.5	2121.4	2056.2	1903.6
30.5	1325.4	1146.9	1355	1548.7	1972.7	2122.1	2058.1	1905.7
30.6	1323.1	1146.8	1357.3	1550.9	1987.6	2116.3	2060.8	1905.2
30.7	1320.7	1147.1	1361.4	1553	1969.7	2120.5	2058.7	1909.8
30.8	1318.3	1146.7	1362.9	1556.7	1968.2	2120.8	2066.3	1908.6
30.9	1315.5	1147.4	1364.2	1562.8	1986.6	2122.4	2067.1	1909.9

r →	0	20	30	35	45	55	65	75
t								
31	1312.9	1150.2	1367.4	1562.3	1978.1	2122.5	2070.3	1910.5
31.1	1310.8	1150.3	1370.2	1564.5	1982.2	2125.4	2069.7	1912.5
31.2	1308.6	1151.2	1374.2	1565.1	1978.6	2123.7	2069.5	1913.2
31.3	1305.8	1152.9	1376.5	1569.1	1997.8	2129.9	2075	1913.7
31.4	1303.5	1153.7	1377.5	1572.7	1981.2	2127.5	2077.6	1914.9
31.5	1301.1	1155.4	1371.4	1581.1	1988.8	2124.1	2077.9	1917.1
31.6	1298.3	1154.4	1382.8	1578.3	1993.1	2131.5	2078.7	1911.2
31.7	1295.9	1155.1	1386.5	1577.8	1992	2127.8	2079	1912.3
31.8	1293.9	1155.5	1390	1581.9	2002	2128.8	2078.3	1920.8
31.9	1291.6	1157	1390	1581.3	1996.9	2128.9	2081.6	1919.8
32	1289	1156.6	1397.7	1588.2	2001.5	2129.5	2081.2	1919.8
32.1	1287.2	1157.8	1395.5	1587.9	2004.9	2130.9	2079.3	1920.3
32.2	1284.4	1157.6	1400.7	1591.9	1998.2	2133.4	2081.4	1921.9
32.3	1282.2	1158.5	1403.4	1594.9	2008.7	2133.8	2082.8	1921.5
32.4	1280.1	1158.6	1410.3	1600.1	2010.3	2132.3	2082.9	1926.5
32.5	1278.2	1158.9	1408.1	1605.5	2013.1	2132.2	2082.8	1926.4
32.6	1276.2	1159.5	1412.1	1616	2011.5	2132.8	2084	1920.6
32.7	1274.3	1160.2	1416.1	1609.8	2022.4	2132.2	2086.4	1924
32.8	1272.2	1162.1	1416.5	1610.3	2015.1	2133.1	2087.8	1936.9
32.9	1270.5	1163.8	1420.8	1609.4	2011.3	2133.5	2087.9	1925.9
33	1268.2	1165.4	1414.9	1616.6	2010	2134.5	2084.9	1928.6
33.1	1266.7	1167.4	1426.6	1618.5	2028.1	2134.3	2089.6	1928.6
33.2	1265	1169.4	1429	1620.9	2030	2134.4	2087.6	1930.6
33.3	1263.4	1171.4	1434.9	1623.5	2030	2134.7	2089.4	1929
33.4	1262.2	1173.5	1437.2	1629.8	2030.6	2135.2	2090.5	1929.6
33.5	1260.5	1176.2	1439.9	1628.7	2035	2134.5	2090.8	1927.8
33.6	1258.8	1176.9	1442.3	1631.3	2038.8	2133.5	2093.7	1929.2
33.7	1256.8	1180.5	1450.6	1638.1	2038.4	2134.7	2094.8	1931.3
33.8	1255.2	1183	1449.8	1640.6	2040.5	2130.9	2095	1934
33.9	1253.5	1180.5	1452.7	1642.5	2043.7	2132.8	2095.1	1934.2
34	1252.1	1182.6	1455.6	1643.3	2050.5	2134.1	2095.4	1934.7
34.1	1250.3	1183	1456.6	1639.9	2049.9	2137.1	2095.3	1936.9
34.2	1249	1187.7	1459.8	1645.9	2056.7	2137.7	2097.2	1932.9
34.3	1248.3	1189.6	1462.3	1647.4	2058	2136.2	2098.7	1935.6
34.4	1247.3	1190.8	1466.9	1656.2	2060.2	2134.5	2099.7	1938.7
34.5	1247.8	1192.1	1469.8	1653.4	2063.9	2136.7	2101.6	1938.3
34.6	1243.9	1195	1478.2	1654.2	2065.3	2132.9	2101	1937.4
34.7	1242.4	1199.4	1476	1659.7	2067.5	2133.8	2101.3	1938.3
34.8	1241	1201.4	1478.3	1661.6	2066.4	2138.1	2102.6	1947.9
34.9	1239.6	1204.2	1482.3	1664	2071.4	2138.1	2105.9	1939.9

r →	0	20	30	35	45	55	65	75
t								
35	1238.1	1207.3	1485.7	1667.3	2069.3	2135.1	2103.7	1937.9
35.1	1236.3	1213.2	1488.6	1668.1	2075.4	2137.1	2103.8	1940.3
35.2	1235.3	1221.7	1491.9	1672	2081.2	2136.5	2105.9	1942.4
35.3	1233.8	1229.7	1495.2	1672.1	2077.4	2138.5	2106	1942.9
35.4	1232.7	1238.2	1494.5	1679.6	2082.1	2134.7	2107.4	1942.5
35.5	1231.9	1247	1505.8	1677.6	2089.6	2134.3	2108.7	1943.6
35.6	1231.2	1258.7	1507.3	1689.1	2087.1	2134.7	2110.2	1942.7
35.7	1229.5	1273.5	1512.8	1684.1	2088.1	2132.7	2110.7	1944.8
35.8	1224.4	1274.1	1514.6	1687.5	2090.4	2131	2110.7	1946.3
35.9	1227.3	1282.9	1519.3	1687.7	2090.1	2130.6	2113	1944.7
36	1226.2	1303.1	1523.6	1690.6	2093.6	2132.2	2112.2	1947
36.1	1225.4	1302.6	1524.8	1693	2096.8	2132	2113.9	1942
36.2	1224	1315.1	1530.8	1694.4	2093.2	2130	2115	1947.7
36.3	1223.1	1333.8	1534.5	1694.6	2098.1	2130	2115.6	1946.8
36.4	1221.9	1347.1	1533.8	1696.6	2104.1	2129.2	2117.3	1949.2
36.5	1221.4	1350.3	1540.6	1699.6	2100.9	2129.6	2118	1950.2
36.6	1220.3	1355.3	1545	1699.7	2109.2	2129.6	2115.7	1950.7
36.7	1219.6	1361.3	1548	1703.9	2110.8	2127.6	2119.5	1936.2
36.8	1219.1	1367.4	1550.4	1698.4	2107.8	2129.6	2121.6	1950.3
36.9	1218.7	1371.1	1552.7	1707.1	2122.1	2129.4	2126.3	1953.4
37	1218.7	1372.2	1545.3	1713.9	2121.3	2129.8	2122.1	1952.2
37.1	1218.6	1377	1553.6	1716	2109.9	2131.7	2122.8	1951.4
37.2	1218.2	1379.1	1559.9	1713.7	2103.9	2128.3	2125.9	1952.9
37.3	1218.6	1388.1	1560.9	1716	2129	2117.8	2130.2	1953.8
37.4	1219.1	1389.2	1563.5	1721.3	2119	2128.3	2131.7	1954.4
37.5	1220.8	1387.9	1567.2	1720.3	2128.9	2129.1	2131.4	1955
37.6	1222.3	1393.3	1569.7	1724	2126.4	2128.8	2132.8	1955.5
37.7	1226	1397.6	1572.9	1719.2	2131.2	2130.3	2135.8	1955.1
37.8	1230.4	1399.1	1575.2	1730.1	2121.2	2129.4	2135.8	1955.5
37.9	1233.9	1398	1572.5	1729.6	2123.1	2129.1	2138.3	1960
38	1237.4	1398.2	1578.1	1734.6	2115.7	2127.8	2140.3	1960.6
38.1	1243.9	1400.1	1582.3	1734.1	2130.1	2127.6	2140.8	1956.9
38.2	1250.2	1402.2	1591.9	1725.4	2139.4	2127.4	2141.4	1957.2
38.3	1257.7	1408.2	1585.7	1737.1	2145.9	2122	2146.7	1958.9
38.4	1262.2	1403.9	1584.8	1738.4	2144.3	2120.7	2144.5	1967.3
38.5	1262.6	1406.5	1589	1743.8	2150.4	2125.5	2143.5	1952.8
38.6	1259	1389.9	1588.2	1745.7	2143	2126.7	2146	1961.7
38.7	1256	1414.1	1585.3	1748.9	2131.4	2126	2148.5	1962.2
38.8	1251.9	1418.9	1592.4	1740.6	2140.4	2123.4	2149.8	1963.7
38.9	1248.2	1424.2	1588.5	1750	2129.8	2124	2151.3	1962.2

r →	0	20	30	35	45	55	65	75
t								
39	1253.4	1426	1599.9	1755	2162.9	2125.9	2152	1961.3
39.1	1261.9	1428.9	1589.6	1753.6	2143.5	2121.7	2153.4	1964.8
39.2	1266	1428	1600	1758.6	2154.8	2120.7	2155.4	1961.6
39.3	1258.7	1429.7	1598.4	1758.6	2160.7	2122.6	2157	1962.2
39.4	1269	1429	1600.7	1761.6	2160	2126.1	2157.4	1961.6
39.5	1273.2	1428.9	1604.6	1764.6	2150.5	2124.2	2158.9	1967.4
39.6	1275.3	1430.3	1601.3	1763.8	2159.8	2126.7	2161.6	1967.3
39.7	1291.6	1430.5	1600.8	1769.2	2157.2	2129.5	2164	1970.5
39.8	1282.6	1432.3	1604.5	1765.4	2158.9	2127.6	2165.6	1968.1
39.9	1283.5	1432.8	1601.4	1768.3	2147.5	2123.8	2166.8	1972.2
40	1283.3	1432.8	1602	1773.9		2127.5	2171.4	1968.8
40.1	1285.2	1433.4	1586.9	1761.7		2123.3	2172	1968.7
40.2	1286.6	1436.7	1606.4	1784.7		2121.1	2173.8	1974.3
40.3	1286.9	1439.9	1608	1777.4		2122.1	2174.5	1971.8
40.4	1286.5	1442	1607.5	1764.8		2122.8	2175.6	1973.1
40.5	1286.2	1445.6	1611.1	1776.8		2126.5	2177.3	1973.2
40.6	1286.8	1449.4	1608.4	1774.3		2121.7	2179.6	1972.2
40.7	1288.7	1448.9	1611.3	1778.9		2123.7	2183	1973.3
40.8	1289.1	1450.8	1612.9	1781.6		2118.6	2185.2	1974.1
40.9	1289.1	1452.6	1613	1779.9		2121.3	2183.7	1969
41	1289.6	1454.4	1617.7	1782.8		2122.8	2184.3	1974.5
41.1	1291.2	1455.5	1618.9	1783		2107.7	2188.7	1975.6
41.2	1293.5	1456.8	1619.5	1778.7		2120.6	2190.5	1976.4
41.3	1294.6	1455.6	1615.5	1783.3		2118.6	2191.7	1975
41.4	1294.4	1456.3	1619.4	1783.8		2111.6	2194.9	1969.6
41.5	1294.9	1461.3	1621.8	1788.6		2121.7	2196.1	1975.8
41.6	1295.1	1458.3	1626.5	1789		2128.7	2196.7	1975.3
41.7	1295.3	1455.1	1627.3	1792		2121.7	2203.4	1976.9
41.8	1296.6	1457	1620.7	1794.1		2121.2	2202.6	1976.1
41.9	1295.9	1460	1621.6	1789.4		2121.9	2202.1	1978.4
42	1294.8	1462.7	1623.2	1798.2		2121.1	2207.8	1977.6
42.1	1295.2	1464.1	1624.5	1796		2122.3	2206.8	1983.7
42.2	1295.1	1464.9	1622.9	1796.8		2124.7	2213.3	1984.2
42.3	1295.2	1465.1	1627.7	1798.7		2124	2211.6	1980.3
42.4	1296.4	1466.2	1626.5	1801.3		2124	2212	1980.3
42.5	1299.4	1468	1630.3	1798.7		2123.8	2211.6	1982.8
42.6	1308.2	1469	1633	1801.7		2125.9	2213.3	1979.9
42.7	1307.7	1474	1632.5	1803.2		2125.3	2216.5	1981.7
42.8	1313.2	1475	1633.7	1803.5		2126.8	2217.3	1978.1
42.9	1320.4	1475.6	1634	1804.6		2127.1	2217.3	1982

r →	0	20	30	35	45	55	65	75
t								
43	1325.1	1476.9	1635.5	1803.4		2124.9	2216.3	1980
43.1	1331.7	1477.2	1639.4	1804.9		2126.9	2221.7	1982.7
43.2	1338.4	1477.5	1638.4	1801.6		2127.9	2219.1	1983.7
43.3	1346	1479.7	1633.5	1807.4		2129.6	2223.2	1985.7
43.4	1355.1	1481.7	1642.3	1807.7		2128.8	2224.3	1984.5
43.5	1367.8	1481.4	1642.1	1811.4		2129.8	2226	1981
43.6	1384	1483	1647.5	1813		2132.5	2225.9	1991.3
43.7	1397.6	1485.5	1645.8	1805.4		2134.3	2235.6	1989.4
43.8	1420.8	1483.7	1649.2	1812.3		2125.4	2229.8	1984.7
43.9	1438.1	1483.7	1649	1811.6		2132.1	2235.3	1991.8
44	1477.5	1485	1648.4	1811.9		2125.7	2223.9	1981.7
44.1	1476	1480.3	1634.6	1816		2137.2	2236.8	1991
44.2	1487.3	1486.3	1649	1815.1		2132.4	2237	1991.9
44.3	1495.4	1487.8	1647.6	1815.1		2135.5	2234	1996.4
44.4	1508.1	1489.2	1650.5	1816.9		2126.8	2234.5	1981.8
44.5	1520.8	1490.3	1653.2	1810.2		2133.2	2242.7	1994.2
44.6	1530.6	1492.5	1649.5	1814		2131.5	2243.2	1991.5
44.7	1538.4	1493.6	1658.6	1819.3		2130	2245.2	1994.2
44.8	1543.6	1494.7	1656.3	1824.8		2135.3	2242.8	1999.4
44.9	1546.2	1496.3	1648.1	1822		2121.8	2239.2	1995.3
45	1547.8	1499	1660.4	1826.9		2133.6	2248.6	1997.2
45.1	1550.4	1500.2	1657.1	1823.7		2131.1	2244.2	1994.8
45.2	1550.9	1500	1663.4	1830.4		2129.8	2247.9	2000.7
45.3	1558.9	1500.8	1661.8	1826.4		2140.5	2244.7	2005.1
45.4	1567.2	1504.4	1665	1825		2135.4	2244.4	1997.8
45.5	1571	1500.8	1664.6	1825.8		2126.8	2240.4	2003.7
45.6	1578.2	1499.7	1667	1826.4		2136.6	2247	2003.1
45.7	1590.2	1497.8	1661	1831.3		2143.7	2249.1	2003.8
45.8	1598.5	1500.2	1670.3	1837.3			2251.9	2001.6
45.9	1602.5	1501.4	1681.3	1831.4			2254.1	2004
46	1606.9	1500.4	1670.5	1828			2244.4	2005.6
46.1	1608.5	1502.5	1669.6	1828.2			2249.2	2008.1
46.2	1610.2	1502.8	1675.5	1832.7			2243.9	2011.2
46.3	1611.6	1505.3	1674.7	1819.5			2253	2005.2
46.4	1614.6	1501.5	1675.6	1832.7			2248.5	2005.3
46.5	1617.5	1502.3	1678	1836.1			2247.7	2009.9
46.6	1619.5	1499.3	1677.9	1838.9			2251.9	2005.8
46.7	1621.2	1501.1	1678.8	1832.5			2250.5	2008.3
46.8	1624.4	1501.7	1681	1832.7			2245.4	2000.7
46.9	1627.8	1500.6	1676.9	1838.6			2247.6	2011.4

r →	0	20	30	35	45	55	65	75
t								
47	1629.5	1501.1	1678.7	1839.5			2249.1	2011
47.1	1631.9	1499.9	1686.4	1838.4			2248.5	2011.7
47.2	1633.8	1505	1681.7	1843.5			2252.1	2010.7
47.3	1637.3	1498.8	1682.8	1835.9			2249.2	2012.6
47.4	1640.1	1499.7	1684.5	1849			2251.6	2018.1
47.5	1643.8	1502	1691.4	1849.3			2255	2019.7
47.6	1644.9	1500.5	1691.1	1861			2252.9	2016.8
47.7	1649.8	1504.1	1687.6	1851.1			2251.5	2018.3
47.8	1647.9	1505.5	1693.3	1856.1			2253	2015.4
47.9	1640.2	1497.9	1689.3	1862			2257.6	2018.3
48	1649.7	1503.1	1697.2	1857.5			2254.1	2014.5
48.1	1651.4	1506.9	1690.4	1853.4			2255.8	2018.7
48.2	1653.6	1507.9	1697.6	1860.3			2256.2	2018.1
48.3	1657.2	1507.7	1697	1857.3			2257.9	2019.2
48.4	1659.4	1508.3	1700.3	1862			2253.5	2027.6
48.5	1657.3	1507.8	1709.4	1850			2257.3	2015.1
48.6	1659.9	1508.4	1699.9	1860.8			2253.8	2023.7
48.7	1661.3	1507.8	1704.5	1865.9			2263.2	2021.2
48.8	1667.4	1511.5	1710.4				2258.2	2020.8
48.9	1668	1509	1700.6				2263.2	2022.5
49	1667.1	1510.8	1710.5				2263.1	2023.9
49.1	1644.8	1513.2	1716.6				2262.5	2021.1
49.2	1670.5	1514	1712.8				2260.2	2022.7
49.3	1665.7	1517.6	1712.7				2264	2029
49.4	1661.2	1517.5	1707.9				2269.6	2027.1
49.5	1666.8	1517.3	1713.4				2262.1	2026.4
49.6	1670.7	1519.2	1718.8				2266	2029.8
49.7	1668.8	1512.4	1717.5				2270.7	2032.4
49.8	1663.9	1511.4	1715.4				2264.6	2029.6
49.9	1673.9	1513.4	1717.4				2263.4	2037.8
50	1673.2	1523.7	1720.6				2265.9	2042.3
50.1	1676.6	1524.3	1720.3				2268.7	2034
50.2	1670.2	1520.5	1726.3				2269.7	2036.5
50.3	1674.4	1522	1718.1				2271.6	2036.3
50.4	1675.8	1521	1722.4				2270.2	2031.5
50.5	1666.3	1521.8	1725.2				2272	2035.8
50.6	1673.6	1519.4	1720.6				2275.6	2035.2
50.7	1671.8	1520.6	1729.5				2274.3	2028.1
50.8	1671.7	1519.1	1725.2				2268.6	2035.4
50.9	1676.3	1522.2	1724.9				2268.8	2036.4

r →	0	20	30	35	45	55	65	75
t								
51	1660	1523.6	1735.5				2277.7	2040.5
51.1	1674.4	1525.3	1727.2				2276.1	2039.8
51.2	1679.7	1521.3	1741.5				2277.7	2034.8
51.3	1680.9	1524.9	1732.3				2277.4	2038.1
51.4	1683.4	1525.9	1733.1					2040.8
51.5	1668.6	1526.2	1735.8					2045
51.6	1661.8	1526.4	1732.5					2040.4
51.7	1653.7	1528.8	1732.8					2041.9
51.8	1662.9	1527.7	1739					2044.3
51.9	1670.3	1528.2	1742.5					2045.7
52	1681.8	1530.2	1738.8					2041.8
52.1	1693.4	1530.8	1740.3					2045.7
52.2	1695.1	1529.7	1742.4					2043
52.3	1670.7	1531	1737.2					2052.3
52.4	1668.5	1529	1751.2					2053.1
52.5	1678.8	1534.7	1741.6					2048.7
52.6	1690.2	1534.6	1746.5					2046.7
52.7	1697.5	1537.8	1744					2051
52.8	1686.9	1539	1744.4					2049.8
52.9	1687.4	1539.1	1749.7					2047.6
53	1694.3	1536.8	1746.5					2051.8
53.1	1696.4	1540.1	1745.9					2049.4
53.2	1689.3	1541.3	1745.7					2053.3
53.3	1700.3	1540.8	1746.8					2054.4
53.4	1715.4	1548.5	1745.1					2047.9
53.5	1714.4	1543	1740.2					2046.3
53.6	1730.6	1546	1748.1					2054.6
53.7	1732.3	1545.9	1753.9					2056.2
53.8	1730.2	1556.1	1744					2056.9
53.9	1728.2	1548.8	1751.5					2055
54	1731.3	1548.5	1766.2					2058.2
54.1	1730.6	1548.3	1750.9					2063.7
54.2	1742	1550	1746.5					2065.7
54.3	1736.5	1551	1755.1					2056.4
54.4	1737.2	1551.9	1758.5					2063.8
54.5	1735.5	1551.8	1753.1					2061.5
54.6	1737.1	1554.3	1753.6					2058.7
54.7	1738.8	1553.2	1765					2060.3
54.8	1740.9	1557.1	1763.9					2064.3
54.9	1743.5	1555.6	1763.2					2058.8

r →	0	20	30	35	45	55	65	75
t								
55	1744.5	1556.3	1769.4					2059.6
55.1	1750.9	1559.9	1772.3					2060.7
55.2	1751.6	1565.6						2060.9
55.3	1756.5	1560						2065.6
55.4	1753	1558.8						2063.5
55.5	1761.7	1558.6						
55.6	1771.6	1562.9						
55.7	1751.7	1562.5						
55.8	1766.1	1561.7						
55.9	1760.7	1563.2						
56	1761.3	1566.1						
56.1	1767.9	1568.3						
56.2	1794.4	1566.2						
56.3	1770.6	1566.7						
56.4	1785.8	1574.1						
56.5	1783.6	1571.2						
56.6	1787.7	1572						
56.7	1800.4	1573.2						
56.8	1796.2	1571.8						
56.9	1802.4	1574.8						
57	1803.7	1579.6						
57.1	1806.3	1576.1						
57.2	1806.4	1572.9						
57.3	1804.2	1576.9						
57.4	1808.3	1579.1						
57.5	1814.8	1578.1						
57.6	1816.8	1577.1						
57.7	1820.7	1579.1						
57.8	1820.4	1576						
57.9	1821.4	1585.5						
58	1826.9	1592.3						
58.1	1826.2	1583.3						
58.2	1828.9	1582.9						
58.3	1838	1585.6						
58.4	1832.1	1582.2						
58.5	1847.6	1592.2						
58.6	1845.9	1592.1						
58.7	1844.7	1590.1						
58.8	1850.5	1588.6						
58.9	1852.4	1589.6						

r →	0	20	30	35	45	55	65	75
t								
59	1854.9	1593.3						
59.1	1847.8	1593.8						
59.2	1850.8	1602.7						
59.3	1861.1	1603.4						
59.4	1867.4	1595.4						
59.5	1865.5	1603.2						
59.6	1875.1	1596.7						
59.7	1875.8	1597.1						
59.8	1877.4	1594.2						
59.9		1595.8						
60		1597.8						
60.1		1598.3						
60.2		1601.4						
60.3		1604.2						
60.4		1606.3						
60.5		1602.8						
60.6		1609.2						
60.7		1605.3						
60.8		1603.4						
60.9		1607.8						
61		1606						
61.1		1604.4						
61.2		1604.7						
61.3		1611.8						
61.4		1614.2						
61.5		1611.3						
61.6		1614.7						
61.7		1613.3						
61.8		1615.4						
61.9		1614.7						
62		1630.5						
62.1		1616.7						
62.2		1619.9						
62.3		1628.3						
62.4		1621.9						
62.5		1619.5						
62.6		1623.6						
62.7		1624.4						
62.8		1623.8						
62.9		1627.3						

r →	0	20	30	35	45	55	65	75
t								
63		1626.1						
63.1		1622.9						
63.2		1626.8						
63.3		1621.3						
63.4		1620.2						
63.5		1623.2						
63.6		1631.9						
63.7		1638.7						
63.8		1654.1						
63.9		1632.5						
64		1633.3						
64.1		1636.6						
64.2		1637.5						
64.3		1639.1						
64.4		1637.1						
64.5		1638.1						
64.6		1644.1						
64.8		1665.1						

2021E PT5 Diagnostic Plate Displacement Table

Diagnostic Plate Displacement of Jack Rabbit Pretest 2021E PT5; time is referenced in microseconds from detonator circuit current start

Jack Rabbit Pretest 2021E PT5 POSITION Data								
Columnar data: z = mm from top of diagnostic plate datum								
absolute timing accuracy relative to time zero = +/- 0.025 microseconds								
relative timing uncertainty between data channels = +/- 0.005 microseconds								
z position uncertainty = +/- 5 percent of measurement								
PDV measurement point position uncertainty = +/- 0.25 millimeters								
r →	0	20	30	35	45	55	65	75
t								
8	0	0	0	0	0	0	0	0
8.1	0	0	0	0	0	0	0	0
8.2	0	0	0	0	0	0	0	0
8.3	0	0	0	0	0	0	0	0
8.4	0	0	0	0	0	0	0	0
8.5	0	0	0	0	0	0	0	0
8.6	0	0	0	0	0	0	0	0
8.7	7E-05	0	0	0	0	0	0	0
8.8	0.0002	0	0	0	0	0	0	0
8.9	0.0004	0	0	0	0	0	0	0
9	0.0005	0	0	0	0	0	0	0
9.1	0.0008	0	0	0	0	0	0	0
9.2	0.0011	0	0	0	0	0	0	0
9.3	0.0015	0	0	0	0	0	0	0
9.4	0.002	0	0	0	0	0	0	0
9.5	0.0025	0	0	0	0	0	0	0
9.6	0.0031	0	0	0	0	0	0	0
9.7	0.0038	0	0	0	0	0	0	0
9.8	0.0045	0	0	0	0	0	0	0
9.9	0.0051	0	0	0	0	0	0	0
10	0.0058	0	0	0	0	0	0	0
10.1	0.0064	0	0	0	0	0	0	0
10.2	0.0071	0	0	0	0	0	0	0
10.3	0.0077	0	0	0	0	0	0	0
10.4	0.0084	0	0	0	0	0	0	0
10.5	0.0091	0	0	0	0	0	0	0
10.6	0.0098	0	0	0	0	0	0	0
10.7	0.0105	0	0	0	0	0	0	0
10.8	0.0113	3E-05	0	0	0	0	0	0
10.9	0.0121	0.0001	0	0	0	0	0	0

r →	0	20	30	35	45	55	65	75
t								
11	0.013	0.0002	0	0	0	0	0	0
11.1	0.014	0.0003	0	0	0	0	0	0
11.2	0.0151	0.0005	0	0	0	0	0	0
11.3	0.0164	0.0007	0	0	0	0	0	0
11.4	0.0178	0.001	0	0	0	0	0	0
11.5	0.0211	0.0013	0	0	0	0	0	0
11.6	0.0275	0.0018	0	0	0	0	0	0
11.7	0.0395	0.0025	0	0	0	0	0	0
11.8	0.0638	0.0065	0	0	0	0	0	0
11.9	0.0981	0.0162	0.0004	0	0	0	0	0
12	0.1355	0.0387	0.0042	0	0	0	0	0
12.1	0.1767	0.0726	0.0136	0	0	0	0	0
12.2	0.222	0.1079	0.0308	0.0027	0	0	0	0
12.3	0.2715	0.1443	0.0544	0.009	0	0	0	0
12.4	0.3249	0.1813	0.0795	0.0201	0	0	0	0
12.5	0.3792	0.2187	0.1055	0.0381	0	0	0	0
12.6	0.4322	0.2563	0.1325	0.0605	0	0	0	0
12.7	0.4844	0.2938	0.1602	0.084	0	0	0	0
12.8	0.536	0.3315	0.1887	0.1083	0	0.0593	0	0
12.9	0.5867	0.3691	0.2177	0.1334	0	0.2205	0	0
13	0.6365	0.4064	0.2471	0.1587	0.0914	0.4204	0	0
13.1	0.6855	0.4431	0.2773	0.1842	0.2703	0.616	0	0
13.2	0.7338	0.4792	0.3089	0.2095	0.4448	0.8109	0.0258	0
13.3	0.7813	0.5148	0.3419	0.2343	0.6171	1.0048	0.1484	0
13.4	0.8281	0.55	0.3762	0.2587	0.7858	1.1978	0.3398	0
13.5	0.8744	0.5847	0.4116	0.2826	0.9518	1.3908	0.5268	0
13.6	0.9211	0.6192	0.4477	0.3061	1.118	1.5835	0.7131	0
13.7	0.9688	0.6545	0.4836	0.3295	1.2861	1.7759	0.8995	0
13.8	1.0176	0.6913	0.5192	0.3572	1.4536	1.9681	1.0841	0
13.9	1.0676	0.7299	0.5547	0.3937	1.6198	2.1604	1.2674	0
14	1.1187	0.7718	0.5902	0.4416	1.7863	2.3524	1.4499	0.0863
14.1	1.1717	0.8168	0.626	0.5017	1.9529	2.544	1.6326	0.2585
14.2	1.2263	0.8634	0.6623	0.5963	2.1193	2.7354	1.8153	0.429
14.3	1.2814	0.911	0.6991	0.7219	2.2855	2.9268	1.9977	0.5961
14.4	1.3364	0.9594	0.7367	0.849	2.452	3.1181	2.18	0.7598
14.5	1.3915	1.0084	0.7772	0.9743	2.6186	3.3093	2.3617	0.9216
14.6	1.4467	1.0577	0.8228	1.0967	2.785	3.5006	2.5436	1.0823
14.7	1.502	1.1074	0.8761	1.2162	2.9513	3.6919	2.7257	1.243
14.8	1.5576	1.1574	0.9407	1.3332	3.1176	3.8832	2.9074	1.4034
14.9	1.6136	1.2075	1.0258	1.448	3.284	4.0744	3.0892	1.5641

r →	0	20	30	35	45	55	65	75
t								
15	1.6704	1.2576	1.1283	1.5622	3.4504	4.2655	3.2707	1.7256
15.1	1.7282	1.3076	1.2334	1.6774	3.6167	4.4568	3.4519	1.886
15.2	1.7872	1.3578	1.3377	1.7934	3.7829	4.6479	3.6334	2.0464
15.3	1.8472	1.4083	1.4404	1.9091	3.9488	4.839	3.8155	2.2075
15.4	1.908	1.4592	1.5417	2.024	4.1141	5.0302	3.9977	2.3692
15.5	1.9694	1.5107	1.6415	2.1383	4.2792	5.2211	4.1796	2.5302
15.6	2.0318	1.5628	1.7398	2.252	4.4448	5.4119	4.3616	2.6904
15.7	2.0961	1.6172	1.8371	2.3656	4.6104	5.6029	4.5438	2.8515
15.8	2.1626	1.6749	1.9337	2.4797	4.7759	5.7937	4.7263	3.0126
15.9	2.2312	1.7358	2.0303	2.594	4.9415	5.9844	4.9086	3.1721
16	2.3022	1.8016	2.1269	2.7082	5.1071	6.175	5.0906	3.3319
16.1	2.3757	1.8738	2.2246	2.822	5.2725	6.3654	5.2728	3.493
16.2	2.4514	1.9521	2.3249	2.9354	5.4381	6.5557	5.4552	3.6533
16.3	2.5287	2.0351	2.428	3.0485	5.6036	6.7459	5.6373	3.8141
16.4	2.607	2.1237	2.5338	3.1618	5.769	6.9361	5.8192	3.9756
16.5	2.686	2.2183	2.6433	3.2755	5.9341	7.1263	6.0013	4.1362
16.6	2.7655	2.3151	2.7558	3.3901	6.0993	7.3163	6.1834	4.2966
16.7	2.8453	2.4126	2.8692	3.5053	6.2647	7.5063	6.3656	4.4574
16.8	2.9253	2.5103	2.9836	3.6209	6.43	7.6962	6.5476	4.6178
16.9	3.0051	2.608	3.099	3.7368	6.5951	7.886	6.7296	4.7781
17	3.0847	2.706	3.2147	3.8528	6.7601	8.0757	6.9116	4.9397
17.1	3.1638	2.8048	3.3307	3.9693	6.9249	8.2654	7.0933	5.1014
17.2	3.2422	2.9048	3.4475	4.0866	7.0897	8.4549	7.275	5.2629
17.3	3.3198	3.0067	3.5656	4.2048	7.2547	8.6443	7.4569	5.4251
17.4	3.3965	3.111	3.6845	4.3242	7.4196	8.8337	7.6387	5.5878
17.5	3.4724	3.2178	3.8035	4.4447	7.5842	9.023	7.8205	5.7509
17.6	3.5477	3.3258	3.9227	4.5666	7.7484	9.2121	8.0023	5.9143
17.7	3.6227	3.4342	4.0421	4.6897	7.9129	9.4011	8.1841	6.0786
17.8	3.6976	3.543	4.1616	4.8142	8.0775	9.5901	8.3662	6.2441
17.9	3.7726	3.6523	4.2811	4.9399	8.2413	9.7789	8.5481	6.4101
18	3.848	3.7621	4.4004	5.0662	8.405	9.9676	8.7298	6.5779
18.1	3.924	3.8718	4.5196	5.1926	8.5692	10.156	8.9114	6.7478
18.2	4.0007	3.9814	4.6388	5.3189	8.7335	10.345	9.0926	6.9191
18.3	4.0783	4.0911	4.7585	5.4456	8.8976	10.533	9.2736	7.0914
18.4	4.1563	4.201	4.8785	5.5729	9.0619	10.721	9.4551	7.2645
18.5	4.2347	4.3116	4.9987	5.7006	9.2262	10.91	9.6366	7.438
18.6	4.3132	4.4227	5.1192	5.8284	9.3902	11.098	9.8182	7.6116
18.7	4.3923	4.534	5.24	5.9564	9.5541	11.286	9.9997	7.7853
18.8	4.4728	4.6455	5.3608	6.0845	9.718	11.474	10.181	7.9591
18.9	4.5555	4.7575	5.4817	6.213	9.8821	11.662	10.363	8.1333

r →	0	20	30	35	45	55	65	75
t								
19	4.6407	4.87	5.6027	6.3417	10.046	11.85	10.544	8.308
19.1	4.7279	4.9829	5.7237	6.4705	10.211	12.038	10.725	8.4827
19.2	4.8168	5.0963	5.8446	6.5994	10.375	12.226	10.907	8.6573
19.3	4.9073	5.2104	5.9656	6.7285	10.539	12.413	11.088	8.8316
19.4	4.998	5.3249	6.0867	6.8577	10.703	12.601	11.27	9.0053
19.5	5.0873	5.4399	6.2079	6.9872	10.867	12.788	11.451	9.1786
19.6	5.1743	5.5553	6.3292	7.1171	11.031	12.976	11.633	9.3517
19.7	5.259	5.6711	6.4508	7.2473	11.195	13.164	11.814	9.5249
19.8	5.3431	5.7872	6.5725	7.3778	11.36	13.351	11.995	9.6982
19.9	5.4276	5.9037	6.6945	7.5086	11.524	13.539	12.176	9.8717
20	5.5131	6.0204	6.8167	7.6395	11.688	13.726	12.358	10.046
20.1	5.6003	6.1372	6.939	7.7704	11.853	13.913	12.54	10.22
20.2	5.6899	6.2539	7.0614	7.9014	12.017	14.101	12.722	10.395
20.3	5.7824	6.3705	7.1837	8.0325	12.18	14.288	12.904	10.57
20.4	5.8775	6.4869	7.3059	8.1636	12.344	14.475	13.086	10.745
20.5	5.9744	6.6032	7.4279	8.2948	12.508	14.663	13.269	10.921
20.6	6.0725	6.7193	7.5498	8.4259	12.672	14.85	13.452	11.097
20.7	6.1725	6.8349	7.6717	8.5572	12.837	15.037	13.634	11.273
20.8	6.2765	6.9502	7.7936	8.6885	13.002	15.224	13.817	11.449
20.9	6.3865	7.0654	7.9156	8.8199	13.166	15.411	13.999	11.626
21	6.5021	7.1808	8.0377	8.9514	13.332	15.598	14.181	11.802
21.1	6.6222	7.2962	8.1598	9.0832	13.497	15.785	14.364	11.979
21.2	6.7461	7.4115	8.2821	9.2153	13.663	15.972	14.546	12.156
21.3	6.8744	7.5269	8.4044	9.3474	13.829	16.16	14.728	12.332
21.4	7.0084	7.6422	8.5266	9.4795	13.995	16.347	14.91	12.508
21.5	7.1483	7.7576	8.6489	9.6118	14.162	16.534	15.091	12.684
21.6	7.2927	7.8731	8.7711	9.7442	14.33	16.721	15.272	12.861
21.7	7.4426	7.9886	8.8929	9.8769	14.499	16.908	15.453	13.037
21.8	7.5959	8.104	9.0147	10.01	14.668	17.095	15.634	13.214
21.9	7.7489	8.2198	9.1366	10.143	14.839	17.282	15.815	13.391
22	7.9001	8.3357	9.2587	10.276	15.01	17.468	15.996	13.568
22.1	8.0484	8.4518	9.3808	10.41	15.182	17.655	16.176	13.746
22.2	8.1935	8.568	9.503	10.544	15.355	17.841	16.357	13.924
22.3	8.3367	8.6843	9.6254	10.678	15.528	18.027	16.539	14.102
22.4	8.4799	8.8005	9.7478	10.811	15.703	18.214	16.721	14.28
22.5	8.6242	8.9167	9.8703	10.946	15.879	18.4	16.902	14.459
22.6	8.7688	9.0329	9.9927	11.08	16.055	18.586	17.083	14.637
22.7	8.9127	9.1488	10.115	11.214	16.231	18.772	17.265	14.816
22.8	9.0556	9.2646	10.238	11.349	16.408	18.958	17.448	14.995
22.9	9.1975	9.3802	10.36	11.483	16.586	19.144	17.631	15.174

r →	0	20	30	35	45	55	65	75
t								
23	9.3388	9.4956	10.483	11.617	16.764	19.33	17.814	15.353
23.1	9.4803	9.6107	10.606	11.751	16.944	19.515	17.998	15.532
23.2	9.6221	9.7258	10.728	11.886	17.124	19.701	18.183	15.712
23.3	9.7638	9.8407	10.851	12.02	17.304	19.887	18.368	15.891
23.4	9.905	9.9556	10.974	12.155	17.484	20.073	18.555	16.071
23.5	10.045	10.07	11.097	12.29	17.665	20.259	18.742	16.25
23.6	10.185	10.185	11.219	12.425	17.847	20.445	18.93	16.43
23.7	10.325	10.3	11.342	12.56	18.029	20.631	19.119	16.61
23.8	10.464	10.414	11.465	12.696	18.211	20.817	19.309	16.791
23.9	10.604	10.529	11.587	12.831	18.394	21.003	19.501	16.972
24	10.742	10.643	11.71	12.967	18.576	21.189	19.694	17.153
24.1	10.881	10.758	11.833	13.103	18.759	21.374	19.888	17.335
24.2	11.018	10.872	11.956	13.239	18.942	21.56	20.084	17.517
24.3	11.156	10.987	12.079	13.376	19.126	21.746	20.28	17.7
24.4	11.293	11.102	12.203	13.513	19.309	21.931	20.476	17.882
24.5	11.43	11.217	12.326	13.649	19.493	22.117	20.672	18.064
24.6	11.567	11.331	12.45	13.787	19.677	22.303	20.868	18.247
24.7	11.704	11.445	12.574	13.924	19.862	22.489	21.066	18.43
24.8	11.841	11.559	12.698	14.061	20.047	22.674	21.264	18.613
24.9	11.977	11.672	12.822	14.199	20.231	22.86	21.462	18.796
25	12.113	11.785	12.946	14.337	20.417	23.046	21.661	18.979
25.1	12.25	11.899	13.07	14.475	20.602	23.232	21.861	19.162
25.2	12.386	12.012	13.194	14.613	20.788	23.417	22.061	19.346
25.3	12.522	12.126	13.318	14.752	20.975	23.603	22.261	19.529
25.4	12.658	12.241	13.442	14.89	21.161	23.789	22.462	19.712
25.5	12.794	12.355	13.567	15.028	21.347	23.975	22.663	19.897
25.6	12.93	12.47	13.691	15.167	21.534	24.161	22.865	20.081
25.7	13.066	12.585	13.816	15.307	21.721	24.347	23.067	20.265
25.8	13.202	12.699	13.941	15.447	21.908	24.533	23.27	20.449
25.9	13.338	12.813	14.066	15.587	22.096	24.719	23.473	20.634
26	13.473	12.926	14.191	15.728	22.283	24.905	23.676	20.819
26.1	13.609	13.04	14.315	15.869	22.471	25.091	23.879	21.004
26.2	13.745	13.153	14.44	16.01	22.658	25.276	24.083	21.189
26.3	13.88	13.266	14.565	16.152	22.846	25.462	24.286	21.374
26.4	14.016	13.379	14.69	16.294	23.035	25.648	24.49	21.56
26.5	14.151	13.492	14.816	16.436	23.223	25.833	24.694	21.745
26.6	14.286	13.606	14.941	16.578	23.412	26.019	24.897	21.931
26.7	14.422	13.719	15.067	16.721	23.601	26.205	25.101	22.117
26.8	14.558	13.833	15.193	16.864	23.791	26.391	25.305	22.302
26.9	14.693	13.947	15.319	17.008	23.98	26.577	25.509	22.489

r →	0	20	30	35	45	55	65	75
t								
27	14.829	14.061	15.446	17.151	24.17	26.763	25.713	22.675
27.1	14.965	14.175	15.572	17.296	24.359	26.949	25.917	22.861
27.2	15.1	14.29	15.698	17.44	24.549	27.135	26.121	23.048
27.3	15.236	14.404	15.825	17.585	24.74	27.321	26.325	23.234
27.4	15.372	14.519	15.951	17.73	24.931	27.507	26.529	23.421
27.5	15.508	14.633	16.078	17.875	25.122	27.694	26.734	23.608
27.6	15.644	14.747	16.205	18.021	25.313	27.88	26.939	23.796
27.7	15.78	14.861	16.332	18.167	25.504	28.068	27.144	23.983
27.8	15.916	14.976	16.46	18.314	25.695	28.256	27.348	24.17
27.9	16.052	15.09	16.588	18.461	25.888	28.445	27.553	24.357
28	16.188	15.204	16.717	18.608	26.08	28.635	27.758	24.545
28.1	16.325	15.318	16.846	18.755	26.272	28.828	27.962	24.733
28.2	16.461	15.432	16.975	18.902	26.465	29.023	28.167	24.921
28.3	16.597	15.546	17.105	19.05	26.658	29.219	28.371	25.109
28.4	16.733	15.66	17.235	19.198	26.851	29.418	28.576	25.297
28.5	16.87	15.774	17.365	19.346	27.043	29.62	28.781	25.486
28.6	17.006	15.888	17.495	19.495	27.237	29.823	28.985	25.675
28.7	17.142	16.003	17.626	19.644	27.43	30.027	29.19	25.863
28.8	17.278	16.117	17.757	19.794	27.624	30.232	29.395	26.052
28.9	17.414	16.232	17.887	19.944	27.817	30.438	29.6	26.24
29	17.55	16.347	18.019	20.094	28.011	30.645	29.804	26.43
29.1	17.685	16.462	18.15	20.245	28.205	30.853	30.009	26.618
29.2	17.821	16.577	18.281	20.395	28.399	31.061	30.214	26.807
29.3	17.956	16.692	18.413	20.546	28.593	31.27	30.419	26.996
29.4	18.091	16.807	18.546	20.698	28.787	31.479	30.625	27.186
29.5	18.226	16.922	18.678	20.85	28.982	31.689	30.83	27.374
29.6	18.361	17.037	18.811	21.002	29.176	31.899	31.035	27.563
29.7	18.495	17.152	18.944	21.154	29.37	32.11	31.24	27.753
29.8	18.629	17.267	19.078	21.306	29.565	32.321	31.445	27.943
29.9	18.763	17.382	19.212	21.459	29.76	32.533	31.65	28.133
30	18.897	17.497	19.346	21.612	29.956	32.744	31.856	28.323
30.1	19.03	17.612	19.48	21.765	30.152	32.956	32.061	28.513
30.2	19.164	17.727	19.615	21.919	30.347	33.168	32.266	28.703
30.3	19.297	17.841	19.75	22.073	30.543	33.38	32.471	28.893
30.4	19.43	17.956	19.885	22.227	30.739	33.592	32.677	29.084
30.5	19.562	18.071	20.02	22.381	30.936	33.804	32.882	29.274
30.6	19.695	18.185	20.156	22.536	31.134	34.016	33.088	29.465
30.7	19.827	18.3	20.292	22.692	31.332	34.228	33.294	29.655
30.8	19.959	18.415	20.428	22.847	31.529	34.44	33.5	29.846
30.9	20.091	18.53	20.565	23.003	31.726	34.652	33.707	30.037

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t								
31	20.222	18.644	20.701	23.159	31.925	34.864	33.914	30.228
31.1	20.353	18.759	20.838	23.316	32.123	35.077	34.121	30.419
31.2	20.484	18.875	20.975	23.472	32.321	35.289	34.328	30.611
31.3	20.615	18.99	21.113	23.629	32.519	35.502	34.535	30.802
31.4	20.745	19.105	21.25	23.786	32.718	35.715	34.743	30.993
31.5	20.876	19.221	21.388	23.944	32.917	35.927	34.951	31.185
31.6	21.006	19.336	21.526	24.102	33.116	36.14	35.158	31.376
31.7	21.135	19.452	21.664	24.259	33.315	36.353	35.366	31.568
31.8	21.265	19.567	21.803	24.417	33.515	36.566	35.574	31.759
31.9	21.394	19.683	21.942	24.576	33.715	36.779	35.782	31.951
32	21.523	19.798	22.081	24.734	33.915	36.992	35.99	32.143
32.1	21.652	19.914	22.221	24.893	34.115	37.205	36.198	32.335
32.2	21.78	20.03	22.361	25.052	34.315	37.418	36.406	32.527
32.3	21.909	20.146	22.501	25.211	34.516	37.631	36.615	32.72
32.4	22.037	20.261	22.642	25.371	34.717	37.845	36.823	32.912
32.5	22.165	20.377	22.783	25.531	34.918	38.058	37.031	33.105
32.6	22.293	20.493	22.924	25.692	35.119	38.271	37.239	33.297
32.7	22.42	20.609	23.065	25.854	35.321	38.484	37.448	33.489
32.8	22.547	20.725	23.207	26.015	35.523	38.698	37.657	33.682
32.9	22.675	20.842	23.348	26.176	35.724	38.911	37.865	33.875
33	22.801	20.958	23.49	26.337	35.925	39.124	38.074	34.068
33.1	22.928	21.075	23.632	26.499	36.127	39.338	38.283	34.261
33.2	23.055	21.192	23.775	26.661	36.33	39.551	38.492	34.454
33.3	23.181	21.309	23.918	26.823	36.533	39.765	38.701	34.647
33.4	23.307	21.426	24.062	26.986	36.736	39.978	38.91	34.84
33.5	23.434	21.543	24.206	27.148	36.939	40.192	39.119	35.033
33.6	23.56	21.661	24.35	27.311	37.143	40.405	39.328	35.226
33.7	23.685	21.779	24.495	27.475	37.347	40.618	39.537	35.419
33.8	23.811	21.897	24.64	27.639	37.551	40.832	39.747	35.612
33.9	23.936	22.015	24.785	27.803	37.755	41.045	39.956	35.805
34	24.062	22.133	24.93	27.967	37.96	41.258	40.166	35.999
34.1	24.187	22.252	25.076	28.131	38.165	41.472	40.375	36.192
34.2	24.312	22.37	25.222	28.296	38.37	41.686	40.585	36.386
34.3	24.437	22.489	25.368	28.46	38.576	41.899	40.795	36.579
34.4	24.561	22.608	25.514	28.626	38.782	42.113	41.005	36.773
34.5	24.686	22.727	25.661	28.791	38.988	42.326	41.215	36.967
34.6	24.811	22.847	25.808	28.956	39.194	42.54	41.425	37.161
34.7	24.935	22.966	25.956	29.122	39.401	42.753	41.635	37.354
34.8	25.059	23.086	26.104	29.288	39.608	42.967	41.845	37.549
34.9	25.183	23.207	26.252	29.454	39.814	43.181	42.056	37.743

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t								
35	25.307	23.327	26.4	29.621	40.021	43.394	42.266	37.937
35.1	25.431	23.448	26.549	29.788	40.229	43.608	42.476	38.131
35.2	25.554	23.57	26.698	29.955	40.437	43.822	42.687	38.325
35.3	25.678	23.693	26.847	30.122	40.644	44.035	42.898	38.519
35.4	25.801	23.816	26.997	30.29	40.852	44.249	43.108	38.714
35.5	25.924	23.94	27.147	30.457	41.061	44.462	43.319	38.908
35.6	26.048	24.065	27.297	30.626	41.27	44.676	43.53	39.102
35.7	26.171	24.192	27.448	30.794	41.479	44.889	43.741	39.297
35.8	26.293	24.319	27.6	30.963	41.688	45.102	43.952	39.491
35.9	26.416	24.447	27.752	31.132	41.897	45.315	44.163	39.686
36	26.539	24.577	27.904	31.301	42.106	45.529	44.374	39.88
36.1	26.661	24.707	28.056	31.47	42.315	45.742	44.586	40.075
36.2	26.784	24.838	28.209	31.639	42.525	45.955	44.797	40.269
36.3	26.906	24.97	28.362	31.809	42.734	46.168	45.009	40.464
36.4	27.028	25.104	28.516	31.978	42.944	46.381	45.22	40.659
36.5	27.15	25.239	28.669	32.148	43.155	46.594	45.432	40.854
36.6	27.272	25.374	28.824	32.318	43.365	46.807	45.644	41.049
36.7	27.394	25.51	28.978	32.488	43.576	47.02	45.856	41.243
36.8	27.516	25.647	29.133	32.658	43.787	47.232	46.068	41.437
36.9	27.638	25.784	29.288	32.829	43.999	47.445	46.28	41.633
37	27.76	25.921	29.443	33	44.211	47.658	46.492	41.828
37.1	27.882	26.058	29.598	33.171	44.422	47.871	46.705	42.023
37.2	28.004	26.196	29.754	33.343	44.633	48.084	46.917	42.218
37.3	28.126	26.334	29.91	33.514	44.845	48.297	47.13	42.414
37.4	28.248	26.473	30.066	33.686	45.057	48.509	47.343	42.609
37.5	28.37	26.612	30.223	33.858	45.269	48.722	47.556	42.804
37.6	28.492	26.751	30.379	34.03	45.482	48.935	47.769	43
37.7	28.614	26.891	30.537	34.202	45.695	49.148	47.983	43.195
37.8	28.737	27.031	30.694	34.375	45.908	49.361	48.196	43.391
37.9	28.86	27.17	30.851	34.548	46.12	49.574	48.41	43.587
38	28.984	27.31	31.009	34.721	46.332	49.787	48.624	43.783
38.1	29.108	27.45	31.167	34.895	46.544	49.999	48.838	43.979
38.2	29.233	27.59	31.326	35.068	46.758	50.212	49.052	44.174
38.3	29.358	27.731	31.485	35.241	46.972	50.425	49.267	44.37
38.4	29.484	27.871	31.643	35.414	47.186	50.637	49.481	44.567
38.5	29.61	28.012	31.802	35.589	47.401	50.849	49.696	44.763
38.6	29.736	28.152	31.961	35.763	47.616	51.062	49.91	44.958
38.7	29.862	28.292	32.119	35.938	47.83	51.274	50.125	45.154
38.8	29.987	28.434	32.278	36.112	48.043	51.487	50.34	45.351
38.9	30.112	28.576	32.437	36.287	48.257	51.699	50.555	45.547

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t								
39	30.237	28.718	32.597	36.462	48.471	51.912	50.77	45.743
39.1	30.363	28.861	32.756	36.637	48.687	52.124	50.985	45.94
39.2	30.49	29.004	32.916	36.813	48.902	52.336	51.201	46.136
39.3	30.616	29.147	33.075	36.989	49.117	52.548	51.416	46.332
39.4	30.742	29.29	33.235	37.165	49.333	52.761	51.632	46.528
39.5	30.869	29.433	33.396	37.341	49.549	52.973	51.848	46.725
39.6	30.997	29.576	33.556	37.518	49.764	53.186	52.064	46.921
39.7	31.125	29.719	33.716	37.694	49.98	53.399	52.28	47.118
39.8	31.254	29.862	33.876	37.871	50.196	53.611	52.497	47.315
39.9	31.382	30.005	34.037	38.048	50.411	53.824	52.713	47.512
40	31.51	30.148	34.197	38.225		54.037	52.93	47.709
40.1	31.639	30.292	34.356	38.402		54.249	53.147	47.906
40.2	31.767	30.435	34.516	38.579		54.461	53.365	48.103
40.3	31.896	30.579	34.677	38.757		54.673	53.582	48.301
40.4	32.025	30.723	34.837	38.934		54.886	53.8	48.498
40.5	32.153	30.867	34.998	39.111		55.098	54.017	48.695
40.6	32.282	31.012	35.159	39.289		55.311	54.235	48.892
40.7	32.411	31.157	35.32	39.466		55.523	54.453	49.09
40.8	32.54	31.302	35.482	39.644		55.735	54.672	49.287
40.9	32.669	31.447	35.643	39.823		55.947	54.89	49.484
41	32.798	31.593	35.804	40.001		56.159	55.108	49.681
41.1	32.927	31.738	35.966	40.179		56.371	55.327	49.879
41.2	33.056	31.884	36.128	40.357		56.582	55.546	50.077
41.3	33.185	32.029	36.29	40.535		56.794	55.765	50.274
41.4	33.315	32.175	36.452	40.713		57.006	55.984	50.471
41.5	33.444	32.321	36.614	40.892		57.217	56.204	50.669
41.6	33.574	32.467	36.776	41.071		57.43	56.424	50.866
41.7	33.703	32.612	36.939	41.25		57.642	56.644	51.064
41.8	33.833	32.758	37.101	41.429		57.854	56.864	51.261
41.9	33.962	32.904	37.263	41.609		58.067	57.084	51.459
42	34.092	33.05	37.426	41.788		58.279	57.305	51.657
42.1	34.221	33.196	37.588	41.968		58.491	57.525	51.855
42.2	34.351	33.343	37.75	42.147		58.703	57.746	52.053
42.3	34.481	33.489	37.913	42.327		58.916	57.968	52.252
42.4	34.61	33.636	38.076	42.507		59.128	58.189	52.45
42.5	34.74	33.783	38.238	42.687		59.34	58.41	52.648
42.6	34.87	33.929	38.402	42.867		59.553	58.631	52.846
42.7	35.001	34.077	38.565	43.047		59.765	58.853	53.044
42.8	35.132	34.224	38.728	43.228		59.978	59.074	53.242
42.9	35.264	34.371	38.892	43.408		60.191	59.296	53.44

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t								
43	35.396	34.519	39.055	43.588		60.403	59.518	53.638
43.1	35.529	34.667	39.219	43.769		60.616	59.74	53.836
43.2	35.662	34.815	39.383	43.949		60.829	59.962	54.035
43.3	35.797	34.962	39.546	44.13		61.042	60.184	54.233
43.4	35.932	35.11	39.71	44.31		61.255	60.406	54.432
43.5	36.068	35.259	39.874	44.491		61.467	60.629	54.63
43.6	36.205	35.407	40.039	44.673		61.681	60.851	54.828
43.7	36.345	35.555	40.203	44.853		61.894	61.074	55.027
43.8	36.485	35.704	40.368	45.034		62.107	61.298	55.226
43.9	36.628	35.852	40.533	45.216		62.32	61.521	55.425
44	36.774	36.001	40.698	45.397		62.533	61.744	55.624
44.1	36.922	36.149	40.862	45.578		62.746	61.967	55.822
44.2	37.07	36.297	41.026	45.76		62.959	62.191	56.021
44.3	37.219	36.446	41.191	45.941		63.173	62.414	56.221
44.4	37.369	36.595	41.356	46.123		63.386	62.638	56.42
44.5	37.521	36.744	41.521	46.304		63.599	62.862	56.619
44.6	37.673	36.893	41.686	46.485		63.812	63.086	56.818
44.7	37.827	37.042	41.852	46.667		64.025	63.31	57.017
44.8	37.981	37.192	42.017	46.849		64.238	63.535	57.217
44.9	38.135	37.341	42.183	47.032		64.451	63.759	57.417
45	38.29	37.491	42.348	47.214		64.664	63.983	57.616
45.1	38.445	37.641	42.514	47.397		64.877	64.208	57.816
45.2	38.6	37.791	42.68	47.579		65.09	64.432	58.016
45.3	38.756	37.941	42.846	47.762		65.304	64.657	58.216
45.4	38.912	38.091	43.013	47.945		65.518	64.881	58.416
45.5	39.069	38.241	43.179	48.127		65.731	65.106	58.616
45.6	39.226	38.391	43.346	48.31		65.944	65.33	58.816
45.7	39.385	38.541	43.512	48.493		66.158	65.555	59.017
45.8	39.544	38.691	43.679	48.676			65.78	59.217
45.9	39.704	38.841	43.846	48.86			66.005	59.417
46	39.865	38.991	44.014	49.043			66.23	59.618
46.1	40.025	39.141	44.181	49.225			66.455	59.818
46.2	40.186	39.292	44.348	49.408			66.679	60.019
46.3	40.347	39.442	44.516	49.591			66.904	60.22
46.4	40.509	39.593	44.683	49.774			67.129	60.421
46.5	40.67	39.743	44.851	49.957			67.354	60.622
46.6	40.832	39.893	45.019	50.141			67.579	60.822
46.7	40.994	40.043	45.186	50.324			67.804	61.023
46.8	41.156	40.193	45.354	50.508			68.029	61.223
46.9	41.319	40.343	45.522	50.691			68.254	61.424

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t								
47	41.482	40.493	45.69	50.875			68.479	61.625
47.1	41.645	40.643	45.858	51.059			68.703	61.826
47.2	41.808	40.793	46.027	51.243			68.929	62.027
47.3	41.972	40.944	46.195	51.427			69.154	62.229
47.4	42.136	41.094	46.363	51.611			69.379	62.43
47.5	42.3	41.244	46.532	51.796			69.604	62.632
47.6	42.464	41.394	46.701	51.982			69.829	62.834
47.7	42.629	41.544	46.87	52.167			70.055	63.036
47.8	42.794	41.694	47.039	52.353			70.28	63.237
47.9	42.958	41.845	47.208	52.539			70.505	63.439
48	43.123	41.995	47.378	52.725			70.731	63.641
48.1	43.288	42.145	47.547	52.91			70.956	63.842
48.2	43.453	42.296	47.716	53.096			71.182	64.044
48.3	43.619	42.447	47.886	53.282			71.408	64.246
48.4	43.785	42.598	48.056	53.468			71.633	64.448
48.5	43.95	42.748	48.226	53.653			71.859	64.65
48.6	44.116	42.899	48.397	53.839			72.084	64.852
48.7	44.282	43.05	48.567	54.025			72.31	65.055
48.8	44.449	43.201	48.738				72.536	65.257
48.9	44.615	43.352	48.908				72.762	65.459
49	44.782	43.503	49.079				72.989	65.661
49.1	44.948	43.654	49.25				73.215	65.864
49.2	45.114	43.805	49.422				73.441	66.066
49.3	45.28	43.957	49.593				73.667	66.268
49.4	45.447	44.109	49.764				73.894	66.471
49.5	45.613	44.261	49.935				74.121	66.674
49.6	45.78	44.412	50.107				74.347	66.877
49.7	45.947	44.564	50.279				74.574	67.08
49.8	46.114	44.715	50.45				74.801	67.283
49.9	46.281	44.866	50.622				75.027	67.486
50	46.448	45.018	50.794				75.253	67.69
50.1	46.615	45.171	50.966				75.48	67.894
50.2	46.783	45.323	51.138				75.707	68.098
50.3	46.95	45.475	51.31				75.934	68.301
50.4	47.117	45.627	51.482				76.161	68.505
50.5	47.285	45.779	51.655				76.388	68.708
50.6	47.452	45.931	51.827				76.616	68.911
50.7	47.619	46.083	52				76.843	69.115
50.8	47.786	46.235	52.172				77.07	69.318
50.9	47.953	46.387	52.345				77.297	69.521

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t								
51	48.12	46.54	52.518				77.525	69.725
51.1	48.287	46.692	52.691				77.752	69.929
51.2	48.455	46.844	52.864				77.98	70.133
51.3	48.623	46.997	53.038				78.208	70.337
51.4	48.791	47.149	53.211					70.541
51.5	48.958	47.302	53.385					70.745
51.6	49.125	47.455	53.558					70.949
51.7	49.291	47.607	53.732					71.153
51.8	49.457	47.76	53.905					71.358
51.9	49.623	47.913	54.079					71.562
52	49.791	48.066	54.253					71.766
52.1	49.96	48.219	54.427					71.971
52.2	50.129	48.372	54.601					72.175
52.3	50.297	48.525	54.775					72.38
52.4	50.464	48.678	54.95					72.585
52.5	50.632	48.831	55.124					72.79
52.6	50.8	48.985	55.299					72.995
52.7	50.97	49.138	55.473					73.2
52.8	51.139	49.292	55.648					73.405
52.9	51.307	49.446	55.822					73.61
53	51.477	49.6	55.997					73.815
53.1	51.646	49.754	56.172					74.02
53.2	51.815	49.908	56.346					74.225
53.3	51.985	50.062	56.521					74.43
53.4	52.156	50.216	56.696					74.636
53.5	52.327	50.371	56.87					74.84
53.6	52.499	50.525	57.044					75.045
53.7	52.672	50.68	57.219					75.251
53.8	52.846	50.835	57.394					75.457
53.9	53.019	50.99	57.569					75.662
54	53.192	51.145	57.745					75.868
54.1	53.365	51.3	57.921					76.074
54.2	53.538	51.455	58.096					76.28
54.3	53.712	51.61	58.271					76.486
54.4	53.886	51.765	58.447					76.692
54.5	54.059	51.92	58.622					76.899
54.6	54.233	52.076	58.797					77.105
54.7	54.407	52.231	58.973					77.311
54.8	54.581	52.386	59.15					77.517
54.9	54.755	52.542	59.326					77.723

r →	0	20	30	35	45	55	65	75
t								
55	54.93	52.698	59.503					77.929
55.1	55.104	52.853	59.68					78.135
55.2	55.279	53.01						78.341
55.3	55.455	53.166						78.547
55.4	55.63	53.322						78.754
55.5	55.806	53.478						
55.6	55.983	53.634						
55.7	56.159	53.79						
55.8	56.335	53.946						
55.9	56.511	54.103						
56	56.687	54.259						
56.1	56.864	54.416						
56.2	57.042	54.573						
56.3	57.22	54.729						
56.4	57.398	54.886						
56.5	57.576	55.043						
56.6	57.755	55.201						
56.7	57.934	55.358						
56.8	58.114	55.515						
56.9	58.294	55.672						
57	58.474	55.83						
57.1	58.655	55.988						
57.2	58.835	56.145						
57.3	59.016	56.303						
57.4	59.197	56.461						
57.5	59.378	56.619						
57.6	59.559	56.776						
57.7	59.741	56.934						
57.8	59.923	57.092						
57.9	60.105	57.25						
58	60.288	57.409						
58.1	60.47	57.568						
58.2	60.653	57.726						
58.3	60.837	57.884						
58.4	61.02	58.043						
58.5	61.204	58.202						
58.6	61.389	58.361						
58.7	61.573	58.52						
58.8	61.758	58.679						
58.9	61.943	58.838						

r →	0	20	30	35	45	55	65	75
t								
59	62.128	58.997						
59.1	62.314	59.156						
59.2	62.499	59.316						
59.3	62.684	59.476						
59.4	62.871	59.636						
59.5	63.057	59.796						
59.6	63.244	59.956						
59.7	63.432	60.116						
59.8		60.275						
59.9		60.435						
60		60.595						
60.1		60.754						
60.2		60.914						
60.3		61.075						
60.4		61.235						
60.5		61.396						
60.6		61.556						
60.7		61.717						
60.8		61.877						
60.9		62.038						
61		62.199						
61.1		62.359						
61.2		62.52						
61.3		62.68						
61.4		62.842						
61.5		63.003						
61.6		63.164						
61.7		63.326						
61.8		63.487						
61.9		63.649						
62		63.811						
62.1		63.973						
62.2		64.135						
62.3		64.298						
62.4		64.46						
62.5		64.622						
62.6		64.784						
62.7		64.947						
62.8		65.109						
62.9		65.272						

r →	0	20	30	35	45	55	65	75
t								
63		65.434						
63.1		65.597						
63.2		65.759						
63.3		65.922						
63.4		66.084						
63.5		66.246						
63.6		66.409						
63.7		66.572						
63.8		66.737						
63.9		66.901						
64		67.064						
64.1		67.228						
64.2		67.392						
64.3		67.555						
64.4		67.719						
64.5		67.883						
64.6		68.047						
64.8		68.378						

2021E PT5 Diagnostic Plate Displacement Contour Table

Time referenced in microseconds from detonator circuit current start

Radial profiles vs time for PT5.

Displacements are given in mm.

Radius (mm)	t=15 μ s	t=20 μ s	t=25 μ s	t=30 μ s	t=35 μ s	t=40 μ s
0	1.672	5.514	12.115	18.898	25.308	31.511
20	1.259	6.023	11.788	17.500	23.330	30.152
30	1.124	6.812	12.941	19.341	26.396	34.193
35	1.552	7.628	14.325	21.603	29.611	38.194
45	3.398	11.636	20.362	29.902	39.981	50.570
55	4.255	13.716	23.035	32.735	43.384	54.078
65	3.303	12.388	21.688	31.882	42.292	52.956
75	1.681	9.994	18.925	28.270	37.885	47.656

JACK RABBIT PRETEST 2021E PT6

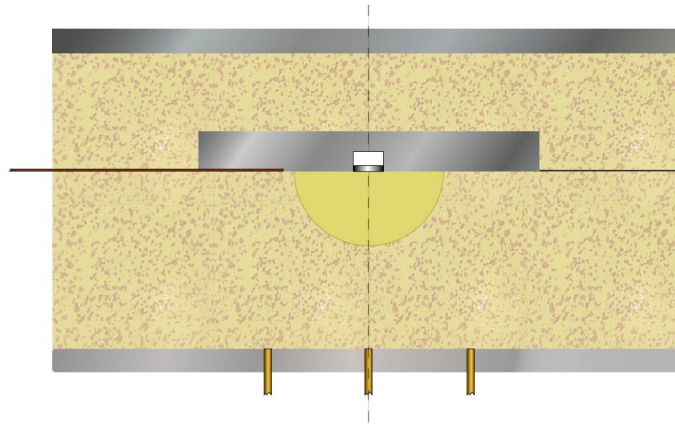


Figure 25. 2021E PT6 graphic cross section

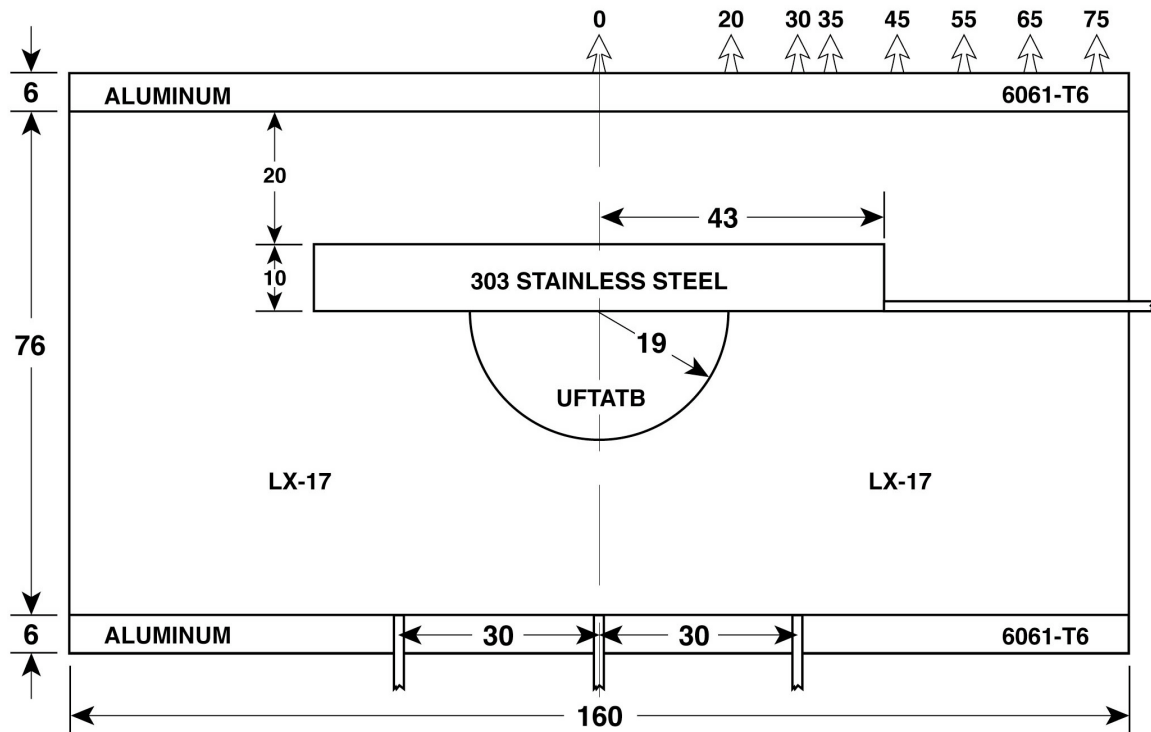


Figure 26. 2021E PT6 schematic cross section – dimensions in millimeters

The laser velocimetry points were measured on the aluminum diagnostic plate (top plate) at radial distances of 0, 20, 30, 35, 45, 55, 65 and 75 millimeters relative to the experiment's central axis. Seven timing pins were located on the bottom aluminum plate. One central surrounded by six in a circular pattern at 30 millimeters from the experiment's central axis. The hemispherical booster is pressed ultrafine TATB (UFTATB) and LX-17 is TATB with 7.5% Kel-F binder.

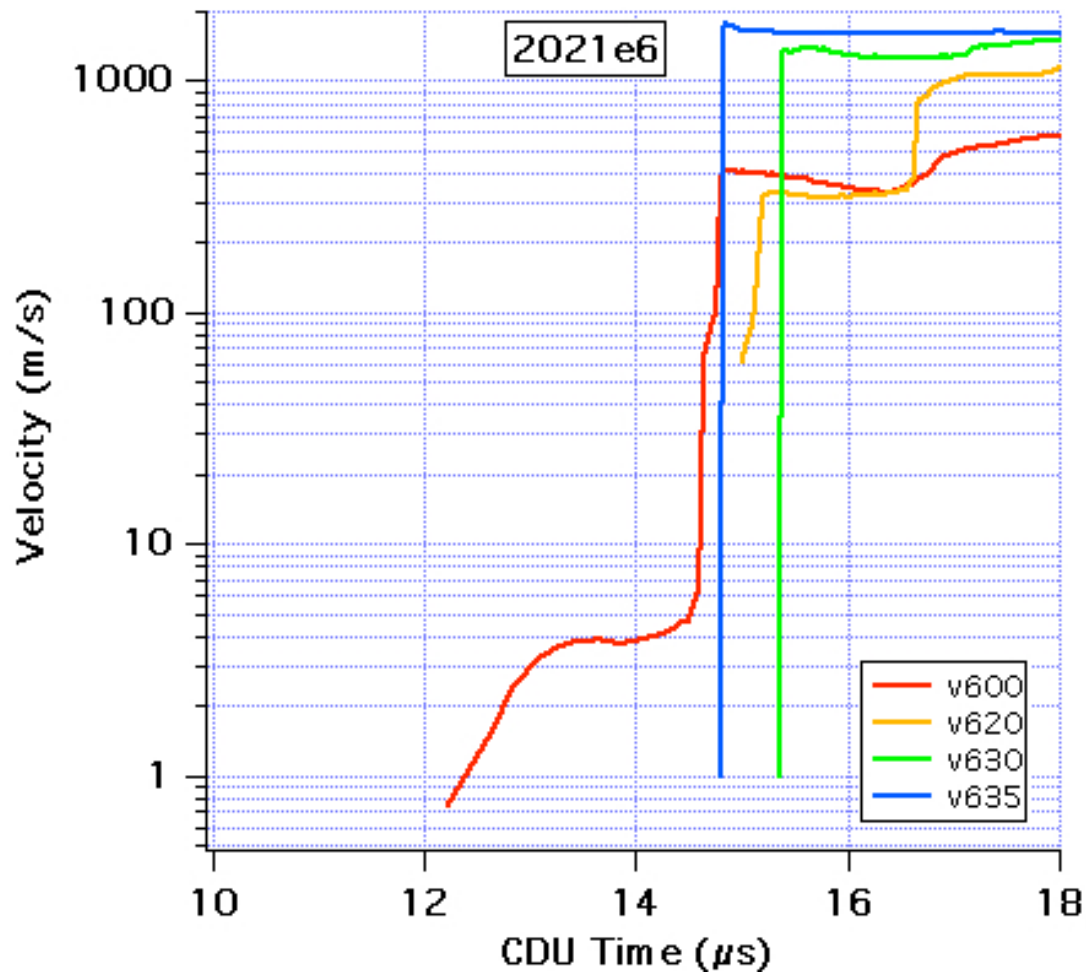


Figure 27. 2021E PT6 short time axis velocity plot for diagnostic plate radial measurement points 00, 20, 30, and 35; time is referenced from detonator circuit current start

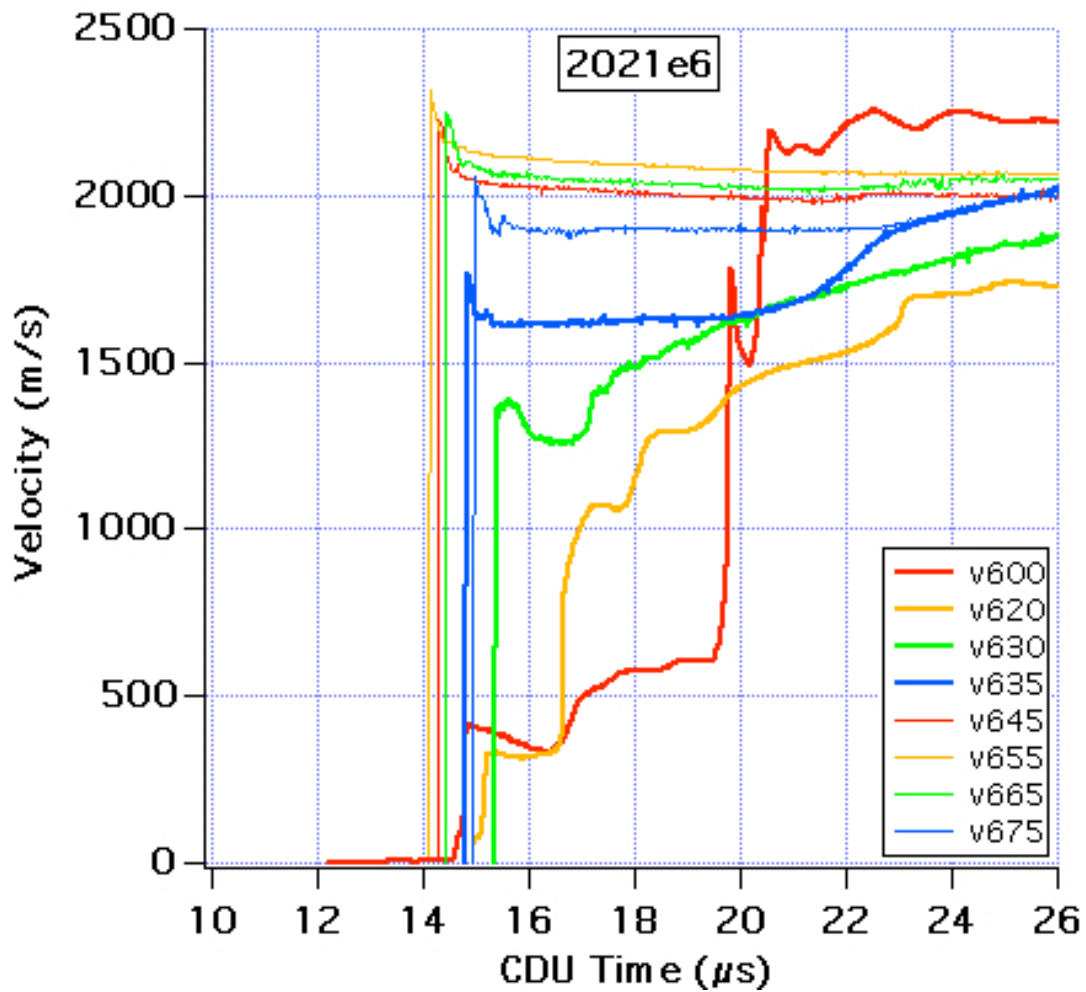


Figure 28. 2021E PT6 intermediate time axis velocity plot for diagnostic plate radial measurement points 00, 20, 30, 35, 45, 55, 65, and 75; time is referenced from detonator circuit current start

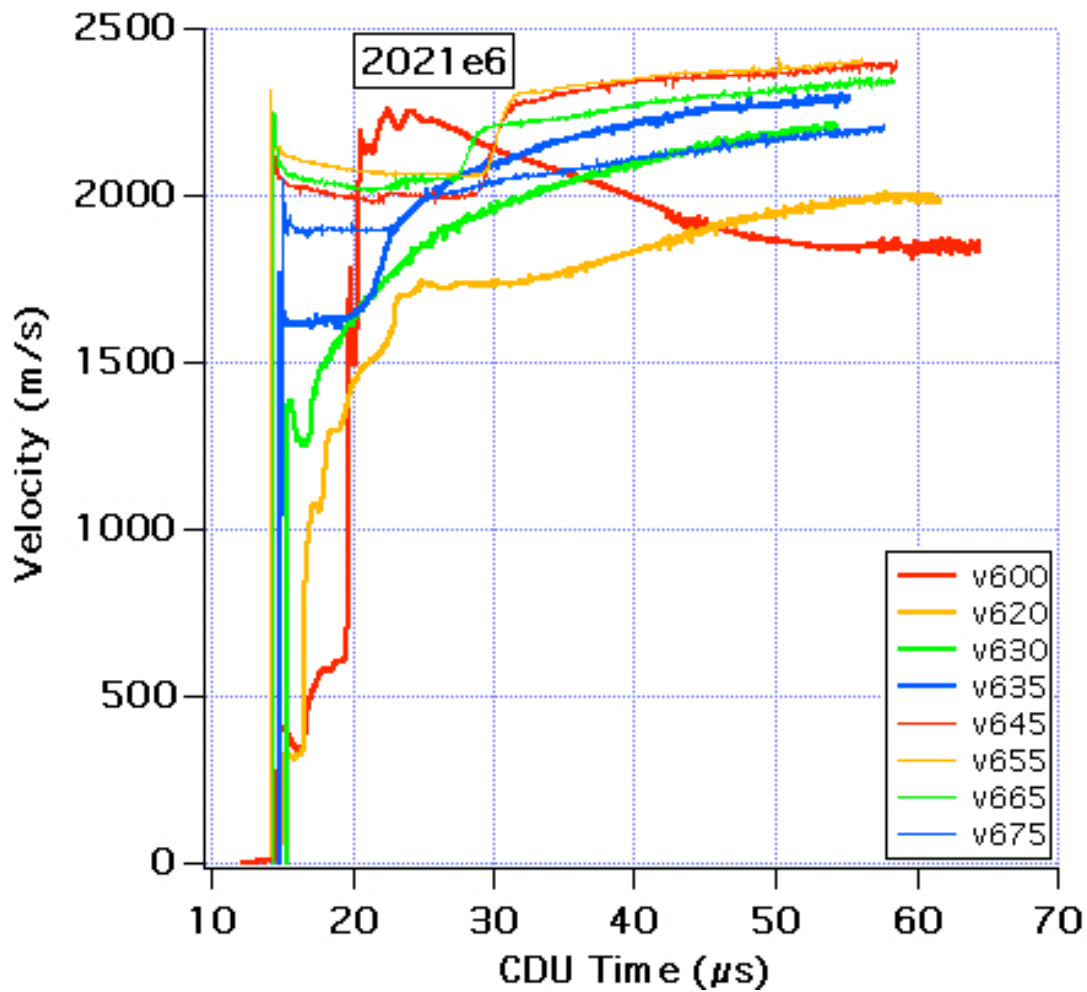


Figure 29. 2021E PT6 long time axis velocity plot for diagnostic plate radial measurement points 00, 20, 30, 35, 45, 55, 65, and 75; time is referenced from detonator circuit current start

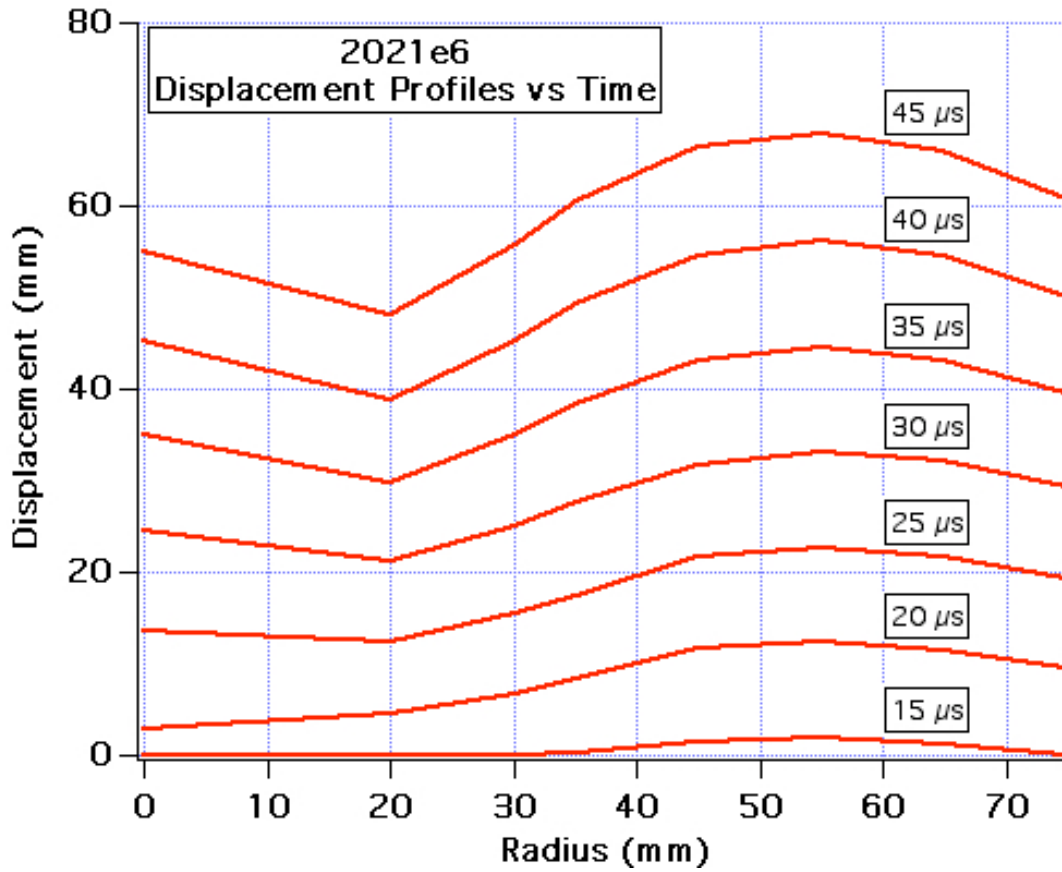


Figure 30. 2021E PT6 diagnostic plate displacement profiles; time is referenced from detonator circuit current start

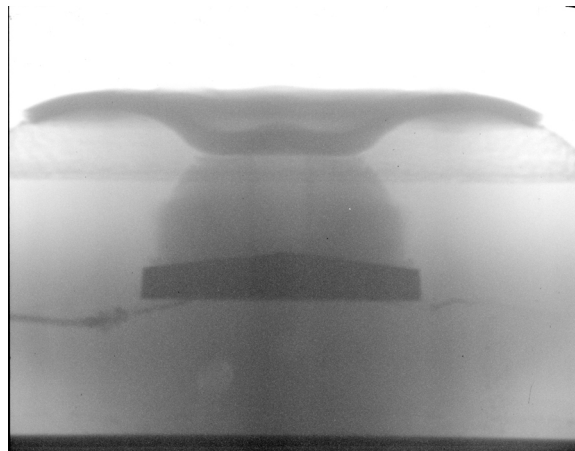


Figure 31. 2021E PT6 radiograph, 30 microseconds after detonator circuit current start, showing shadowplate, dead-zone conformation, dished diagnostic plate

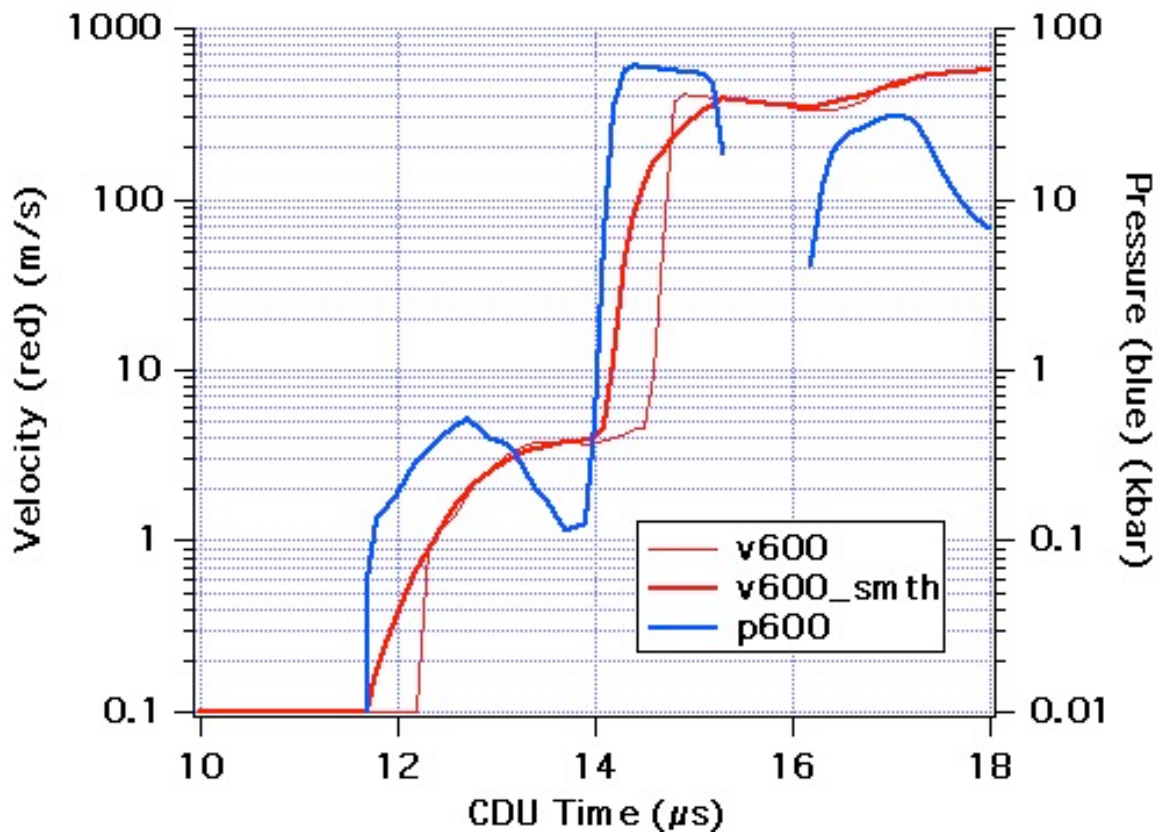


Figure 32. 2021E PT6 diagnostic plate velocity and pressure behind the diagnostic plate at the central axis, point 00; time is referenced from detonator circuit current start

2021E PT6 Diagnostic Plate Velocity Table

Diagnostic Plate Velocities of Jack Rabbit Pretest 2021E PT6; time is referenced in microseconds from detonator circuit current start.

Jack Rabbit Pretest 2021E PT6 VELOCITY Data								
Columnar data: meters per second								
absolute timing accuracy relative to time zero = +/- 0.025 microseconds								
relative timing uncertainty between data channels = +/- 0.005 microseconds								
z velocity uncertainty = +/- 5 percent of velocity								
PDV measurement point position uncertainty = +/- 0.25 millimeters								
r →	0	20	30	35	45	55	65	75
t								
12	0	0	0	0	0	0	0	0
12.1	0	0	0	0	0	0	0	0
12.2	0	0	0	0	0	0	0	0
12.3	0.8939	0	0	0	0	0	0	0
12.4	1.0809	0	0	0	0	0	0	0
12.5	1.2678	0	0	0	0	0	0	0
12.6	1.4548	0	0	0	0	0	0	0
12.7	1.8326	0	0	0	0	0	0	0
12.8	2.2357	0	0	0	0	0	0	0
12.9	2.5406	0	0	0	0	0	0	0
13	2.8361	0	0	0	0	0	0	0
13.1	3.2237	0	0	0	0	0	0	0
13.2	3.4655	0	0	0	0	0	0	0
13.3	3.6763	0	0	0	0	0	0	0
13.4	3.7443	0	0	0	0	0	0	0
13.5	3.7654	0	0	0	0	0	0	0
13.6	3.8307	0	0	0	0	0	0	0
13.7	3.8443	0	0	0	0	0	0	0
13.8	3.7398	0	0	0	0	0	0	0
13.9	3.7127	0	0	0	0	0	0	0
14	3.7959	0	0	0	0	0	0	0
14.1	3.9093	0	0	0	0	542.9	0	0
14.2	4.0321	0	0	0	0	2257.7	0	0
14.3	4.2339	0	0	0	2226.7	2200.5	0	0
14.4	4.5117	0	0	0	2158.3	2161.7	0	0
14.5	4.6248	0	0	0	2085.5	2163.1	2225.2	0
14.6	9.9997	0	0	0	2070.5	2142.7	2159.7	0
14.7	80.302	0	0	0	2055.3	2147.1	2099.6	0
14.8	381.79	0	0	444.71	2052.8	2141.3	2097.5	0
14.9	410.27	0	0	1736.7	2051.4	2128.1	2098	0

r →	0	20	30	35	45	55	65	75
t								
15	407.1	61.657	0	1646.8	2045.9	2129.5	2085.8	2034
15.1	398.35	87.953	0	1634.1	2041.5	2125.4	2079.9	1995.5
15.2	396.26	295.76	0	1648	2042	2120.8	2070.9	1955.4
15.3	393.79	327.16	0	1618	2037.6	2124.1	2065.7	1892.8
15.4	386.1	329.56	1336	1615	2033	2119.6	2059.8	1891.2
15.5	378.53	324.55	1366	1612.2	2031.3	2114.3	2057.9	1939
15.6	378.06	318.16	1379.1	1612.2	2027.7	2116.1	2066.3	1917
15.7	364.02	315.65	1372.2	1608.6	2030.4	2115.7	2065.6	1904.4
15.8	357.62	314.57	1360.4	1612.4	2032	2118.1	2062.8	1905.8
15.9	353.6	313.83	1317.2	1611.1	2029.5	2114.1	2056.4	1900.2
16	345.72	316.56	1297	1612.8	2023.1	2111.1	2057	1891.5
16.1	339.14	318.97	1276.1	1615.1	2028	2109.4	2054.7	1898.8
16.2	338.18	321.63	1270.1	1612.6	2025.6	2108.6	2053.9	1892.9
16.3	332.6	322.83	1264.3	1611.4	2030.8	2107.7	2054.1	1888.9
16.4	329	326.82	1265.3	1611.3	2021.7	2106.1	2047.4	1895.4
16.5	342.57	334.65	1257.2	1614.2	2027.3	2104.7	2050.9	1887.9
16.6	356	362.66	1257.9	1611.5	2019.5	2104.6	2046.2	1887.4
16.7	382.01	838.82	1257.4	1614.2	2022.6	2103.6	2046.9	1881.2
16.8	417.6	916.36	1259.7	1617	2021.5	2101.3	2047.6	1878.7
16.9	463.05	968.28	1271.7	1622.1	2022.5	2100.4	2049.3	1891.2
17	489.05	1006.9	1278.9	1616	2018.6	2100	2045.8	1895.6
17.1	502.76	1042.7	1298.5	1613.9	2018.6	2099.6	2045.4	1896.1
17.2	513.45	1064.5	1373.9	1618.8	2017.6	2098.1	2046.1	1895.4
17.3	521.48	1072.4	1398.7	1613.4	2016.3	2096.1	2042.1	1898.9
17.4	528.66	1072.3	1413.4	1626.8	2015	2097.6	2046.5	1903.1
17.5	538.96	1068.6	1415.5	1616.6	2014.9	2095.2	2043.5	1900.3
17.6	550.95	1063.4	1454.9	1618.6	2012.4	2096.2	2043	1901.5
17.7	563.34	1057.9	1464	1621.1	2008.7	2097	2045.7	1900.6
17.8	569.5	1064.2	1480.6	1622.2	2009.8	2094.2	2041.9	1889.5
17.9	573.35	1088.6	1484.7	1621.8	2011.1	2092.2	2047.9	1900.1
18	575.98	1133.7	1483.5	1621.4	2009.3	2092.5	2039.4	1899
18.1	577.56	1188.1	1486.9	1628	2009.2	2092.8	2041.5	1900.9
18.2	576.98	1239.7	1508.8	1634.7	2000.8	2088.7	2037.3	1901.7
18.3	574.06	1269	1513.9	1627.4	2005.5	2090.5	2037.5	1902.1
18.4	574.27	1281.6	1510.5	1629.6	2006.1	2090.6	2036.5	1902.8
18.5	576.6	1289.4	1520.2	1627.7	2004.2	2090.2	2037.4	1901.4
18.6	582.05	1291.8	1534.6	1627.8	2003.2	2091.3	2036.8	1898.7
18.7	590.75	1292.4	1542.9	1628.2	2003.6	2085.6	2032.7	1895.9
18.8	599.78	1291.6	1552.3	1617.1	1999.1	2086.4	2034.2	1897.1
18.9	602.1	1290.9	1555.2	1627.5	2000.9	2085	2034.3	1897.3

r →	0	20	30	35	45	55	65	75
t								
19	602.44	1292	1550.1	1628.8	2000.8	2083.6	2033.7	1896.5
19.1	602.32	1296.1	1558.2	1628.1	1999.9	2084.6	2033.3	1897.6
19.2	602.36	1304.1	1564	1608.7	1999.3	2081.8	2032.7	1901.2
19.3	603.11	1313.3	1575.7	1623.8	1999.8	2079.1	2030.2	1896.9
19.4	605.21	1324.8	1586.4	1630.5	1998.9	2081.4	2029.2	1898.1
19.5	607.4	1340.5	1596.5	1628.8	1997.9	2081	2028.3	1899.3
19.6	660.89	1359.2	1603.9	1627.9	1996.1	2081	2033.5	1900.8
19.7	785.93	1379.5	1612.5	1631.9	1997.9	2079.9	2024.1	1899.7
19.8	1451.3	1399	1615.8	1632.5	1996.6	2080.5	2029.5	1898
19.9	1654.3	1413.4	1618.7	1635.1	1996.4	2079.3	2026.5	1895.9
20	1549.3	1424.6	1623	1638.2	1994.9	2078.1	2025.9	1902.8
20.1	1506.4	1433	1626.1	1640.6	1994.2	2077.5	2024.3	1897.6
20.2	1493.7	1442.1	1633.8	1642.8	1992	2076.2	2024.5	1898.2
20.3	1566.3	1448.8	1635.7	1647.3	1993.7	2075	2023.2	1897.9
20.4	1961.5	1455.9	1645.3	1646.4	1991.3	2074.8	2023.9	1897.8
20.5	1973.7	1464.2	1653.7	1655.9	1990.9	2074.5	2022.3	1898.4
20.6	2189.5	1470.2	1655.7	1656.4	1990.6	2074.4	2021.6	1897.3
20.7	2162.9	1476.2	1669.3	1665.3	1990.7	2073.5	2019.7	1897.6
20.8	2140	1482.1	1674.7	1664.3	1989.3	2073.5	2020.7	1899.9
20.9	2125.7	1484.6	1680.5	1670	1988	2073.6	2019.4	1896.9
21	2134.8	1488.8	1688.4	1675.4	1988.3	2072.4	2017.4	1894.1
21.1	2143.6	1492.3	1684	1681.5	1987.7	2071.7	2018.2	1897.5
21.2	2144.4	1496.5	1686.8	1687.7	1986.7	2070.9	2019.4	1897.1
21.3	2138.6	1500.8	1690.2	1694.7	1984.8	2070.4	2012.7	1899.4
21.4	2130.9	1504.4	1692.1	1700.8	1984	2069.9	2019.2	1898.5
21.5	2125.8	1507.1	1699.5	1712.8	1982.4	2069.4	2015.8	1899.1
21.6	2138.4	1510.5	1702.7	1724.6	1984	2067.9	2023.5	1898.7
21.7	2156.8	1514.6	1707.8	1740.3	1982.5	2070.5	2019.9	1899.3
21.8	2175.4	1518.6	1714.1	1748.8	2007.8	2070.7	2020.5	1898.6
21.9	2193.1	1522.7	1717.4	1757.5	1987	2069.9	2020.2	1899.5
22	2208.1	1527.7	1723.7	1772.4	1989.1	2069.9	2021.4	1900
22.1	2220.3	1533.5	1731.3	1784.6	1994.1	2069.9	2019.6	1900.1
22.2	2227.3	1539.3	1734.1	1798.9	1997.2	2069.1	2022.7	1901.1
22.3	2234.4	1546.4	1741.4	1814.5	2003.9	2064.2	2028.3	1901.6
22.4	2242.9	1552.4	1746.7	1832	2003.1	2066.2	2022.7	1901.9
22.5	2252.8	1557.2	1750.5	1847.7	2004.7	2068.3	2023.7	1902.5
22.6	2251.6	1568.8	1752.6	1855.3	2003.4	2064	2025.1	1903.9
22.7	2243.4	1581.1	1757.9	1873.4	2005.6	2067	2030	1908
22.8	2234.6	1590.8	1760.5	1877.9	2007.5	2066.9	2033	1908.9
22.9	2226	1602	1765.4	1887.9	2009.9	2063.4	2025.5	1911.9

r →	0	20	30	35	45	55	65	75
t								
23	2217.7	1616.7	1766.8	1894.1	2009.5	2069.6	2027.4	1916.2
23.1	2210.1	1657.7	1769.8	1902.3	2009.1	2070.1	2043.3	1916.4
23.2	2203.2	1687.4	1771.1	1899.1	2007.1	2064.7	2028.9	1927.3
23.3	2199.1	1693.3	1780.5	1915.1	2005.9	2067.1	2031.5	1924.9
23.4	2200.1	1695.3	1782.5	1919	2004.1	2065.4	2045.9	1928.1
23.5	2206.5	1696.7	1785.9	1921.9	2003.2	2065.9	2041.7	1934.9
23.6	2216.5	1698.2	1789.2	1924.2	2003.3	2065.7	2051.7	1937.8
23.7	2227	1699.7	1795.9	1926.9	2001.8	2065.2	2042.3	1942.5
23.8	2235	1699.8	1801	1930.9	2005.2	2066	2056.3	1948.6
23.9	2242	1700	1804.7	1936.5	2003.1	2066.7	2021.9	1953.2
24	2246.9	1700.5	1807.2	1944.1	2003.7	2065.6	2049.7	1955
24.1	2249.7	1700.9	1813.1	1945.7	2003.6	2064.4	2052	1964.1
24.2	2250.2	1702.7	1820.8	1949.7	2001.5	2064	2055.3	1966.1
24.3	2248.8	1704.5	1811.4	1952.3	1999.8	2067.5	2050.1	1966.7
24.4	2245.8	1705.5	1826.9	1958.3	2001.7	2066.3	2044.7	1963.9
24.5	2241.1	1712.4	1827.2	1959.8	2002.4	2066.3	2056.7	1969.7
24.6	2235.9	1716.6	1834.1	1967.2	1998.5	2067.7	2051.6	1978
24.7	2231.9	1716.5	1836.1	1971.4	1998.5	2066.3	2043	1982.7
24.8	2228.2	1732.3	1839.5	1972.2	2000.2	2068.1	2050	1986.3
24.9	2224.5	1731.6	1845.7	1975.8	1998.1	2068.5	2049.5	1988.7
25	2221.8	1738.5	1852.6	1980.6	2000.3	2067.5	2047.4	1990.6
25.1	2220.5	1737.8	1851.2	1983.2	1998.1	2068.2	2041.8	1991.8
25.2	2220.1	1738.1	1851	1988.8	1997.7	2068	2047.6	1994.1
25.3	2220.2	1737.3	1851.8	1987.7	1997.3	2067.4	2049.1	1995.7
25.4	2221	1735.3	1856.7	1991.4	1998.7	2067.7	2047	1997.7
25.5	2222.8	1732.8	1852.8	1997.8	1998.3	2066.6	2048.1	1997.6
25.6	2225.2	1733.2	1853.4	1999.8	1998.9	2065.9	2046.9	1993.8
25.7	2223.2	1731.4	1858.4	2003.3	2002	2065.6	2050.8	2000.1
25.8	2222.7	1728.9	1867.8	2006.8	1997.6	2065.3	2050.9	2001.4
25.9	2221.5	1725.1	1864.8	2016.1	1997.1	2063.4	2049.5	1999.5
26	2220.3	1726.4	1878.3	2016.7	1997.4	2062.5	2049.2	2010
26.1	2218.3	1724.5	1886.8	2017.6	2000.1	2064.4	2050.3	1999.4
26.2	2216.5	1722.3	1893.3	2019.8	1996.7	2064.2	2051.7	2005.3
26.3	2214.5	1720.7	1897.7	2020.4	1997.5	2064.1	2050.5	2004.7
26.4	2211.7	1719.8	1899.5	2023.6	1995.5	2063.9	2051.1	2006.3
26.5	2209.7	1720.2	1891.9	2026.7	1995.7	2063.9	2050.6	2007
26.6	2207.8	1719	1894.3	2028	1997.6	2062.9	2050.8	2007.6
26.7	2206.1	1718.8	1898	2033.4	1996.6	2062.7	2050.7	2008.8
26.8	2204.1	1718.8	1897.4	2035.4	1994.9	2063.2	2050.5	2011.5
26.9	2202.8	1721	1900	2039.6	1995	2063.2	2049.7	2009.9

r →	0	20	30	35	45	55	65	75
t								
27	2201.7	1722.2	1899.9	2042.9	1995.5	2062.9	2048.7	2011.2
27.1	2199.7	1724.5	1902.6	2042.3	1996	2063.2	2051.1	2013.8
27.2	2197.8	1727	1900.9	2047.7	1994.7	2062.5	2051.7	2011.3
27.3	2196.3	1729.3	1901.6	2048.5	1996.4	2062.6	2050.7	2011.6
27.4	2196.3	1731.1	1903.9	2052.6	1998	2062.3	2058.4	2011.3
27.5	2192.8	1732.5	1896	2051.6	1996.7	2063	2065.6	2014.2
27.6	2190	1733	1907.2	2053.4	1997.5	2063.9	2067.7	2011.9
27.7	2188.3	1732.9	1914.9	2058.8	1997.9	2061.6	2078.3	2012.7
27.8	2186.1	1735.6	1912.5	2059.7	1997.2	2061.6	2087.8	2018.2
27.9	2184.1	1733.6	1919.5	2058.9	1998.6	2061.6	2095.8	2018.7
28	2180.9	1734.1	1919.2	2061	1999.1	2060.6	2102.8	2021.1
28.1	2177.8	1734	1929.3	2062.9	1999.3	2060.9	2123.1	2020.8
28.2	2174.9	1733.5	1929.7	2064.4	2000.1	2060.5	2142.9	2021.1
28.3	2173	1733.2	1936.5	2067.2	2003.1	2060.2	2144.5	2022.3
28.4	2170	1733.5	1931.2	2069.6	2002.6	2066.9	2162.3	2023.4
28.5	2167	1730.2	1935.6	2069.5	2005.2	2060.8	2164.4	2023.9
28.6	2164.8	1733.7	1929.7	2073.1	2007.9	2062.4	2168.9	2026.4
28.7	2161.8	1731.7	1933	2075.1	2005.9	2061.9	2174.1	2027.9
28.8	2159.8	1734.2	1934.6	2076.1	2008.6	2062.9	2182.6	2027.8
28.9	2158.2	1731.6	1930.7	2077.4	2012.8	2063	2185	2025.9
29	2156.6	1733.2	1932.2	2076.2	2018.6	2062.3	2189.3	2025
29.1	2154.9	1729.5	1934.9	2078	2024.5	2064.3	2194.3	2032
29.2	2153.1	1736.3	1937.6	2080.3	2035.5	2066.1	2197.4	2032.3
29.3	2151.2	1732	1938.7	2084	2050.9	2067.8	2195.7	2039.4
29.4	2149.2	1733	1942.1	2076.5	2060.4	2071	2202.2	2037.7
29.5	2147.1	1732.3	1945.2	2084.5	2072.7	2076.9	2204.8	2035.5
29.6	2145.9	1730.9	1945.9	2087.4	2095.5	2084	2203.4	2037.7
29.7	2144.1	1731.6	1948	2081.7	2115.2	2091.8	2205.3	2039.6
29.8	2142.8	1729.3	1960.7	2086.8	2128.5	2106.4	2207.6	2036.5
29.9	2140.8	1727.2	1967.4	2086.9	2141.1	2124.5	2209	2040.7
30	2137.9	1735.8	1950.1	2088.4	2155.4	2138.9	2208.1	2041.1
30.1	2137.9	1736.1	1961.3	2092.5	2159.2	2155.3	2213.1	2040
30.2	2134.6	1731.3	1958.6	2093.7	2170.7	2178	2210.6	2043.3
30.3	2133.4	1735.6	1970.8	2084.7	2193.2	2196.4	2212.7	2042.7
30.4	2131.9	1737.7	1971.7	2097.3	2190.8	2215.5	2213.1	2037.6
30.5	2130.3	1732.4	1969.6	2097.8	2208.8	2217.7	2213	2046.3
30.6	2125.8	1735.8	1971.7	2100.2	2220.9	2229.9	2213.4	2045.2
30.7	2126	1733.1	1971.6	2099.7	2226.7	2238.7	2214.1	2047.5
30.8	2125.6	1735.6	1969	2094.7	2234.8	2250.4	2214.3	2048.6
30.9	2125.4	1735.4	1969	2102.4	2240.4	2258.5	2215.5	2048.7

r →	0	20	30	35	45	55	65	75
t								
31	2121	1736.6	1972.4	2104.3	2251.4	2268	2215.4	2050.3
31.1	2110.4	1735.9	1969.1	2097.6	2255.8	2276.3	2216.7	2051.4
31.2	2119.3	1737.1	1974	2108	2258.9	2281.9	2218.5	2051.4
31.3	2117.8	1735.6	1977.2	2107.6	2259.9	2290.1	2220	2052
31.4	2117.4	1736.6	1978	2112	2262.7	2293.5	2215.3	2054.6
31.5	2116.8	1735.3	1984.9	2114.2	2269.7	2300.1	2215.9	2063.9
31.6	2115.3	1735.8	1985.1	2114.7	2281.6	2301.5	2214.5	2055.3
31.7	2113.8	1736.6	1985.1	2115.9	2272.5	2305.9	2216.5	2054.4
31.8	2112.9	1737.3	1986.1	2117.5	2278.5	2306.7	2219.1	2057
31.9	2111.1	1737.6	1982.8	2119.6	2278.3	2308.3	2215.7	2054
32	2109.9	1738.9	1988.4	2118.8	2280.4	2308.2	2220.2	2057.4
32.1	2108.4	1739.4	1991.3	2120.7	2281.1	2307.5	2219.8	2058.4
32.2	2107.2	1739.9	1995.4	2127.5	2282.8	2306.5	2218.3	2059.7
32.3	2105.4	1738	1994.3	2125.9	2283.3	2306.7	2220.4	2056.9
32.4	2105	1742.6	2000.7	2127.6	2281.3	2307.4	2218.6	2057.9
32.5	2102.5	1744.7	2001.1	2129.8	2280.1	2308.1	2221.1	2055.1
32.6	2101.3	1745.7	1999.9	2127.6	2280.9	2313.9	2225.5	2057.9
32.7	2099.6	1745.3	2003.5	2130.8	2281.3	2312.7	2224.6	2057.9
32.8	2098	1746.6	2003.3	2132.3	2285	2311.5	2221.5	2061.4
32.9	2096.6	1749.7	1998.5	2132.6	2281.4	2312.6	2224.4	2061.2
33	2095.1	1749.9	2003.5	2135.7	2285.8	2310.9	2226.3	2060.6
33.1	2094.9	1750.3	2004.7	2138.8	2284.4	2310.4	2222.2	2062
33.2	2093.4	1750.5	2012.6	2139.7	2290.2	2311	2223.3	2063.2
33.3	2093.7	1751.3	2011.7	2133	2286.5	2311.8	2229.6	2061.8
33.4	2090.5	1749.8	2012.1	2137.9	2291	2312.3	2229.6	2066.3
33.5	2089.2	1752.4	2012	2145	2293	2312.7	2227.2	2063.4
33.6	2087	1751.9	2018.2	2146.3	2295.7	2313	2228.2	2067.4
33.7	2085.4	1751.7	2015.9	2147.5	2295	2314.9	2228.7	2059.7
33.8	2084	1750.4	2018	2148.7	2293.5	2315.3	2227.8	2064.7
33.9	2082.8	1757.4	2019.5	2148.2	2293.6	2316.1	2228.8	2069.3
34	2081.6	1754.2	2021.3	2150.5	2298.1	2316.6	2229.2	2065.7
34.1	2080.8	1754.4	2021.7	2152.4	2299.2	2318.5	2229.4	2066.5
34.2	2079.8	1756	2022.7	2151.8	2306	2319.2	2229.5	2067.4
34.3	2076	1759.1	2021.8	2154.4	2299.5	2319.6	2231	2068
34.4	2076.7	1759.9	2026.5	2156.5	2303.9	2320.8	2230.2	2067.1
34.5	2075.5	1760.9	2023.5	2157.5	2302.9	2321.4	2232.1	2066.3
34.6	2073.8	1761.9	2026.8	2158.6	2307.6	2321.9	2231.4	2070.5
34.7	2072.9	1763.5	2026.6	2159.7	2304.8	2322.4	2232.3	2072.1
34.8	2071.9	1765.4	2031.5	2160.6	2307.6	2322.4	2233.5	2070.9
34.9	2070.4	1767.4	2032.3	2161.1	2308.4	2323.2	2234.1	2068.1

r →	0	20	30	35	45	55	65	75
t								
35	2068.7	1767.1	2030.5	2161.4	2308.2	2324.1	2234.5	2071
35.1	2066.8	1769.2	2038.5	2162.8	2310.1	2325.4	2232.9	2074.4
35.2	2065.7	1768.5	2034.8	2163.2	2309.2	2326.3	2235.6	2075.3
35.3	2063.7	1757.9	2035.2	2165.2	2309.3	2327.3	2236.5	2074.3
35.4	2062.1	1770.5	2037	2168.3	2309.1	2327.9	2238	2080.7
35.5	2061	1778.1	2042.9	2169	2311.1	2327.9	2237.9	2075.5
35.6	2059.6	1763.4	2041.4	2169.5	2312.3	2328.7	2240.1	2076.1
35.7	2058	1773	2037.8	2170.9	2310.9	2329.6	2239.1	2077.1
35.8	2056.4	1774.4	2045.9	2171.2	2311.7	2330.6	2241.8	2078.5
35.9	2055.2	1777.8	2047.9	2173.3	2312.2	2331	2238.6	2079.3
36	2054.2	1777.9	2046.5	2170.6	2314.4	2332.3	2239.8	2079.8
36.1	2052.7	1779.6	2046.1	2177.5	2316.2	2332.4	2241.6	2078.4
36.2	2051.3	1778.4	2048.1	2176.1	2316.1	2332.8	2243.2	2082.6
36.3	2050.3	1776.9	2050.6	2177.5	2317.5	2332.8	2244.5	2088.5
36.4	2048.7	1782.5	2050.5	2181.7	2318	2333.4	2245.8	2084.6
36.5	2047.5	1781.3	2052.6	2178.1	2318.8	2333.5	2243.5	2087.6
36.6	2045.7	1789.5	2055.4	2180.3	2320.2	2334.8	2246	2084.8
36.7	2044.4	1786.9	2052.4	2182.8	2320.2	2335.3	2236.1	2086
36.8	2042.9	1786.8	2052.5	2183.8	2319.7	2336	2253.9	2083.9
36.9	2040.6	1790.8	2061.4	2183	2320.7	2336.2	2246.7	2085.8
37	2039	1791.4	2061	2184.8	2321.3	2337	2248.1	2085.8
37.1	2038	1792.9	2059.2	2179.8	2323.3	2337.6	2250.5	2088.4
37.2	2036.1	1794.5	2060.4	2187.8	2324.3	2337.6	2250.9	2088.5
37.3	2035.1	1795.9	2056.6	2187.6	2325.4	2338.5	2252	2098
37.4	2034.2	1795.8	2060.6	2189.1	2325.2	2338.9	2251.9	2081.5
37.5	2032	1796.6	2057.3	2188.8	2327.2	2338.8	2253.4	2090
37.6	2031.5	1799.7	2064.2	2190.7	2331.1	2339.4	2253.2	2092
37.7	2030.9	1800.8	2061.9	2189.6	2321.6	2339.9	2253.1	2093
37.8	2030.7	1803.5	2064	2191.2	2329.2	2340.3	2254.1	2093
37.9	2025.5	1804.7	2062.4	2192.7	2329.8	2340.4	2254.7	2094.2
38	2024.7	1806.1	2065.8	2194.4	2322.3	2340.9	2256.3	2094.6
38.1	2023.8	1806.4	2069.1	2195.4	2328.4	2341	2257.2	2096
38.2	2021.1	1807.9	2069.7	2196	2317	2341.4	2257.9	2093.4
38.3	2020	1808.1	2071.6	2196	2332.5	2341.8	2260.1	2095.4
38.4	2018.3	1809.1	2073.4	2196.5	2333.6	2341.7	2259.7	2101.7
38.5	2017.3	1809.9	2081	2187.5	2333.3	2342.3	2261.1	2101.3
38.6	2015.1	1811.3	2075.5	2199.9	2335.6	2342.8	2260.9	2099.9
38.7	2013.3	1813	2083.3	2201.1	2335.1	2343.7	2262.3	2099.8
38.8	2011.8	1814.6	2077.2	2202.3	2337.1	2344.2	2261.3	2099
38.9	2010.2	1815.6	2079.2	2202.2	2335.4	2344.8	2263.6	2099.8

r →	0	20	30	35	45	55	65	75
t								
39	2008.7	1816.7	2079.6	2204.5	2336.1	2344.5	2266.3	2107.4
39.1	2007.3	1818.5	2083.4	2203.1	2336.7	2345.1	2265.4	2110.9
39.2	2005.5	1819.7	2082	2203.1	2333.4	2345.7	2265.8	2101.4
39.3	2004.4	1822.4	2081.1	2204.3	2336.8	2345.5	2266.4	2105.2
39.4	2002.5	1822.7	2085	2205.3	2338.3	2345.8	2267.6	2106.8
39.5	2001.3	1824.3	2081.6	2199.5	2339.1	2346	2268.5	2107.1
39.6	1998.9	1824.3	2084.7	2208.9	2339.8	2346.6	2270.9	2107.4
39.7	1997.8	1825.3	2085.2	2208.8	2340.5	2347	2271.2	2113
39.8	1995.2	1826.1	2086.4	2207	2341	2348	2269.2	2112
39.9	1993.9	1827.6	2090.9	2208.9	2342.1	2349.2	2271	2108.2
40	1992.2	1828.1	2084.9	2210.2	2342.6	2352	2270.7	2112.4
40.1	1991.5	1830.2	2090.8	2210.8	2342.8	2351.8	2273.1	2113.5
40.2	1989.9	1831.9	2096.1	2213.9	2342.7	2351.7	2270.4	2114.2
40.3	1988.3	1832.5	2092.6	2214.8	2342.8	2351.6	2276.6	2111.5
40.4	1986.5	1833.8	2092.1	2218.6	2343.7	2352.1	2275.5	2118.5
40.5	1984.8	1835.1	2095.7	2215.1	2343.5	2352.5	2276.1	2116.3
40.6	1983.2	1835.8	2096.9	2218	2344.7	2351.9	2274.9	2113
40.7	1981.4	1837.4	2093.2	2218	2345.3	2353.2	2277.9	2115.2
40.8	1979.7	1837.3	2098.8	2220.5	2347	2354.1	2278	2114.5
40.9	1978	1839.5	2101.1	2219.2	2348.1	2354.8	2279	2114.4
41	1976.3	1840.3	2103.7	2222.5	2347	2355.2	2277.3	2116.6
41.1	1974.9	1842	2101.3	2219.2	2348.5	2355.7	2288.7	2117.5
41.2	1973.3	1845	2102.2	2219.8	2345.6	2356.7	2281.1	2122.2
41.3	1971.1	1846.9	2107.5	2225.3	2346.4	2357.7	2280.4	2122.4
41.4	1968.7	1848.6	2106.4	2222.7	2348.3	2357.6	2281.4	2116.1
41.5	1968.1	1847.2	2108.6	2217.3	2350.1	2357.8	2278.6	2119.6
41.6	1966.4	1848.8	2108.1	2210.5	2349.1	2357.7	2283.3	2124.8
41.7	1964.5	1851.1	2110.4	2225	2349.1	2358.2	2281.9	2122.7
41.8	1962.5	1852.4	2110.2	2224.7	2347.4	2359.4	2283	2126.2
41.9	1961.5	1851.2	2113.1	2225.7	2350.2	2359.7	2283.5	2120.7
42	1960.2	1855.4	2108.5	2226.4	2348.4	2360.9	2283.6	2120
42.1	1957.9	1857.2	2116.1	2228.2	2335.1	2359.7	2283.5	2122.7
42.2	1955.3	1866.2	2118	2229.9	2351.2	2357.4	2283.8	2126
42.3	1950.6	1858.7	2113.6	2233.4	2352.3	2360	2285.7	2126.8
42.4	1932.9	1865	2120.9	2237.5	2351.3	2360.9	2287.2	2127.6
42.5	1938.4	1861.5	2117.9	2225.4	2351.1	2362.8	2284.5	2124.6
42.6	1938	1865.3	2118.9	2230.3	2351.7	2361	2286.8	2125.7
42.7	1946	1865.1	2124	2221.1	2341.2	2361.5	2290.5	2123.4
42.8	1927.2	1862.4	2123.8	2233.1	2365.6	2363	2288.1	2127.6
42.9	1930.8	1860.2	2133.3	2235.1	2352	2363.8	2287.7	2127.9

r →	0	20	30	35	45	55	65	75
t								
43	1933.9	1874.3	2124.1	2235.2	2346.7	2363.4	2289.1	2127.4
43.1	1929.7	1869	2124.5	2241.4	2352.4	2366.2	2290.1	2127.8
43.2	1937.4	1870	2125.9	2236.5	2352	2364.4	2290.2	2128.2
43.3	1924.4	1862	2127.7	2240.2	2350.1	2364.5	2288.7	2132.3
43.4	1920.9	1874.3	2127.4	2241	2352.9	2365.8	2288.5	2128.6
43.5	1923.8	1872.9	2130.4	2245.8	2352.1	2365	2290.7	2128
43.6	1902.7	1874.7	2128.2	2243.2	2352	2370.6	2285.3	2132.3
43.7	1916.7	1875.6	2132.7	2244.7	2352.9	2366.4	2289.2	2130.6
43.8	1920.6	1878.3	2134.3	2254.3	2352.7	2366.8	2290.5	2134
43.9	1906	1875.1	2139.6	2243.6	2351.8	2366.7	2292.7	2133.2
44	1921.6	1879.3	2136.1	2247	2354.5	2367	2293.4	2139.2
44.1	1912	1886.3	2133.8	2247.7	2352.8	2369.8	2294.1	2134.6
44.2	1917.5	1883.1	2135.1	2244	2351.4	2368	2295	2121
44.3	1923.2	1882.3	2137	2249.4	2355.9	2367.4	2296.6	2133.1
44.4	1906.9	1886.3	2135.1	2250.8	2356.1	2367.7	2296.4	2134
44.5	1917.9	1883.1	2136.3	2250.5	2355.9	2368.5	2298.3	2134.6
44.6	1921	1888.8	2137	2249.8	2355	2367.8	2297	2133.7
44.7	1906.9	1889.4	2140.2	2249.1	2353.9	2367.3	2299.1	2127.8
44.8	1919.1	1893.1	2131.4	2254.5	2353.9	2368.3	2298	2136.6
44.9	1920.7	1890.4	2139.4	2252	2354.4	2369.1	2301.2	2139.2
45	1919.5	1891.8	2139.3	2248.3	2351.9	2369.1	2299	2137.2
45.1	1921.5	1893.8	2149.9	2254.5	2355.6	2370.1	2295.9	2141
45.2	1910.2	1894.6	2142	2255.9	2356.7	2368.1	2296.1	2140.3
45.3	1911.2	1895.7	2140.2	2257.7	2357.2	2369.6	2301	2138
45.4	1907.6	1905	2145.8	2259.5	2354.5	2372.9	2302.8	2140.4
45.5	1905	1896.6	2144.6	2256.6	2360.5	2369	2299.1	2138.4
45.6	1905.3	1903.3	2143.4	2256.8	2357.3	2369.7	2301.4	2142.1
45.7	1905.3	1903.2	2151	2258.6	2357.5	2370.9	2301.8	2144.2
45.8	1900.2	1889.3	2149.4	2255.8	2356.3	2371.2	2300.6	2142.4
45.9	1900.2	1908.5	2146.5	2258.5	2355.2	2371	2298.6	2144.6
46	1899.3	1906.1	2145.2	2258	2357.9	2371.1	2297.6	2138.2
46.1	1898.2	1903	2143	2258	2358	2370.5	2301.1	2146.8
46.2	1896.7	1908.7	2152.2	2259.8	2358.1	2373	2300.2	2145.2
46.3	1896.7	1909.3	2148.3	2259	2361.8	2370.8	2303.3	2147.4
46.4	1895.4	1909.6	2151.2	2256.3	2356.5	2367.5	2302.7	2143.9
46.5	1893	1912.2	2148.1	2260.1	2357.9	2371.1	2300.1	2144.8
46.6	1892.7	1911.6	2161.5	2261	2359.7	2372.7	2300	2142.2
46.7	1890.3	1918.9	2149	2260.8	2361.4	2372.5	2299.3	2132.7
46.8	1890.5	1914.7	2155.9	2262.4	2360.7	2371.9	2298.4	2153.2
46.9	1889.3	1915.2	2156.7	2262.1	2360	2371.8	2301.1	2152.1

r →	0	20	30	35	45	55	65	75
t								
47	1889.8	1916.9	2149.8	2262.6	2363.3	2371.2	2301.1	2155.5
47.1	1886.9	1914.9	2158.4	2260.4	2363.7	2369.6	2300.1	2155
47.2	1886.5	1922.2	2158	2259.3	2360.9	2370.9	2304.8	2155.8
47.3	1884.3	1918.6	2164.6	2260.7	2363.6	2371.4	2303.7	2160.3
47.4	1880.6	1920.3	2152.8	2268.2	2355.6	2366.5	2306.8	2153.8
47.5	1882.2	1921.8	2158.8	2260.4	2360.1	2370.6	2307.6	2155.6
47.6	1881	1922.9	2165.7	2262.3	2363.7	2373.7	2306.9	2156.5
47.7	1878.9	1924	2160.8	2261	2362.6	2371.8	2307.2	2157.5
47.8	1880.5	1920.4	2173.2	2262.9	2362.2	2371.7	2303.1	2156.2
47.9	1878.9	1925.5	2176.2	2261	2363.1	2373.7	2297.5	2158.5
48	1876	1930.3	2166.6	2263.2	2359.8	2373.4	2301.2	2159.7
48.1	1873.6	1926.1	2166	2265.4	2356	2373.9	2308.9	2158.5
48.2	1873.5	1930.6	2160.6	2284.9	2363.6	2371.3	2311.4	2164.3
48.3	1873.6	1927.5	2173.5	2266.2	2361.4	2372.9	2303.2	2162.5
48.4	1876	1927.2	2167.4	2261.9	2363.9	2374.5	2308.4	2156.2
48.5	1873.1	1933	2165.8	2264.2	2353	2383.6	2311.6	2160.1
48.6	1871.5	1929.5	2167.5	2266.1	2361.9	2375.3	2307.2	2165.4
48.7	1871.2	1932.4	2173.5	2263.8	2365.3	2373.9	2311.8	2159.4
48.8	1871.2	1932.4	2170.8	2267	2360	2374.8	2310.1	2166.7
48.9	1870.5	1934.4	2171.1	2267.3	2359	2374.6	2314.4	2162.9
49	1871.5	1933.2	2172.6	2269.5	2364.7	2373.2	2313	2167.4
49.1	1868.3	1932.4	2174.5	2266.9	2360.9	2374.8	2312.7	2162.5
49.2	1864	1935.7	2175.6	2268.1	2363.1	2373.8	2313.1	2177.7
49.3	1868.5	1936.1	2183	2267.5	2361.9	2378.4	2309.2	2168.7
49.4	1866.3	1939.4	2176.3	2268.2	2364.1	2375.1	2312.1	2158.9
49.5	1864.8	1939.1	2182.8	2267.5	2368	2376.6	2316.1	2167.4
49.6	1867.6	1936.3	2170.8	2268.5	2366.1	2380	2311.5	2169.4
49.7	1865	1940.7	2178.2	2267.9	2363.2	2377	2317.4	2172.4
49.8	1867	1939.2	2181.6	2273.3	2356.4	2378	2313.9	2165.6
49.9	1863.8	1942.6	2176.1	2271.5	2366.7	2377.4	2315.7	2175.4
50	1864.4	1944	2179.6	2268.1	2368.7	2377.7	2315	2165.6
50.1	1862.8	1941.8	2180.3	2272.7	2367	2379.5	2316.3	2170.4
50.2	1862.2	1942.7	2181	2268.7	2365.6	2378.1	2315	2175.4
50.3	1862.9	1944.5	2177.7	2268.2	2366.7	2378.4	2319	2172.5
50.4	1863.1	1948.7	2182.9	2271.5	2368.3	2380.9	2315.1	2169.8
50.5	1859.9	1947.9	2181	2269.7	2367.9	2379.9	2317.8	2173
50.6	1859.8	1948.6	2186.7	2272.6	2369.4	2380	2322.2	2170.6
50.7	1858.6	1949.8	2186.4	2272.3	2368.3	2387.2	2322.7	2173.1
50.8	1858.6	1949.7	2192.1	2274.9	2371	2383.4	2315.2	2175
50.9	1857.8	1946.5	2188.1	2272.5	2371.6	2381	2317.1	2172.2

r →	0	20	30	35	45	55	65	75
t								
51	1857.7	1949.7	2188.9	2273.9	2371.8	2381.4	2317.9	2173.2
51.1	1857.4	1952	2189.1	2276.3	2369.9	2382.2	2317.6	2175.9
51.2	1855.6	1953.2	2189.1	2272.2	2364.1	2381.9	2322.9	2176.2
51.3	1855.5	1955.3	2186.7	2274.6	2368.1	2382.8	2322.4	2170.7
51.4	1854.5	1951.2	2190.3	2266.8	2372.2	2381.8	2321.3	2178.2
51.5	1852.9	1956	2188.2	2270.8	2372.5	2383.2	2322.6	2177
51.6	1854.7	1955.8	2189.8	2275.2	2372.9	2383.9	2324.5	2176.2
51.7	1852.5	1954.5	2197.9	2279.3	2381.4	2384.2	2323.1	2173.9
51.8	1851	1956.8	2196.6	2276.7	2373.7	2384.5	2323.2	2176.4
51.9	1850.9	1968	2191.3	2274.9	2369	2386.2	2323.7	2176
52	1850.7	1964.2	2188.4	2275.3	2371.6	2386.2	2322	2180.1
52.1	1851	1959.4	2192.4	2274.4	2374.4	2385.7	2324.7	2183.5
52.2	1849.5	1961.4	2195.9	2285.5	2372.3	2386.3	2326	2178.2
52.3	1848.8	1965.1	2201.6	2279.8	2369.8	2386.3	2317.6	2178.6
52.4	1848.4	1965.9	2194	2279.9	2375.4	2385.7	2332.2	2187.4
52.5	1847.6	1956.6	2191	2274.9	2377.1	2385.1	2326.1	2187.4
52.6	1847.1	1968.4	2193.3	2279.5	2374.2	2384.2	2330.2	2186.2
52.7	1848.1	1966.3	2198.3	2283.6	2377.7	2384.9	2333	2176.1
52.8	1847	1967	2197.9	2280	2378.2	2388.4	2330.3	2181.9
52.9	1845.1	1969.4	2202.3	2284.8	2378.8	2389	2322	2190.5
53	1847.2	1963.1	2198.3	2284.1	2380.2	2389.8	2324.8	2181.9
53.1	1843.4	1965.8	2192.3	2282.2	2374.5	2388.3	2327.4	2181.4
53.2	1845.3	1968.2	2200	2282.2	2378.1	2388.5	2328.8	2182.4
53.3	1844.5	1971.5	2199.9	2279.4	2379.8	2389.9	2325.5	2186.2
53.4	1844.8	1972.4	2201.7	2282.8	2379.3	2389.9	2331.5	2184
53.5	1844.4	1967.4	2197.8	2284.4	2387.1	2395.9	2321.2	2193.9
53.6	1840.5	1967.9	2196.3	2290	2381.5	2395.5	2325.5	2185.9
53.7	1842.2	1967.8	2214.6	2288.4	2378.7	2390.6	2329.6	2189.5
53.8	1843.7	1966.7	2201.2	2283.4	2382	2392.5	2330.1	2189.7
53.9	1843.8	1972	2197.3	2284.5	2371.5	2395.2	2335.9	2185.3
54	1843.7	1975.7	2199.6	2288.4	2380.9	2393.7	2328	2187
54.1	1843.8	1975.1	2201.7	2290.1	2387.9	2394.8	2330.1	2183.7
54.2	1845.3	1970.4		2286.3	2384.1	2395.6	2333.3	2188.6
54.3	1842.3	1972.5		2285.5	2383.3	2395.7	2329.7	2189.4
54.4	1843.2	1975.1		2282.6	2381.3	2396.8	2331.1	2181.6
54.5	1844	1975.7		2291.5	2382.9	2395.8	2335.5	2188.7
54.6	1844.2	1975.3		2278.6	2380.4	2394.3	2335	2184.4
54.7	1844.8	1974.8		2289.5	2379.2	2394.8	2332.2	2179.1
54.8	1843.4	1978		2293.9	2382.5	2398.3	2325.4	2183.5
54.9	1843.3	1975.6		2293.3	2387.5	2397.9	2328.2	2188.4

r →	0	20	30	35	45	55	65	75
t								
55	1843.8	1982.4		2286.8	2389.9	2397.2	2330.9	2182
55.1	1843.4	1982.9		2287.5	2386.1	2397.7	2327.3	2193.4
55.2	1842.6	1976.7			2393	2398.4	2335.9	2193.9
55.3	1842.7	1978			2400.2	2398.7	2337.1	2188.9
55.4	1843.7	1980			2387.4	2397.8	2331.8	2190.4
55.5	1843.9	1979.4			2387.8	2397.7	2344.6	2195.3
55.6	1843.8	1983.3			2387	2396.7	2339	2194.8
55.7	1844.5	1979.4			2390.5	2399.5	2345.5	2187.9
55.8	1842.3	1976.8			2392.4	2399.7	2339.1	2189
55.9	1836.9	1979.3			2386	2408.4	2324.8	2191.4
56	1846.6	1984.5			2397.8		2341.9	2199.8
56.1	1843.5	1982.3			2392.7		2341.1	2190.5
56.2	1845.6	1978.6			2397.2		2342.8	2193.1
56.3	1845.7	1987.1			2391.1		2340.3	2192.1
56.4	1845.7	1986.1			2392.1		2339.8	2198.6
56.5	1845.7	1987.8			2385.2		2341.1	2191.5
56.6	1845.1	1986			2392.1		2337.3	2197.2
56.7	1847.9	1988.3			2397.7		2345	2202.3
56.8	1849.9	1988.3			2376		2339.1	2202
56.9	1848	1988.1			2390.4		2336	2193.9
57	1847.9	1985.8			2391.1		2336.5	2206.7
57.1	1849.3	1986.8			2391.4		2343.5	2198.4
57.2	1851.1	1981.6			2385.5		2342	2200.8
57.3	1849.2	1985.4			2395.4		2344.6	2190.8
57.4	1851.2	1987			2388.1		2336.9	2196.8
57.5	1849	1988.4			2393.3		2341.3	2195.7
57.6	1859.3	1994.8			2393.7		2340.3	
57.7	1855.3	1988.3			2396.4		2341.7	
57.8	1856.2	1991			2390.6		2343.7	
57.9	1851	1987.9			2391.3		2340.2	
58	1845.7	1995.8			2396.7		2341.5	
58.1	1849.1	1993.7			2386.1		2349.5	
58.2	1850.8	1992.7			2391.2		2341	
58.3	1845.5	2000			2377.6			
58.4	1855.9	1994.2			2397.2			
58.5	1857.5	1990.8						
58.6	1860	1979.6						
58.7	1854.7	1988.1						
58.8	1851.7	1994.9						
58.9	1847.2	1990.2						

r →	0	20	30	35	45	55	65	75
t								
59	1848.2	1996.5						
59.1	1846.9	1992.4						
59.2	1841.4	1996.5						
59.3	1841	2000.6						
59.4	1837.8	2000.2						
59.5	1837.3	2001.7						
59.6	1826.5	1989						
59.7	1836.3	1993.8						
59.8	1842.5	1998.5						
59.9	1823.4	1990.9						
60	1833	1984						
60.1	1823.5	1994.8						
60.2	1843.6	1996.7						
60.3	1851.2	1987.3						
60.4	1847.8	1995						
60.5	1835.8	1996.9						
60.6	1845.6	1992.8						
60.7	1843.5	1986						
60.8	1837.2	1984.4						
60.9	1832.9	1990.5						
61	1830.1	1982.3						
61.1	1852	1994.5						
61.2	1830.2	1987.9						
61.3	1844.9	1986.1						
61.4	1835.1	1988.7						
61.5	1836.3	1979.2						
61.6	1835.5							
61.7	1836.3							
61.8	1850.6							
61.9	1854							
62	1847.2							
62.1	1830.5							
62.2	1860							
62.3	1862.3							
62.4	1844.4							
62.5	1852.9							
62.6	1838.5							
62.7	1836.9							
62.8	1855.7							
62.9	1845							

r →	0	20	30	35	45	55	65	75
t								
63	1845.4							
63.1	1830.4							
63.2	1845							
63.3	1844.8							
63.4	1839.6							
63.5	1833.4							
63.6	1825.5							
63.7	1833.5							
63.8	1842.2							
63.9	1842.2							
64	1850.3							
64.1	1850.1							
64.2	1841							
64.4	1859.7							

2021E PT6 Diagnostic Plate Displacement Table

Diagnostic Plate Displacement of Jack Rabbit Pretest 2021E PT6; time is referenced in microseconds from detonator circuit current start

Jack Rabbit Pretest 2021E PT6 POSITION Data								
Columnar data: z = mm from top of diagnostic plate datum								
absolute timing accuracy relative to time zero = +/- 0.025 microseconds								
relative timing uncertainty between data channels = +/- 0.005 microseconds								
z position uncertainty = +/- 5 percent of measurement								
PDV measurement point position uncertainty = +/- 0.25 millimeters								
r →	0	20	30	35	45	55	65	75
t								
12	0	0	0	0	0	0	0	0
12.1	0	0	0	0	0	0	0	0
12.2	0	0	0	0	0	0	0	0
12.3	4E-05	0	0	0	0	0	0	0
12.4	0.0001	0	0	0	0	0	0	0
12.5	0.0003	0	0	0	0	0	0	0
12.6	0.0004	0	0	0	0	0	0	0
12.7	0.0006	0	0	0	0	0	0	0
12.8	0.0008	0	0	0	0	0	0	0
12.9	0.001	0	0	0	0	0	0	0
13	0.0013	0	0	0	0	0	0	0
13.1	0.0016	0	0	0	0	0	0	0
13.2	0.0019	0	0	0	0	0	0	0
13.3	0.0023	0	0	0	0	0	0	0
13.4	0.0026	0	0	0	0	0	0	0
13.5	0.003	0	0	0	0	0	0	0
13.6	0.0034	0	0	0	0	0	0	0
13.7	0.0038	0	0	0	0	0	0	0
13.8	0.0042	0	0	0	0	0	0	0
13.9	0.0045	0	0	0	0	0	0	0
14	0.0049	0	0	0	0	0	0	0
14.1	0.0053	0	0	0	0	0.0271	0	0
14.2	0.0057	0	0	0	0	0.1672	0	0
14.3	0.0061	0	0	0	0.1113	0.3901	0	0
14.4	0.0065	0	0	0	0.3306	0.6082	0	0
14.5	0.007	0	0	0	0.5428	0.8244	0.1113	0
14.6	0.0077	0	0	0	0.7506	1.0397	0.3305	0
14.7	0.0122	0	0	0	0.9569	1.2542	0.5435	0
14.8	0.0353	0	0	0.0222	1.1623	1.4686	0.7533	0
14.9	0.0749	0	0	0.1313	1.3675	1.6821	0.9631	0

r →	0	20	30	35	45	55	65	75
t								
15	0.1158	0.0031	0	0.3005	1.5723	1.895	1.1723	0.1017
15.1	0.1561	0.0106	0	0.4645	1.7767	2.1077	1.3806	0.3032
15.2	0.1958	0.0297	0	0.6286	1.9809	2.32	1.5881	0.5007
15.3	0.2353	0.0609	0	0.7919	2.1849	2.5323	1.7949	0.6931
15.4	0.2743	0.0937	0.0668	0.9536	2.3884	2.7445	2.0012	0.8823
15.5	0.3125	0.1264	0.2019	1.1149	2.5916	2.9562	2.2071	1.0738
15.6	0.3504	0.1586	0.3392	1.2762	2.7946	3.1677	2.4133	1.2666
15.7	0.3875	0.1903	0.4767	1.4372	2.9975	3.3793	2.6199	1.4577
15.8	0.4236	0.2218	0.6134	1.5982	3.2006	3.591	2.8263	1.6482
15.9	0.4591	0.2532	0.7472	1.7594	3.4037	3.8026	3.0323	1.8385
16	0.4941	0.2847	0.8779	1.9206	3.6063	4.0138	3.238	2.0281
16.1	0.5283	0.3165	1.0066	2.082	3.8089	4.2249	3.4435	2.2176
16.2	0.5622	0.3485	1.1339	2.2434	4.0115	4.4358	3.649	2.4072
16.3	0.5957	0.3807	1.2606	2.4046	4.2144	4.6466	3.8544	2.5963
16.4	0.6288	0.4132	1.3871	2.5657	4.417	4.8573	4.0595	2.7855
16.5	0.6624	0.4463	1.5132	2.727	4.6194	5.0678	4.2644	2.9747
16.6	0.6973	0.4812	1.639	2.8883	4.8218	5.2783	4.4692	3.1634
16.7	0.7342	0.5412	1.7647	3.0496	5.0239	5.4887	4.6739	3.3519
16.8	0.7742	0.629	1.8906	3.2111	5.2261	5.6989	4.8786	3.5399
16.9	0.8182	0.7232	2.0172	3.3731	5.4283	5.909	5.0834	3.7284
17	0.8658	0.822	2.1447	3.535	5.6304	6.119	5.2882	3.9177
17.1	0.9154	0.9245	2.2736	3.6965	5.8322	6.329	5.4928	4.1073
17.2	0.9662	1.0298	2.4072	3.8581	6.034	6.5389	5.6973	4.2969
17.3	1.018	1.1367	2.5458	4.0197	6.2357	6.7486	5.9017	4.4866
17.4	1.0705	1.2439	2.6864	4.1818	6.4373	6.9583	6.1062	4.6767
17.5	1.1239	1.351	2.8279	4.3439	6.6388	7.1679	6.3107	4.8668
17.6	1.1784	1.4576	2.9714	4.5057	6.8402	7.3775	6.515	5.0569
17.7	1.2341	1.5636	3.1173	4.6677	7.0412	7.5872	6.7194	5.247
17.8	1.2907	1.6697	3.2646	4.8298	7.2421	7.7967	6.9238	5.4365
17.9	1.3479	1.7774	3.4128	4.992	7.4432	8.006	7.1283	5.626
18	1.4053	1.8885	3.5612	5.1542	7.6442	8.2153	7.3327	5.816
18.1	1.463	2.0046	3.7098	5.3167	7.8451	8.4245	7.5367	6.006
18.2	1.5207	2.126	3.8595	5.4798	8.0456	8.6336	7.7407	6.1961
18.3	1.5783	2.2514	4.0107	5.6429	8.2459	8.8426	7.9444	6.3863
18.4	1.6357	2.3789	4.1619	5.8058	8.4465	9.0516	8.1481	6.5765
18.5	1.6933	2.5075	4.3134	5.9686	8.647	9.2607	8.3518	6.7667
18.6	1.7512	2.6365	4.4662	6.1314	8.8474	9.4697	8.5555	6.9567
18.7	1.8098	2.7658	4.62	6.2942	9.0478	9.6786	8.759	7.1465
18.8	1.8694	2.895	4.7748	6.4564	9.2479	9.8872	8.9623	7.3361
18.9	1.9295	3.0241	4.9302	6.6187	9.4479	10.096	9.1658	7.5258

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19	1.9897	3.1532	5.0854	6.7815	9.648	10.304	9.3692	7.7155
19.1	2.0499	3.2826	5.2408	6.9443	9.848	10.513	9.5725	7.9052
19.2	2.1101	3.4126	5.397	7.1062	10.048	10.721	9.7758	8.0952
19.3	2.1704	3.5435	5.5539	7.2678	10.248	10.929	9.9789	8.2851
19.4	2.2308	3.6754	5.712	7.4305	10.448	11.137	10.182	8.4748
19.5	2.2915	3.8087	5.8712	7.5935	10.648	11.345	10.385	8.6647
19.6	2.3549	3.9437	6.0312	7.7563	10.847	11.553	10.588	8.8547
19.7	2.4272	4.0806	6.192	7.9193	11.047	11.761	10.791	9.0447
19.8	2.5391	4.2195	6.3534	8.0825	11.247	11.969	10.993	9.2346
19.9	2.6944	4.3602	6.5152	8.2459	11.446	12.177	11.196	9.4243
20	2.8545	4.502	6.6772	8.4096	11.646	12.385	11.399	9.6143
20.1	3.0073	4.6449	6.8397	8.5735	11.845	12.593	11.601	9.8043
20.2	3.1573	4.7887	7.0027	8.7377	12.045	12.801	11.804	9.9941
20.3	3.3103	4.9332	7.1662	8.9022	12.244	13.008	12.006	10.184
20.4	3.4867	5.0785	7.3302	9.0669	12.443	13.216	12.209	10.374
20.5	3.6835	5.2245	7.4952	9.232	12.642	13.423	12.411	10.563
20.6	3.8916	5.3712	7.6606	9.3976	12.842	13.631	12.613	10.753
20.7	4.1093	5.5185	7.8269	9.5637	13.041	13.838	12.815	10.943
20.8	4.3244	5.6664	7.9941	9.7302	13.24	14.045	13.017	11.133
20.9	4.5377	5.8148	8.1618	9.8969	13.438	14.253	13.219	11.323
21	4.7507	5.9634	8.3303	10.064	13.637	14.46	13.421	11.512
21.1	4.9646	6.1125	8.4989	10.232	13.836	14.667	13.623	11.702
21.2	5.179	6.2619	8.6675	10.4	14.035	14.874	13.825	11.892
21.3	5.3932	6.4118	8.8363	10.57	14.233	15.081	14.026	12.081
21.4	5.6067	6.5621	9.0054	10.739	14.432	15.288	14.228	12.271
21.5	5.8195	6.7126	9.175	10.91	14.63	15.495	14.43	12.461
21.6	6.0327	6.8635	9.3451	11.082	14.828	15.702	14.632	12.651
21.7	6.2475	7.0148	9.5156	11.255	15.027	15.909	14.834	12.841
21.8	6.4641	7.1664	9.6867	11.43	15.226	16.116	15.036	13.031
21.9	6.6825	7.3185	9.8583	11.605	15.426	16.323	15.238	13.221
22	6.9026	7.471	10.03	11.781	15.625	16.53	15.44	13.411
22.1	7.124	7.6241	10.203	11.959	15.824	16.737	15.642	13.601
22.2	7.3464	7.7777	10.376	12.138	16.024	16.944	15.844	13.791
22.3	7.5695	7.932	10.55	12.319	16.224	17.151	16.047	13.981
22.4	7.7933	8.0869	10.725	12.501	16.424	17.357	16.249	14.171
22.5	8.0181	8.2424	10.899	12.685	16.624	17.564	16.451	14.361
22.6	8.2433	8.3987	11.075	12.871	16.825	17.771	16.654	14.552
22.7	8.4681	8.5562	11.25	13.057	17.025	17.977	16.857	14.742
22.8	8.692	8.7148	11.426	13.245	17.226	18.184	17.06	14.933
22.9	8.915	8.8745	11.602	13.433	17.427	18.39	17.263	15.124

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t								
23	9.1372	9.0354	11.779	13.622	17.628	18.597	17.465	15.316
23.1	9.3586	9.1991	11.956	13.812	17.829	18.804	17.669	15.507
23.2	9.5792	9.3664	12.133	14.002	18.029	19.011	17.873	15.699
23.3	9.7994	9.5354	12.31	14.193	18.23	19.217	18.076	15.892
23.4	10.019	9.7048	12.489	14.384	18.431	19.424	18.279	16.085
23.5	10.24	9.8744	12.667	14.576	18.631	19.631	18.484	16.278
23.6	10.461	10.044	12.846	14.769	18.831	19.837	18.688	16.471
23.7	10.683	10.214	13.025	14.961	19.032	20.044	18.893	16.665
23.8	10.906	10.384	13.205	15.154	19.232	20.25	19.098	16.86
23.9	11.13	10.554	13.385	15.347	19.432	20.457	19.302	17.055
24	11.354	10.724	13.566	15.541	19.633	20.664	19.506	17.25
24.1	11.579	10.894	13.747	15.736	19.833	20.87	19.711	17.446
24.2	11.804	11.064	13.928	15.931	20.033	21.076	19.916	17.643
24.3	12.029	11.235	14.11	16.126	20.233	21.283	20.121	17.84
24.4	12.254	11.405	14.292	16.321	20.433	21.49	20.326	18.036
24.5	12.478	11.576	14.475	16.517	20.634	21.696	20.531	18.233
24.6	12.702	11.748	14.658	16.714	20.834	21.903	20.737	18.43
24.7	12.925	11.919	14.841	16.911	21.033	22.11	20.941	18.628
24.8	13.148	12.092	15.025	17.108	21.233	22.316	21.146	18.827
24.9	13.371	12.265	15.209	17.305	21.433	22.523	21.351	19.025
25	13.593	12.438	15.394	17.503	21.633	22.73	21.556	19.224
25.1	13.816	12.612	15.579	17.701	21.833	22.937	21.76	19.423
25.2	14.038	12.786	15.764	17.9	22.033	23.144	21.965	19.623
25.3	14.26	12.96	15.95	18.099	22.233	23.35	22.169	19.822
25.4	14.482	13.133	16.135	18.298	22.432	23.557	22.374	20.022
25.5	14.704	13.307	16.32	18.497	22.632	23.764	22.579	20.222
25.6	14.926	13.48	16.506	18.697	22.832	23.971	22.784	20.421
25.7	15.149	13.653	16.691	18.897	23.032	24.177	22.989	20.621
25.8	15.371	13.826	16.878	19.098	23.232	24.384	23.194	20.821
25.9	15.593	13.999	17.064	19.299	23.432	24.59	23.399	21.021
26	15.815	14.172	17.251	19.5	23.632	24.796	23.604	21.222
26.1	16.037	14.344	17.44	19.702	23.832	25.003	23.809	21.422
26.2	16.259	14.516	17.629	19.904	24.031	25.209	24.014	21.622
26.3	16.48	14.689	17.818	20.106	24.231	25.416	24.219	21.823
26.4	16.702	14.861	18.008	20.308	24.431	25.622	24.424	22.023
26.5	16.923	15.033	18.198	20.511	24.63	25.828	24.629	22.224
26.6	17.144	15.205	18.387	20.713	24.83	26.035	24.834	22.425
26.7	17.364	15.376	18.577	20.916	25.03	26.241	25.039	22.626
26.8	17.585	15.548	18.766	21.12	25.229	26.447	25.244	22.827
26.9	17.805	15.72	18.956	21.324	25.429	26.654	25.449	23.028

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t								
27	18.026	15.893	19.146	21.528	25.628	26.86	25.654	23.229
27.1	18.246	16.065	19.336	21.732	25.828	27.066	25.859	23.43
27.2	18.465	16.237	19.527	21.936	26.027	27.273	26.064	23.631
27.3	18.685	16.41	19.717	22.141	26.227	27.479	26.269	23.832
27.4	18.905	16.583	19.907	22.346	26.427	27.685	26.475	24.033
27.5	19.124	16.756	20.097	22.552	26.626	27.891	26.681	24.235
27.6	19.343	16.93	20.287	22.757	26.826	28.098	26.888	24.436
27.7	19.562	17.103	20.478	22.962	27.026	28.304	27.095	24.637
27.8	19.781	17.276	20.67	23.168	27.226	28.51	27.303	24.839
27.9	20	17.45	20.861	23.374	27.425	28.716	27.513	25.041
28	20.218	17.623	21.053	23.58	27.625	28.922	27.722	25.243
28.1	20.436	17.797	21.246	23.786	27.825	29.128	27.934	25.445
28.2	20.653	17.97	21.439	23.993	28.025	29.334	28.147	25.647
28.3	20.871	18.143	21.632	24.199	28.225	29.541	28.361	25.849
28.4	21.088	18.317	21.825	24.406	28.426	29.747	28.577	26.051
28.5	21.305	18.49	22.019	24.613	28.626	29.953	28.793	26.254
28.6	21.521	18.663	22.212	24.82	28.827	30.159	29.01	26.456
28.7	21.738	18.836	22.405	25.028	29.027	30.366	29.227	26.659
28.8	21.954	19.01	22.598	25.235	29.228	30.572	29.445	26.862
28.9	22.17	19.183	22.792	25.443	29.429	30.778	29.663	27.064
29	22.385	19.356	22.985	25.651	29.631	30.984	29.882	27.267
29.1	22.601	19.529	23.178	25.858	29.833	31.191	30.101	27.47
29.2	22.816	19.703	23.372	26.066	30.036	31.397	30.321	27.673
29.3	23.032	19.876	23.566	26.274	30.24	31.604	30.54	27.877
29.4	23.247	20.049	23.76	26.483	30.446	31.811	30.76	28.08
29.5	23.461	20.223	23.954	26.691	30.652	32.018	30.981	28.284
29.6	23.676	20.396	24.149	26.899	30.861	32.226	31.201	28.488
29.7	23.891	20.569	24.343	27.108	31.071	32.435	31.421	28.692
29.8	24.105	20.742	24.539	27.316	31.284	32.645	31.642	28.895
29.9	24.319	20.915	24.735	27.525	31.497	32.857	31.863	29.099
30	24.533	21.088	24.931	27.733	31.712	33.07	32.084	29.303
30.1	24.747	21.261	25.126	27.943	31.928	33.284	32.305	29.507
30.2	24.96	21.435	25.322	28.152	32.144	33.501	32.526	29.712
30.3	25.174	21.608	25.519	28.361	32.362	33.72	32.747	29.916
30.4	25.387	21.782	25.716	28.57	32.582	33.94	32.968	30.12
30.5	25.6	21.955	25.913	28.78	32.801	34.162	33.19	30.324
30.6	25.813	22.129	26.11	28.99	33.023	34.384	33.411	30.529
30.7	26.026	22.302	26.307	29.199	33.245	34.608	33.632	30.733
30.8	26.238	22.476	26.504	29.409	33.468	34.832	33.854	30.938
30.9	26.451	22.649	26.701	29.619	33.692	35.058	34.075	31.143

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t								
31	26.663	22.823	26.898	29.829	33.917	35.284	34.297	31.348
31.1	26.875	22.996	27.095	30.039	34.142	35.511	34.518	31.553
31.2	27.086	23.17	27.293	30.25	34.368	35.739	34.74	31.758
31.3	27.298	23.344	27.49	30.461	34.594	35.968	34.962	31.963
31.4	27.51	23.517	27.688	30.672	34.82	36.197	35.184	32.169
31.5	27.721	23.691	27.886	30.883	35.047	36.427	35.405	32.375
31.6	27.933	23.864	28.085	31.094	35.274	36.657	35.627	32.581
31.7	28.144	24.038	28.283	31.306	35.502	36.887	35.849	32.786
31.8	28.356	24.212	28.482	31.518	35.729	37.118	36.07	32.992
31.9	28.567	24.386	28.68	31.729	35.957	37.349	36.292	33.197
32	28.778	24.559	28.879	31.941	36.185	37.579	36.514	33.403
32.1	28.989	24.733	29.078	32.153	36.413	37.81	36.736	33.608
32.2	29.2	24.907	29.277	32.366	36.641	38.041	36.958	33.814
32.3	29.41	25.081	29.476	32.578	36.87	38.272	37.18	34.02
32.4	29.621	25.255	29.676	32.791	37.098	38.502	37.402	34.226
32.5	29.831	25.43	29.876	33.004	37.326	38.733	37.624	34.432
32.6	30.041	25.604	30.076	33.217	37.554	38.964	37.846	34.637
32.7	30.252	25.779	30.277	33.43	37.782	39.195	38.068	34.843
32.8	30.461	25.953	30.477	33.643	38.011	39.427	38.291	35.049
32.9	30.671	26.128	30.677	33.856	38.239	39.658	38.513	35.255
33	30.881	26.303	30.877	34.069	38.467	39.889	38.736	35.461
33.1	31.09	26.478	31.077	34.283	38.696	40.12	38.958	35.667
33.2	31.3	26.653	31.278	34.497	38.924	40.351	39.18	35.874
33.3	31.509	26.828	31.48	34.711	39.153	40.582	39.403	36.08
33.4	31.718	27.003	31.681	34.924	39.382	40.813	39.626	36.286
33.5	31.927	27.178	31.882	35.138	39.611	41.045	39.849	36.493
33.6	32.136	27.354	32.083	35.353	39.841	41.276	40.071	36.699
33.7	32.345	27.529	32.285	35.568	40.07	41.507	40.294	36.906
33.8	32.553	27.704	32.487	35.783	40.3	41.739	40.517	37.112
33.9	32.761	27.879	32.689	35.997	40.529	41.971	40.74	37.319
34	32.97	28.055	32.891	36.212	40.759	42.202	40.963	37.525
34.1	33.178	28.23	33.093	36.427	40.989	42.434	41.186	37.732
34.2	33.386	28.406	33.295	36.643	41.219	42.666	41.409	37.939
34.3	33.594	28.581	33.497	36.858	41.449	42.898	41.632	38.145
34.4	33.801	28.757	33.7	37.074	41.679	43.13	41.855	38.352
34.5	34.009	28.933	33.902	37.289	41.91	43.362	42.078	38.559
34.6	34.216	29.11	34.105	37.505	42.14	43.594	42.301	38.766
34.7	34.424	29.286	34.307	37.721	42.371	43.826	42.524	38.973
34.8	34.631	29.462	34.51	37.937	42.601	44.058	42.748	39.18
34.9	34.838	29.639	34.714	38.153	42.832	44.291	42.971	39.387

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t								
35	35.045	29.816	34.917	38.369	43.063	44.523	43.194	39.594
35.1	35.252	29.993	35.12	38.585	43.294	44.756	43.418	39.801
35.2	35.458	30.169	35.324	38.802	43.525	44.988	43.641	40.009
35.3	35.665	30.346	35.527	39.018	43.756	45.221	43.865	40.216
35.4	35.871	30.522	35.731	39.235	43.987	45.454	44.089	40.424
35.5	36.077	30.7	35.935	39.452	44.218	45.686	44.312	40.632
35.6	36.283	30.877	36.139	39.669	44.449	45.919	44.536	40.839
35.7	36.489	31.053	36.343	39.886	44.68	46.152	44.76	41.047
35.8	36.695	31.231	36.547	40.103	44.911	46.385	44.984	41.255
35.9	36.9	31.408	36.752	40.32	45.142	46.618	45.208	41.463
36	37.106	31.586	36.957	40.537	45.374	46.851	45.432	41.671
36.1	37.311	31.764	37.161	40.755	45.605	47.085	45.656	41.878
36.2	37.516	31.942	37.366	40.972	45.837	47.318	45.88	42.087
36.3	37.722	32.12	37.571	41.19	46.069	47.551	46.105	42.295
36.4	37.927	32.298	37.776	41.408	46.3	47.784	46.329	42.504
36.5	38.131	32.476	37.981	41.626	46.532	48.018	46.554	42.712
36.6	38.336	32.654	38.187	41.844	46.764	48.251	46.778	42.921
36.7	38.54	32.833	38.392	42.062	46.996	48.485	47.002	43.129
36.8	38.745	33.012	38.597	42.28	47.228	48.718	47.227	43.338
36.9	38.949	33.191	38.803	42.499	47.46	48.952	47.452	43.546
37	39.153	33.37	39.009	42.717	47.692	49.186	47.677	43.755
37.1	39.357	33.549	39.215	42.935	47.924	49.419	47.902	43.964
37.2	39.561	33.729	39.421	43.154	48.157	49.653	48.127	44.173
37.3	39.764	33.908	39.627	43.372	48.389	49.887	48.352	44.382
37.4	39.968	34.088	39.833	43.591	48.622	50.121	48.577	44.591
37.5	40.171	34.267	40.039	43.81	48.854	50.355	48.802	44.799
37.6	40.374	34.447	40.245	44.029	49.087	50.589	49.028	45.009
37.7	40.577	34.627	40.451	44.248	49.32	50.823	49.253	45.218
37.8	40.78	34.807	40.657	44.467	49.553	51.057	49.478	45.427
37.9	40.983	34.988	40.864	44.686	49.786	51.291	49.704	45.637
38	41.186	35.168	41.07	44.906	50.018	51.525	49.929	45.846
38.1	41.388	35.349	41.277	45.125	50.251	51.759	50.155	46.055
38.2	41.59	35.53	41.484	45.345	50.483	51.993	50.381	46.265
38.3	41.792	35.71	41.691	45.564	50.715	52.227	50.607	46.474
38.4	41.994	35.891	41.898	45.784	50.949	52.461	50.833	46.684
38.5	42.196	36.072	42.106	46.003	51.182	52.695	51.059	46.894
38.6	42.398	36.253	42.314	46.223	51.415	52.93	51.285	47.104
38.7	42.599	36.434	42.522	46.443	51.649	53.164	51.511	47.314
38.8	42.8	36.616	42.73	46.663	51.883	53.398	51.737	47.524
38.9	43.001	36.797	42.937	46.883	52.116	53.633	51.963	47.734

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t								
39	43.202	36.979	43.145	47.103	52.35	53.867	52.19	47.945
39.1	43.403	37.161	43.353	47.324	52.583	54.102	52.416	48.156
39.2	43.604	37.343	43.562	47.544	52.817	54.336	52.643	48.366
39.3	43.804	37.525	43.77	47.764	53.05	54.571	52.87	48.577
39.4	44.005	37.707	43.978	47.985	53.284	54.805	53.096	48.787
39.5	44.205	37.889	44.187	48.205	53.518	55.04	53.323	48.998
39.6	44.405	38.072	44.395	48.425	53.752	55.275	53.55	49.209
39.7	44.605	38.254	44.603	48.646	53.986	55.509	53.777	49.42
39.8	44.804	38.437	44.812	48.867	54.22	55.744	54.004	49.631
39.9	45.004	38.62	45.021	49.088	54.454	55.979	54.231	49.842
40	45.203	38.802	45.23	49.309	54.689	56.214	54.458	50.053
40.1	45.402	38.985	45.438	49.53	54.923	56.449	54.686	50.264
40.2	45.601	39.168	45.648	49.751	55.157	56.684	54.913	50.476
40.3	45.8	39.352	45.857	49.973	55.391	56.919	55.14	50.687
40.4	45.999	39.535	46.066	50.194	55.626	57.155	55.368	50.898
40.5	46.198	39.718	46.276	50.416	55.86	57.39	55.595	51.11
40.6	46.396	39.902	46.485	50.638	56.094	57.625	55.823	51.322
40.7	46.594	40.086	46.695	50.859	56.329	57.86	56.05	51.533
40.8	46.792	40.269	46.904	51.081	56.564	58.096	56.278	51.744
40.9	46.99	40.453	47.114	51.303	56.798	58.331	56.506	51.956
41	47.188	40.637	47.325	51.525	57.033	58.567	56.734	52.167
41.1	47.385	40.821	47.535	51.748	57.268	58.802	56.962	52.379
41.2	47.583	41.006	47.745	51.969	57.503	59.038	57.191	52.591
41.3	47.78	41.19	47.956	52.192	57.737	59.274	57.419	52.803
41.4	47.977	41.375	48.166	52.414	57.972	59.509	57.647	53.015
41.5	48.174	41.56	48.377	52.636	58.207	59.745	57.875	53.227
41.6	48.371	41.745	48.588	52.858	58.442	59.981	58.103	53.439
41.7	48.567	41.93	48.799	53.079	58.677	60.217	58.331	53.652
41.8	48.763	42.115	49.01	53.302	58.912	60.453	58.559	53.864
41.9	48.96	42.3	49.221	53.524	59.146	60.688	58.788	54.076
42	49.156	42.485	49.432	53.747	59.381	60.925	59.016	54.288
42.1	49.352	42.671	49.643	53.97	59.615	61.161	59.244	54.501
42.2	49.547	42.857	49.855	54.193	59.85	61.396	59.473	54.713
42.3	49.743	43.043	50.067	54.416	60.085	61.632	59.701	54.926
42.4	49.937	43.229	50.278	54.639	60.32	61.868	59.93	55.138
42.5	50.13	43.416	50.49	54.862	60.555	62.105	60.159	55.351
42.6	50.324	43.602	50.702	55.085	60.79	62.341	60.387	55.564
42.7	50.518	43.789	50.914	55.308	61.025	62.577	60.616	55.776
42.8	50.712	43.975	51.127	55.53	61.26	62.813	60.845	55.989
42.9	50.905	44.161	51.34	55.754	61.496	63.049	61.074	56.201

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t								
43	51.098	44.348	51.552	55.977	61.731	63.286	61.303	56.414
43.1	51.291	44.535	51.765	56.201	61.966	63.522	61.532	56.627
43.2	51.485	44.722	51.977	56.425	62.201	63.759	61.761	56.84
43.3	51.678	44.909	52.19	56.649	62.437	63.995	61.989	57.053
43.4	51.87	45.095	52.403	56.873	62.672	64.232	62.218	57.266
43.5	52.062	45.283	52.616	57.097	62.907	64.468	62.447	57.479
43.6	52.254	45.47	52.829	57.322	63.142	64.705	62.676	57.692
43.7	52.445	45.658	53.042	57.546	63.377	64.942	62.905	57.905
43.8	52.636	45.845	53.255	57.771	63.613	65.179	63.134	58.118
43.9	52.828	46.033	53.469	57.996	63.848	65.415	63.363	58.331
44	53.019	46.221	53.682	58.221	64.083	65.652	63.592	58.545
44.1	53.211	46.409	53.896	58.445	64.319	65.889	63.822	58.759
44.2	53.402	46.597	54.109	58.67	64.554	66.126	64.051	58.971
44.3	53.594	46.786	54.323	58.895	64.789	66.362	64.281	59.184
44.4	53.786	46.974	54.537	59.12	65.025	66.599	64.51	59.397
44.5	53.977	47.163	54.75	59.345	65.26	66.836	64.74	59.611
44.6	54.169	47.351	54.964	59.57	65.496	67.073	64.97	59.824
44.7	54.36	47.54	55.178	59.795	65.731	67.31	65.2	60.037
44.8	54.552	47.729	55.391	60.02	65.967	67.546	65.43	60.251
44.9	54.744	47.918	55.605	60.245	66.202	67.783	65.659	60.464
45	54.936	48.108	55.819	60.47	66.437	68.02	65.889	60.678
45.1	55.128	48.297	56.033	60.695	66.673	68.257	66.119	60.892
45.2	55.319	48.486	56.248	60.921	66.908	68.494	66.349	61.106
45.3	55.51	48.676	56.462	61.146	67.144	68.731	66.579	61.32
45.4	55.701	48.866	56.676	61.372	67.38	68.968	66.809	61.534
45.5	55.892	49.056	56.891	61.598	67.615	69.205	67.039	61.748
45.6	56.083	49.246	57.105	61.824	67.851	69.442	67.269	61.962
45.7	56.273	49.436	57.32	62.05	68.087	69.679	67.499	62.176
45.8	56.463	49.626	57.535	62.275	68.323	69.916	67.729	62.391
45.9	56.653	49.816	57.75	62.501	68.558	70.153	67.959	62.605
46	56.843	50.006	57.964	62.727	68.794	70.39	68.189	62.819
46.1	57.033	50.197	58.179	62.953	69.03	70.627	68.419	63.033
46.2	57.223	50.388	58.393	63.178	69.266	70.865	68.649	63.248
46.3	57.413	50.578	58.608	63.404	69.502	71.102	68.879	63.463
46.4	57.602	50.769	58.823	63.63	69.737	71.339	69.11	63.677
46.5	57.792	50.96	59.038	63.856	69.973	71.576	69.34	63.892
46.6	57.981	51.152	59.254	64.082	70.209	71.813	69.57	64.106
46.7	58.17	51.343	59.469	64.308	70.445	72.05	69.8	64.32
46.8	58.359	51.535	59.685	64.534	70.681	72.287	70.03	64.534
46.9	58.548	51.726	59.9	64.761	70.917	72.524	70.259	64.749

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t								
47	58.737	51.918	60.116	64.987	71.153	72.762	70.49	64.965
47.1	58.926	52.11	60.331	65.213	71.39	72.999	70.72	65.18
47.2	59.115	52.301	60.547	65.439	71.626	73.236	70.95	65.396
47.3	59.303	52.493	60.763	65.665	71.862	73.473	71.18	65.611
47.4	59.491	52.685	60.979	65.891	72.098	73.71	71.411	65.827
47.5	59.679	52.877	61.194	66.118	72.334	73.947	71.642	66.043
47.6	59.868	53.07	61.411	66.344	72.57	74.184	71.872	66.258
47.7	60.056	53.262	61.627	66.57	72.806	74.421	72.103	66.474
47.8	60.244	53.454	61.844	66.796	73.043	74.658	72.334	66.69
47.9	60.432	53.647	62.061	67.022	73.279	74.895	72.564	66.905
48	60.619	53.839	62.278	67.249	73.515	75.133	72.793	67.121
48.1	60.807	54.032	62.495	67.475	73.751	75.37	73.024	67.337
48.2	60.994	54.225	62.711	67.703	73.987	75.607	73.255	67.553
48.3	61.182	54.418	62.928	67.93	74.223	75.845	73.486	67.77
48.4	61.369	54.611	63.145	68.157	74.459	76.082	73.716	67.986
48.5	61.556	54.804	63.362	68.383	74.695	76.32	73.947	68.201
48.6	61.744	54.997	63.578	68.609	74.931	76.558	74.178	68.418
48.7	61.931	55.19	63.795	68.836	75.167	76.795	74.409	68.634
48.8	62.118	55.383	64.013	69.062	75.404	77.033	74.64	68.85
48.9	62.305	55.576	64.23	69.289	75.64	77.27	74.872	69.067
49	62.492	55.77	64.447	69.516	75.876	77.508	75.103	69.283
49.1	62.679	55.963	64.664	69.743	76.112	77.745	75.334	69.5
49.2	62.866	56.157	64.882	69.97	76.348	77.982	75.565	69.717
49.3	63.052	56.35	65.1	70.196	76.584	78.22	75.797	69.934
49.4	63.239	56.544	65.318	70.423	76.821	78.458	76.028	70.15
49.5	63.426	56.738	65.536	70.65	77.057	78.695	76.259	70.367
49.6	63.612	56.932	65.753	70.877	77.294	78.933	76.49	70.584
49.7	63.799	57.125	65.971	71.104	77.531	79.171	76.722	70.801
49.8	63.985	57.319	66.189	71.331	77.767	79.409	76.953	71.018
49.9	64.172	57.514	66.407	71.558	78.003	79.647	77.185	71.235
50	64.358	57.708	66.624	71.785	78.239	79.884	77.416	71.452
50.1	64.545	57.902	66.842	72.012	78.476	80.122	77.648	71.668
50.2	64.731	58.096	67.06	72.239	78.713	80.36	77.88	71.886
50.3	64.917	58.291	67.278	72.466	78.949	80.598	78.111	72.103
50.4	65.104	58.485	67.496	72.693	79.186	80.836	78.343	72.32
50.5	65.29	58.68	67.715	72.92	79.423	81.074	78.575	72.537
50.6	65.476	58.875	67.933	73.147	79.66	81.312	78.807	72.755
50.7	65.662	59.07	68.152	73.374	79.897	81.55	79.039	72.972
50.8	65.848	59.265	68.371	73.602	80.134	81.789	79.271	73.189
50.9	66.033	59.46	68.59	73.829	80.371	82.027	79.502	73.407

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t								
51	66.219	59.655	68.808	74.056	80.608	82.265	79.734	73.624
51.1	66.405	59.85	69.027	74.284	80.845	82.503	79.966	73.841
51.2	66.591	60.045	69.246	74.511	81.082	82.741	80.198	74.059
51.3	66.776	60.24	69.465	74.738	81.318	82.98	80.43	74.276
51.4	66.962	60.436	69.684	74.966	81.555	83.218	80.662	74.494
51.5	67.147	60.631	69.903	75.192	81.793	83.456	80.895	74.711
51.6	67.332	60.827	70.122	75.42	82.03	83.695	81.127	74.929
51.7	67.518	61.022	70.341	75.647	82.268	83.933	81.359	75.147
51.8	67.703	61.218	70.561	75.875	82.505	84.171	81.592	75.364
51.9	67.888	61.414	70.78	76.103	82.743	84.41	81.824	75.582
52	68.073	61.611	70.999	76.33	82.98	84.649	82.056	75.8
52.1	68.258	61.807	71.218	76.558	83.217	84.887	82.289	76.018
52.2	68.443	62.003	71.438	76.786	83.454	85.126	82.521	76.236
52.3	68.628	62.199	71.657	77.014	83.691	85.364	82.753	76.454
52.4	68.813	62.396	71.877	77.242	83.929	85.603	82.986	76.672
52.5	68.998	62.592	72.097	77.47	84.166	85.842	83.219	76.891
52.6	69.182	62.788	72.316	77.698	84.404	86.08	83.452	77.109
52.7	69.367	62.985	72.535	77.926	84.641	86.318	83.685	77.327
52.8	69.552	63.181	72.755	78.154	84.879	86.557	83.918	77.545
52.9	69.737	63.378	72.975	78.382	85.117	86.796	84.15	77.764
53	69.921	63.575	73.195	78.611	85.355	87.035	84.383	77.983
53.1	70.106	63.771	73.415	78.839	85.593	87.274	84.615	78.201
53.2	70.29	63.968	73.634	79.067	85.83	87.513	84.848	78.419
53.3	70.475	64.165	73.854	79.295	86.068	87.752	85.081	78.637
53.4	70.659	64.362	74.074	79.523	86.306	87.991	85.314	78.856
53.5	70.844	64.559	74.294	79.752	86.545	88.23	85.546	79.075
53.6	71.028	64.756	74.514	79.98	86.783	88.469	85.779	79.294
53.7	71.212	64.953	74.735	80.209	87.021	88.709	86.012	79.513
53.8	71.396	65.149	74.955	80.438	87.259	88.948	86.245	79.732
53.9	71.581	65.346	75.175	80.666	87.497	89.187	86.478	79.95
54	71.765	65.544	75.395	80.895	87.734	89.427	86.711	80.169
54.1	71.949	65.741	75.615	81.124	87.973	89.666	86.944	80.387
54.2	72.134	65.939		81.353	88.211	89.906	87.177	80.606
54.3	72.318	66.136		81.581	88.45	90.145	87.41	80.825
54.4	72.502	66.333		81.81	88.688	90.385	87.643	81.043
54.5	72.687	66.531		82.038	88.926	90.625	87.877	81.262
54.6	72.871	66.728		82.267	89.164	90.864	88.11	81.481
54.7	73.056	66.926		82.495	89.402	91.103	88.343	81.699
54.8	73.24	67.123		82.724	89.64	91.343	88.576	81.917
54.9	73.424	67.321		82.954	89.879	91.583	88.809	82.136

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t								
55	73.609	67.519		83.183	90.118	91.823	89.042	82.354
55.1	73.793	67.717		83.412	90.357	92.062	89.275	82.573
55.2	73.977	67.915			90.595	92.302	89.508	82.792
55.3	74.162	68.113			90.835	92.542	89.742	83.011
55.4	74.346	68.311			91.075	92.782	89.975	83.23
55.5	74.53	68.509			91.313	93.022	90.209	83.45
55.6	74.715	68.707			91.552	93.261	90.443	83.669
55.7	74.899	68.905			91.791	93.501	90.677	83.888
55.8	75.084	69.103			92.03	93.741	90.912	84.107
55.9	75.267	69.301			92.269	93.982	91.145	84.326
56	75.452	69.499			92.508		91.378	84.546
56.1	75.636	69.697			92.748		91.612	84.765
56.2	75.821	69.895			92.987		91.847	84.984
56.3	76.005	70.094			93.227		92.081	85.204
56.4	76.19	70.292			93.466		92.315	85.423
56.5	76.374	70.491			93.705		92.549	85.643
56.6	76.559	70.69			93.943		92.783	85.862
56.7	76.744	70.888			94.183		93.017	86.082
56.8	76.928	71.087			94.422		93.251	86.302
56.9	77.113	71.286			94.66		93.485	86.522
57	77.298	71.485			94.899		93.718	86.742
57.1	77.483	71.683			95.138		93.952	86.962
57.2	77.668	71.882			95.377		94.187	87.182
57.3	77.853	72.08			95.616		94.421	87.402
57.4	78.038	72.279			95.855		94.655	87.621
57.5	78.223	72.477			96.094		94.889	87.841
57.6	78.408	72.677			96.334		95.123	
57.7	78.594	72.876			96.573		95.357	
57.8	78.78	73.075			96.812		95.591	
57.9	78.965	73.274			97.052		95.826	
58	79.15	73.473			97.291		96.06	
58.1	79.335	73.672			97.53		96.294	
58.2	79.52	73.872			97.769		96.529	
58.3	79.705	74.071			98.007			
58.4	79.89	74.271			98.246			
58.5	80.075	74.47						
58.6	80.261	74.669						
58.7	80.447	74.867						
58.8	80.632	75.066						
58.9	80.817	75.266						

r →	0	20	30	35	45	55	65	75
t								
59	81.002	75.465						
59.1	81.187	75.664						
59.2	81.371	75.864						
59.3	81.555	76.064						
59.4	81.739	76.264						
59.5	81.923	76.464						
59.6	82.106	76.663						
59.7	82.289	76.862						
59.8	82.473	77.062						
59.9	82.656	77.262						
60	82.839	77.46						
60.1	83.022	77.659						
60.2	83.205	77.859						
60.3	83.39	78.058						
60.4	83.575	78.257						
60.5	83.759	78.457						
60.6	83.943	78.656						
60.7	84.128	78.855						
60.8	84.312	79.054						
60.9	84.495	79.252						
61	84.679	79.451						
61.1	84.863	79.65						
61.2	85.047	79.849						
61.3	85.231	80.048						
61.4	85.415	80.246						
61.5	85.598	80.445						
61.6	85.782							
61.7	85.965							
61.8	86.15							
61.9	86.335							
62	86.52							
62.1	86.704							
62.2	86.888							
62.3	87.074							
62.4	87.26							
62.5	87.445							
62.6	87.629							
62.7	87.813							
62.8	87.998							
62.9	88.183							

r →	0	20	30	35	45	55	65	75
t								
63	88.367							
63.1	88.551							
63.2	88.735							
63.3	88.919							
63.4	89.103							
63.5	89.287							
63.6	89.47							
63.7	89.653							
63.8	89.837							
63.9	90.021							
64	90.206							
64.1	90.391							
64.2	90.575							
64.4	90.945							

2021E PT6 Diagnostic Plate Displacement Contour Table

Time referenced in microseconds from detonator circuit current start

Radial profiles vs time for PT6.

Displacements are given in mm.

Radius (mm)	t=15 μ s	t=20 μ s	t=25 μ s	t=30 μ s	t=35 μ s	t=40 μ s	t=45 μ s
0	0.116	2.850	13.585	24.525	35.037	45.195	54.929
20	0.001	4.493	12.428	21.078	29.806	38.792	48.097
30	0.001	6.676	15.392	24.929	34.915	45.227	55.817
35	0.282	8.391	17.483	27.713	38.349	49.288	60.449
45	1.489	11.564	21.550	31.626	42.977	54.604	66.354
55	1.842	12.333	22.678	33.016	44.468	56.158	67.964
65	1.172	11.400	21.557	32.082	43.192	54.457	65.888
75	0.103	9.619	19.227	29.306	39.594	50.054	60.681

The laser velocimetry points were measured on the aluminum diagnostic plate (top plate) at radial distances of 0, 20, 30, 35, 45, 55, 65 and 75 millimeters relative to the experiment's central axis. Seven timing pins were located on the bottom aluminum plate. One central surrounded by six in a circular pattern at 30 millimeters from the experiment's central axis. The hemispherical booster is pressed ultrafine TATB (UFTATB) and LX-17 is TATB with 7.5% Kel-F binder.

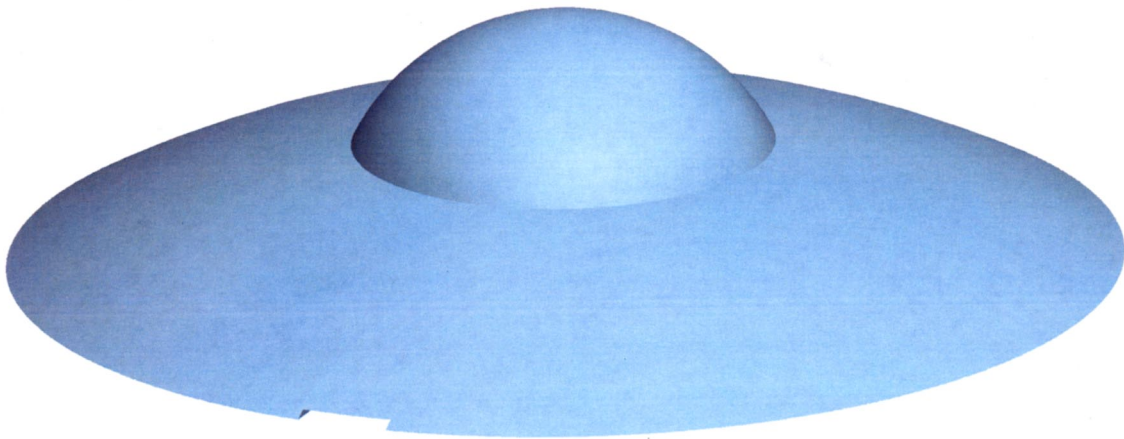


Figure 35. 2021E PT7 shadowplate showing detonator flat cable notch on foreground edge

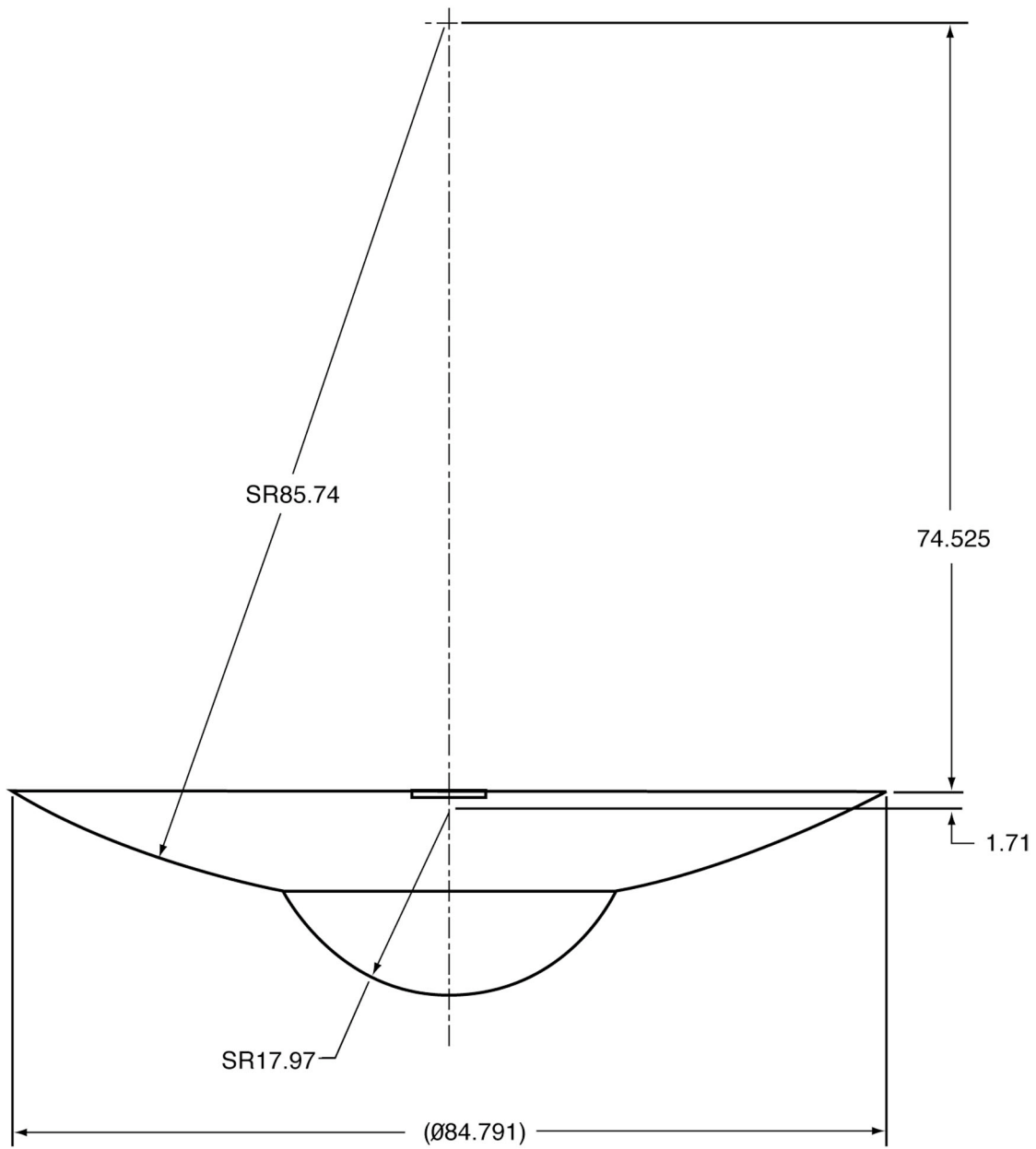


Figure 36. 2021E PT7 schematic diagram and dimensions of shadowplate

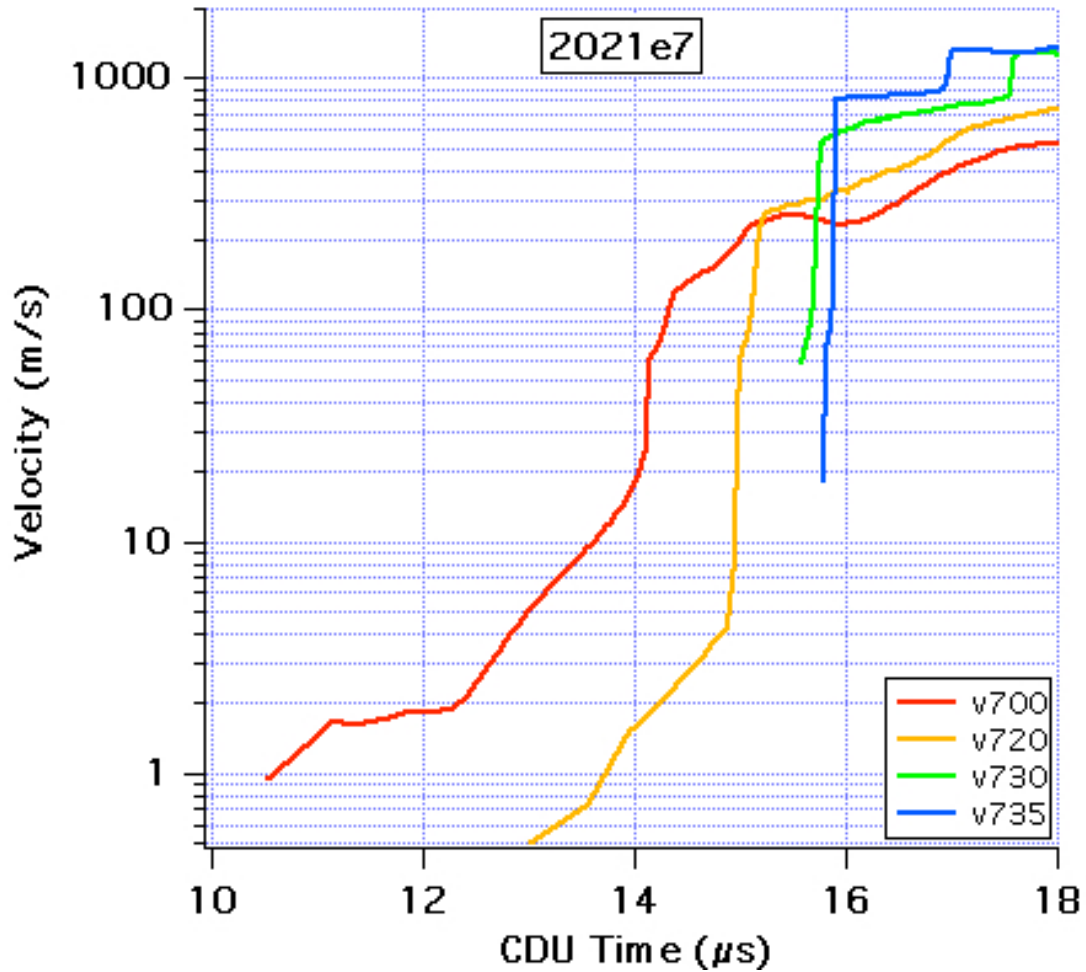


Figure 37. 2021E PT7 short time axis velocity plot for diagnostic plate radial measurement points 00, 20, 30, and 35; time is referenced from detonator circuit current start

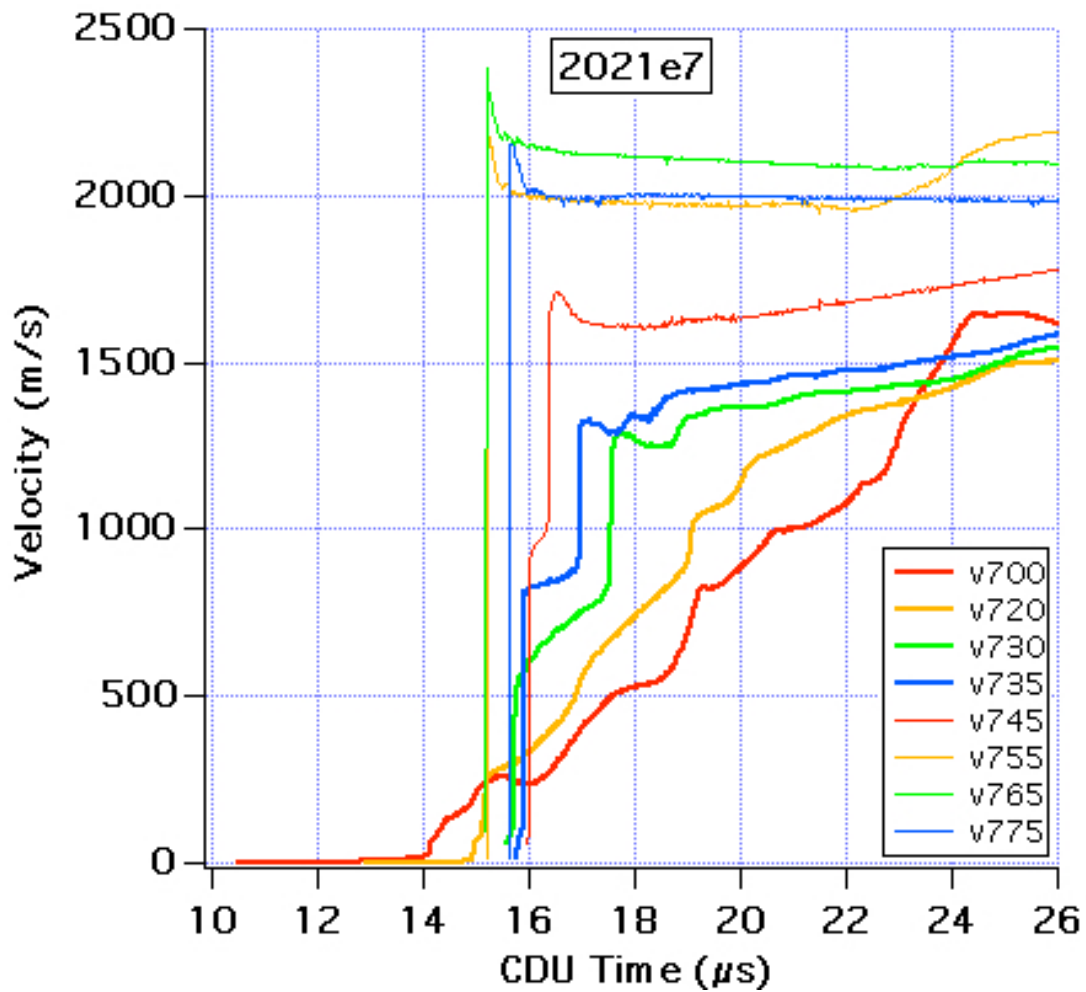


Figure 38. 2021E PT7 intermediate time axis velocity plot for diagnostic plate radial measurement points 00, 20, 30, 35, 45, 55, 65, and 75; time is referenced from detonator circuit current start

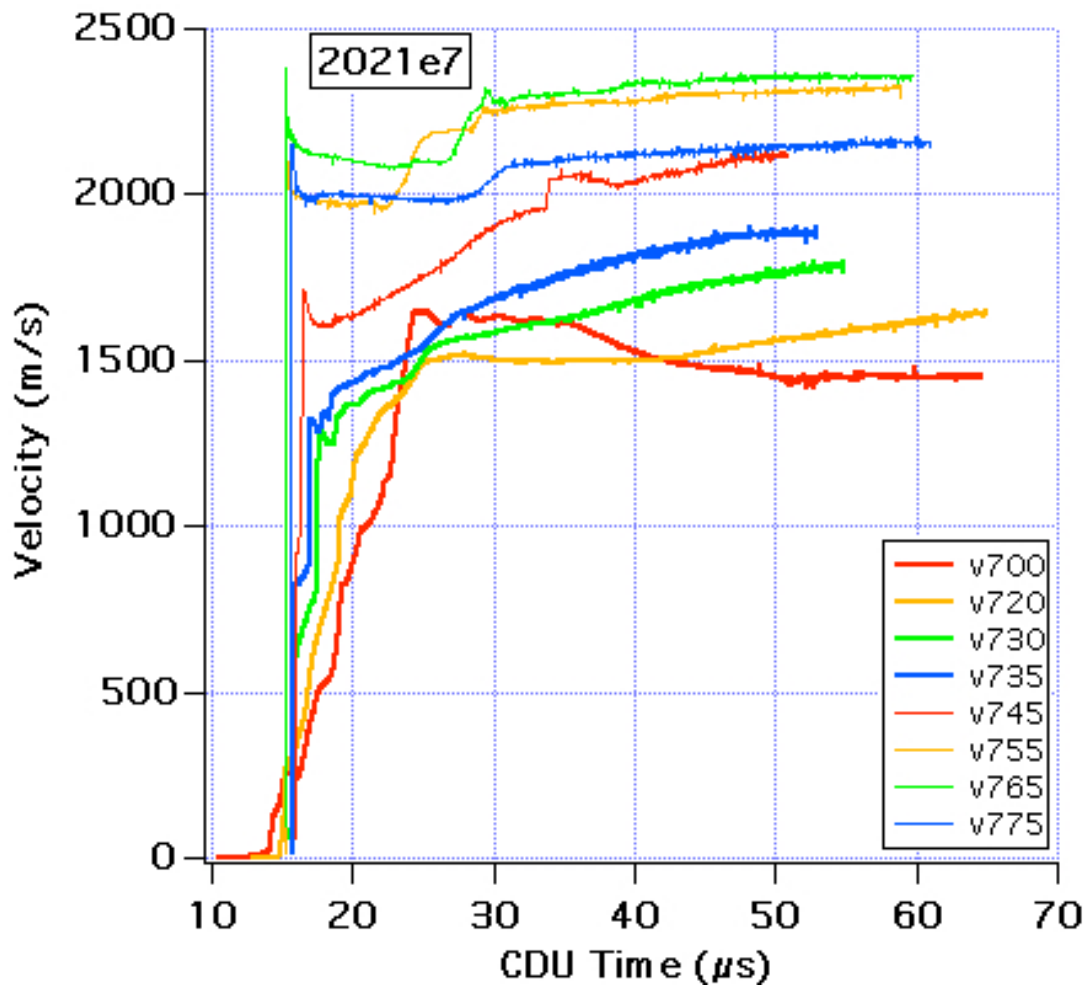


Figure 39. 2021E PT7 long time axis velocity plot for diagnostic plate radial measurement points 00, 20, 30, 35, 45, 55, 65, and 75; time is referenced from detonator circuit current start

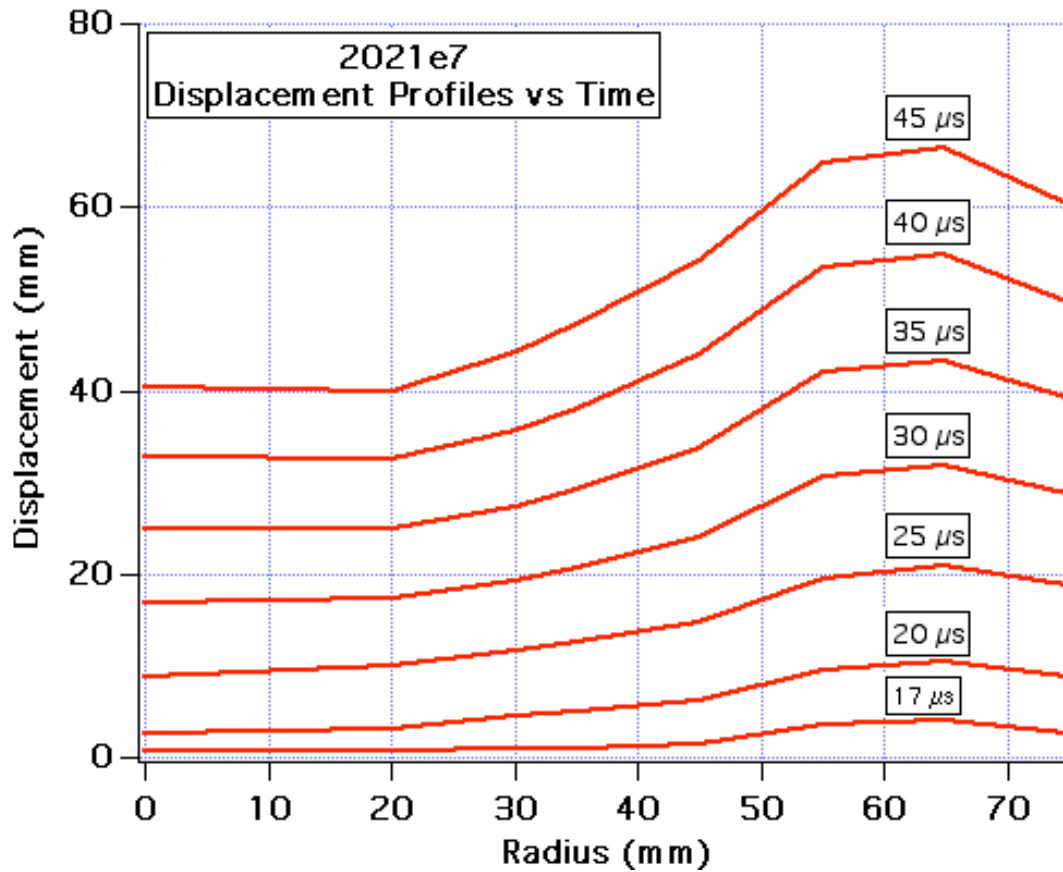


Figure 40. 2021E PT7 diagnostic plate displacement profiles; time is referenced from detonator circuit current start

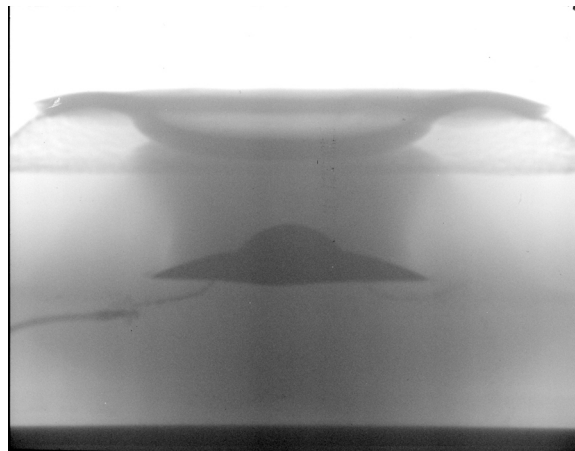


Figure 41. 2021E PT7 radiograph, 30 microseconds after detonator circuit current start, showing shadowplate, dead-zone conformation, dished diagnostic plate

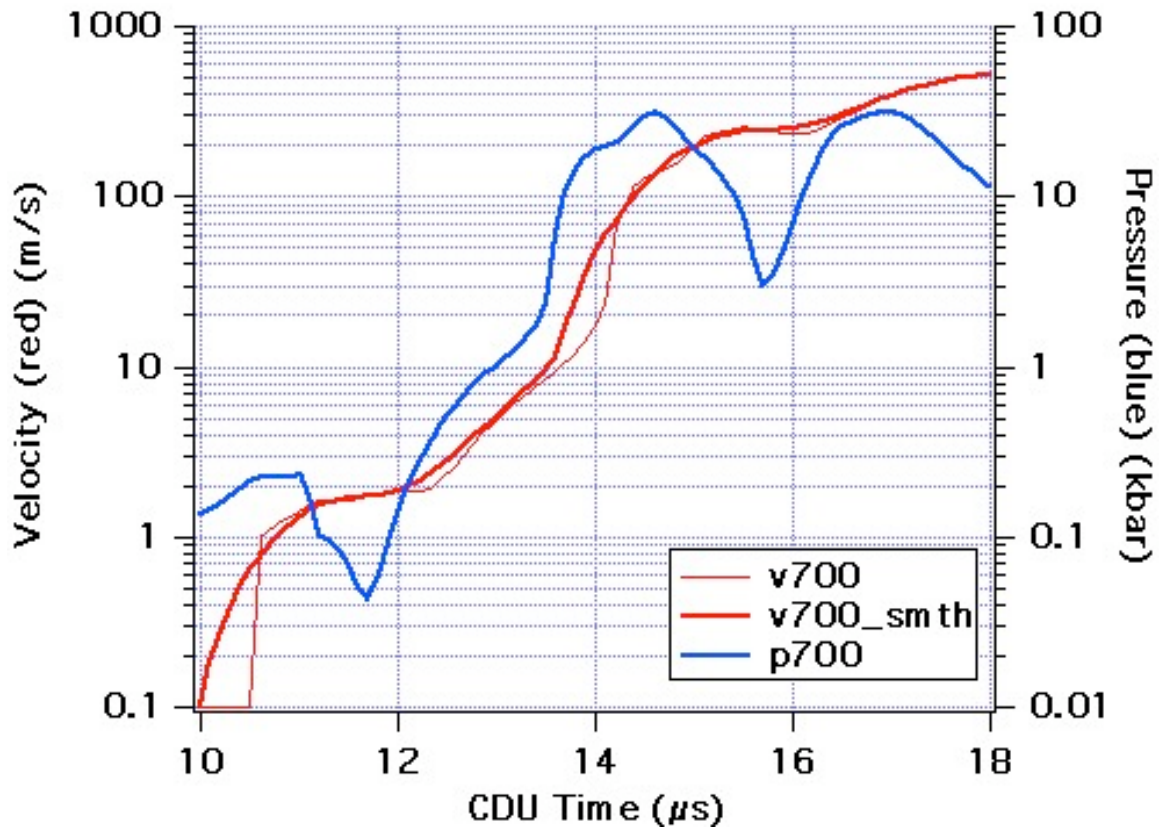


Figure 42. 2021E PT7 diagnostic plate velocity and pressure behind the diagnostic plate at the central axis, point 00; time is referenced from detonator circuit current start

2021E PT7 Diagnostic Plate Velocity Table

Diagnostic Plate Velocities of Jack Rabbit Pretest 2021E PT7; time is referenced in microseconds from detonator circuit current start.

Jack Rabbit Pretest 2021E PT7 VELOCITY Data								
Columnar data: meters per second								
absolute timing accuracy relative to time zero = +/- 0.025 microseconds								
relative timing uncertainty between data channels = +/- 0.005 microseconds								
z velocity uncertainty = +/- 5 percent of velocity								
PDV measurement point position uncertainty = +/- 0.25 millimeters								
r →	0	20	30	35	45	55	65	75
t								
10	0	0	0	0	0	0	0	0
10.1	0	0	0	0	0	0	0	0
10.2	0	0	0	0	0	0	0	0
10.3	0	0	0	0	0	0	0	0
10.4	0	0	0	0	0	0	0	0
10.5	0	0	0	0	0	0	0	0
10.6	1.0173	0	0	0	0	0	0	0
10.7	1.1186	0	0	0	0	0	0	0
10.8	1.2199	0	0	0	0	0	0	0
10.9	1.3269	0	0	0	0	0	0	0
11	1.4551	0	0	0	0	0	0	0
11.1	1.5834	0	0	0	0	0	0	0
11.2	1.638	0	0	0	0	0	0	0
11.3	1.6304	0	0	0	0	0	0	0
11.4	1.6294	0	0	0	0	0	0	0
11.5	1.6617	0	0	0	0	0	0	0
11.6	1.694	0	0	0	0	0	0	0
11.7	1.7458	0	0	0	0	0	0	0
11.8	1.8014	0	0	0	0	0	0	0
11.9	1.8259	0	0	0	0	0	0	0
12	1.8323	0	0	0	0	0	0	0
12.1	1.8446	0	0	0	0	0	0	0
12.2	1.8625	0	0	0	0	0	0	0
12.3	1.9433	0	0	0	0	0	0	0
12.4	2.1099	0	0	0	0	0	0	0
12.5	2.3797	0	0	0	0	0	0	0
12.6	2.7509	0	0	0	0	0	0	0
12.7	3.22	0	0	0	0	0	0	0
12.8	3.738	0	0	0	0	0	0	0
12.9	4.2816	0	0	0	0	0	0	0

r →	0	20	30	35	45	55	65	75
t								
13	4.9438	0.5021	0	0	0	0	0	0
13.1	5.5884	0.5425	0	0	0	0	0	0
13.2	6.2638	0.5828	0	0	0	0	0	0
13.3	7.0248	0.6232	0	0	0	0	0	0
13.4	7.8068	0.6636	0	0	0	0	0	0
13.5	8.6794	0.7039	0	0	0	0	0	0
13.6	9.6705	0.7624	0	0	0	0	0	0
13.7	10.921	0.9715	0	0	0	0	0	0
13.8	12.379	1.1807	0	0	0	0	0	0
13.9	14.328	1.3898	0	0	0	0	0	0
14	17.526	1.5902	0	0	0	0	0	0
14.1	23.295	1.7627	0	0	0	0	0	0
14.2	66.788	1.9353	0	0	0	0	0	0
14.3	87.459	2.1502	0	0	0	0	0	0
14.4	118.09	2.3802	0	0	0	0	0	0
14.5	131.25	2.689	0	0	0	0	0	0
14.6	139.64	3.0193	0	0	0	0	0	0
14.7	147.65	3.3864	0	0	0	0	0	0
14.8	158.06	3.8134	0	0	0	0	0	0
14.9	174.45	5.4917	0	0	0	0	0	0
15	198.33	60.359	0	0	0	0	0	0
15.1	226.32	87.658	0	0	0	0	0	0
15.2	238.08	223.24	0	0	0	1039	2350.7	0
15.3	246.35	267.63	0	0	0	2130.7	2258	0
15.4	254.31	275.35	0	0	0	2056.9	2209.2	0
15.5	256.14	281.77	0	0	0	2028.7	2177.1	0
15.6	253.71	290.08	62.634	0	0	2034.2	2184.3	0
15.7	248.05	293.91	103.2	0	0	2009.7	2159.5	2143.1
15.8	241.14	302.29	531.95	44.794	0	2000.5	2165.3	2094.3
15.9	235.72	318.73	567.13	438.55	0	2007.1	2151	2027.2
16	235.78	326.41	598.83	816.7	681.43	1993.1	2149.3	2013.9
16.1	238.65	343.86	616.25	824.84	945.67	1997.4	2149.5	2017.8
16.2	246.03	362.08	643.76	826.08	966.89	1997.6	2145.6	2006.9
16.3	258.25	376.02	657.21	834.46	994.12	1995.5	2138.9	2002.1
16.4	272.8	393.03	673.52	837.09	1647.3	1990.5	2136.7	1998.3
16.5	289.55	405.89	689.4	842.19	1709.3	1989.7	2133.8	1991.6
16.6	310.03	421.94	699.35	846.2	1706.4	1991	2130.4	1990.2
16.7	331.73	444.43	708.64	858.22	1673.4	1990	2128.6	1989.3
16.8	355.79	470.36	722.68	869.64	1647.4	1987.4	2127.5	1990.6
16.9	378.26	505.08	737.79	880.63	1639.1	1988.4	2127.2	1991.9

r →	0	20	30	35	45	55	65	75
t								
17	399.88	544.53	750.05	1308.3	1625.3	1990.1	2123.7	1992.6
17.1	418.22	578.49	761.51	1319.6	1622.6	1984.7	2124.6	1987.8
17.2	433.37	607.71	768.55	1311.9	1611.4	1985.1	2122.6	1990.8
17.3	449.55	625.84	779.71	1314.9	1614	1981.9	2123.5	1977.7
17.4	469.07	642.23	792.82	1302	1611.3	1981.4	2122.5	1993.6
17.5	486.5	658.85	826.82	1288	1608.7	1982.1	2122	1994.7
17.6	499.03	673.74	1213	1289.6	1609.1	1976.9	2122.2	1994.6
17.7	508.75	688.45	1285.1	1291.6	1611.3	1983.3	2119.8	1998.2
17.8	515.18	704.23	1287.1	1302.7	1607.7	1977.4	2121.2	2000.3
17.9	521.77	720.07	1276.5	1330.4	1610.1	1978.8	2119.6	1999.8
18	524.97	735.2	1271.1	1339.1	1607.2	1980.4	2118.7	2005.5
18.1	528.56	749.99	1259.8	1333.9	1608.3	1977.9	2118.8	2000.4
18.2	531.19	764.86	1250.1	1331	1603	1981.6	2115.7	2002.1
18.3	535.25	776.92	1249.7	1324.2	1609.2	1969.3	2114.9	2001
18.4	540.13	790.12	1249	1343.3	1604.7	1976.8	2115.8	2003.3
18.5	548.81	807.88	1245.3	1367.7	1607.9	1976.5	2116	2001.7
18.6	560.41	819.48	1250.2	1387.6	1610.9	1976.2	2110.2	1999.5
18.7	578.62	834.85	1250.4	1393.5	1635.1	1978.1	2114.2	2001.4
18.8	606.6	851.79	1274	1402.7	1620	1977.6	2112.1	1999.5
18.9	641.71	871.52	1308.8	1408.1	1634.3	1977	2111.3	2000.8
19	680.31	894.93	1330.3	1413.1	1626.2	1975.3	2112	2001.6
19.1	729.99	990.92	1337.6	1418.1	1626.1	1972.9	2111.5	2001
19.2	794.88	1032.8	1339.1	1416.1	1631.3	1973.2	2109.4	2007.7
19.3	825.18	1045.9	1340.7	1417.4	1631.2	1973.5	2109.3	1995.1
19.4	821.9	1052.2	1352.4	1418.9	1632.7	1971	2108	2001.6
19.5	822.43	1060.6	1358.7	1421.3	1634.4	1971.8	2106.7	1998.6
19.6	827.67	1066.7	1360	1422	1633.7	1969.4	2106.1	1999.1
19.7	839.08	1073.4	1364	1424.5	1634.1	1971	2106	1999.8
19.8	854.12	1084.8	1365.6	1426.8	1632.7	1962.7	2104.3	1999.7
19.9	868.82	1103.4	1367.7	1430.6	1623.7	1970.3	2103.6	1998.4
20	882.86	1129.7	1367.7	1433.3	1632.9	1972.1	2101.3	1997.7
20.1	895.76	1161.6	1366.9	1433.7	1634.4	1980.2	2100.7	1996.7
20.2	909.48	1189.7	1364.8	1436.5	1638	1969	2101.4	1997.5
20.3	924.83	1205.6	1364.2	1435.4	1640.1	1967.9	2100.9	1997.1
20.4	941.92	1216.8	1364.8	1436.1	1642.4	1972.7	2100	1997.9
20.5	962.78	1221.7	1367.7	1438.9	1644.6	1975.4	2099.2	1995.9
20.6	982.71	1228.8	1370.7	1444.1	1643	1974.6	2097.7	1997.8
20.7	994.5	1236.1	1375.1	1447.1	1647.3	1974.5	2096.5	1996.1
20.8	994.89	1243.9	1380.1	1451.8	1649.3	1976.8	2095.7	1995.8
20.9	996.76	1249.2	1384.9	1455.8	1656.7	1978.5	2094.9	1996.9

r →	0	20	30	35	45	55	65	75
t								
21	1000.2	1259.5	1391.7	1457.4	1657.5	1978.6	2093.9	1996.7
21.1	1002.9	1267.5	1395.7	1458.6	1657.6	1977.2	2093.1	1991.8
21.2	1005.6	1275.9	1399.3	1459.6	1661.3	1978.9	2093.5	1991.4
21.3	1009.7	1282.2	1402.3	1459.2	1664.3	1971.1	2092.9	1997.5
21.4	1016.4	1290.3	1404.5	1458.6	1667.8	1971.9	2091.3	1992.2
21.5	1025.9	1298.4	1405.2	1458.5	1673	1955.5	2089.9	1992.5
21.6	1036.2	1308.3	1406	1461.2	1672.6	1969.3	2089.5	1993.5
21.7	1045	1317.7	1406.7	1464.6	1675.7	1965.9	2091.2	1993.2
21.8	1053.6	1325.3	1407.7	1469.5	1677.2	1965	2089.3	1993.1
21.9	1062.1	1332.3	1407.6	1472.3	1683.5	1962	2087.8	1993.3
22	1072.7	1337.7	1410.3	1473.6	1681.1	1958.9	2086.3	1993.6
22.1	1087	1342.5	1411.8	1475.6	1684.9	1952.7	2084.9	1995.2
22.2	1106.8	1348	1413.5	1476.8	1686.7	1960.3	2085.7	1990.4
22.3	1131	1353.1	1415.9	1477	1688.1	1960.7	2085.5	1991.4
22.4	1137.1	1355.8	1417.6	1477.2	1689.5	1963.2	2084.3	1992.5
22.5	1139.9	1357	1417.9	1476.4	1693	1966.3	2083.5	1993.7
22.6	1148.1	1365	1419.3	1475.5	1695.8	1971	2080.9	1992.4
22.7	1162.4	1366.6	1421.3	1474	1697.8	1976.5	2083.1	1989.4
22.8	1187.1	1368.3	1423.9	1484	1695.7	1982.1	2082.8	1989.1
22.9	1224.8	1371.3	1427	1484.5	1704.3	1991.8	2081.1	1989.5
23	1270.3	1376.3	1428.4	1489.5	1706.3	1999.2	2084.7	1993.1
23.1	1315.5	1381.8	1430	1491.5	1710.7	2006.4	2084.6	1988.7
23.2	1349.7	1382.4	1431.8	1495	1712.1	2012.8	2080.9	1989.9
23.3	1376.4	1388.2	1433.4	1498.2	1713.6	2016.3	2088.8	1990
23.4	1403.3	1391.5	1434.3	1501.6	1716.3	2026.6	2092.3	1988.4
23.5	1425.9	1395.7	1435.3	1504.2	1720.7	2030.1	2088.7	1989.2
23.6	1446.4	1400.4	1436.7	1506.8	1716.5	2041.5	2087.2	1988.7
23.7	1469.1	1405.2	1439.7	1508.1	1721.8	2049.5	2087.5	1987.6
23.8	1494.4	1410.7	1442	1511.2	1724.9	2056.9	2087.9	1987.7
23.9	1521.7	1415.7	1443.9	1513	1726.5	2063.3	2089.1	1988.4
24	1549.1	1421.5	1446.2	1514.4	1729.1	2084.9	2089.9	1986.1
24.1	1575.7	1427.9	1450.1	1516.6	1733.8	2095.4	2092.9	1987.5
24.2	1602.6	1434	1454.9	1517.8	1734.9	2116.4	2095.7	1991.2
24.3	1625.7	1440.7	1460.9	1520.1	1737.2	2121.1	2103	1990.6
24.4	1639.7	1446.8	1464.9	1522.2	1737.7	2129.8	2103.5	1985.4
24.5	1643.9	1454.4	1472.3	1524.6	1743.6	2140.8	2102.4	1987.2
24.6	1643.7	1461.8	1478.4	1526.5	1749.7	2144.3	2105.5	1987.4
24.7	1640	1469.8	1484.6	1529.3	1746.6	2155	2102	1986
24.8	1638.6	1478.4	1491.6	1531.9	1747.1	2157.3	2102.4	1985.3
24.9	1642.1	1485.4	1497	1535.9	1751.4	2165.1	2101	1984.8

r →	0	20	30	35	45	55	65	75
t								
25	1645.3	1489.9	1502.3	1539.4	1754.1	2170.1	2100.3	1985.1
25.1	1646.8	1492.4	1510.4	1544.4	1756.4	2170.8	2100.7	1985.2
25.2	1646.1	1493.9	1514.5	1549.7	1758.5	2173.7	2097.7	1984.8
25.3	1644.1	1494.9	1522.3	1554.3	1762.4	2176.6	2100	1986.6
25.4	1642.1	1495.6	1525.6	1559.5	1763.3	2180.6	2098.8	1985.8
25.5	1638.6	1496.7	1529	1563.8	1765.5	2182.5	2098.9	1979.6
25.6	1634.3	1497.9	1532.9	1568.1	1768.2	2185.8	2098.8	1980.4
25.7	1630.2	1499.3	1535.8	1571.7	1770	2186.7	2098.5	1987.4
25.8	1625.6	1500.8	1538.2	1575.5	1773.7	2187.7	2098.2	1984.2
25.9	1621	1500.8	1540.3	1579.8	1777.2	2188.5	2097	1984.4
26	1616.7	1501	1542	1582.7	1779.7	2188.7	2096	1986.1
26.1	1613.7	1501.4	1543.5	1585.7	1781.5	2188.3	2096	1985.3
26.2	1610.2	1501.9	1545.1	1588.8	1785.8	2188	2095.3	1984.7
26.3	1606.7	1502.9	1546.4	1592.1	1772.8	2189.4	2096	1985.4
26.4	1603.9	1503.4	1548.9	1596.2	1797	2189	2097.3	1986.2
26.5	1600.9	1504.4	1550.4	1599.9	1791.9	2189.1	2098.2	1987.5
26.6	1599.3	1505.2	1551.4	1602.8	1798.6	2190.8	2100.6	1973.5
26.7	1601	1505.7	1553.1	1609.1	1799.5	2191.8	2103.8	1978.8
26.8	1603.5	1507	1554.3	1611	1803.1	2193.7	2107.2	1985.1
26.9	1607.9	1508.8	1555.9	1614.2	1807.2	2194	2112.2	1986.4
27	1613.5	1510.4	1556.6	1617	1810.1	2194.3	2118.1	1985.3
27.1	1620.2	1511.6	1557	1620.9	1811	2194.8	2121.7	1986.2
27.2	1626.1	1512.6	1559.7	1626.1	1814.2	2195.1	2133.9	1986.8
27.3	1632.1	1513.4	1560.1	1630.4	1819.4	2195.7	2152.2	1986.9
27.4	1636.4	1513.6	1561.1	1634.2	1822.9	2196.2	2154.3	1988.2
27.5	1638.8	1513.6	1562.2	1639.2	1827.4	2195.2	2163.8	1991.5
27.6	1640.8	1513.2	1563.2	1641.1	1830.6	2195.4	2173	1989.8
27.7	1642	1513.6	1563.6	1642.8	1830.4	2196.5	2183.5	1989.6
27.8	1641.3	1512.3	1564.3	1644.5	1835.2	2196.2	2197.1	1987.7
27.9	1638.8	1512.6	1564.7	1646.2	1841.8	2196.4	2205.4	1990.5
28	1635.5	1513.9	1566.1	1623.3	1842.7	2196.4	2214.2	1990.3
28.1	1632.2	1514.8	1567.1	1645.2	1847.2	2192.6	2226	1993.2
28.2	1630.5	1513.1	1567.1	1647.2	1847	2197.6	2233.1	1992.4
28.3	1629.7	1510.7	1566.9	1650.3	1852.6	2193.7	2238	1998.6
28.4	1629.3	1510.5	1567	1652.2	1858	2204.3	2249.3	1994.5
28.5	1627.9	1508.4	1567.9	1652.1	1860.3	2202.9	2249.2	2002.2
28.6	1626.9	1508.7	1568.4	1653.6	1863.4	2206	2253	2004.1
28.7	1624.5	1507.4	1569	1655.2	1868.4	2217.5	2257.1	2004.7
28.8	1620.5	1507.8	1570	1656.6	1872.7	2220.9	2259.8	2009
28.9	1618.7	1506.1	1570.6	1658.9	1875.5	2225.5	2259.7	2012

r →	0	20	30	35	45	55	65	75
t								
29	1618.2	1506.2	1571.1	1661	1874.2	2233.4	2263.6	2013.3
29.1	1618.7	1506.4	1573.1	1663.8	1881.7	2243.8	2270.9	2016.8
29.2	1620.2	1506.2	1574.2	1665.2	1883	2251.7	2281.4	2022.5
29.3	1621.6	1505.6	1574.6	1666.3	1890	2254.5	2294.2	2030.9
29.4	1621.9	1505.6	1576.3	1671	1889.2	2256	2308.5	2030.7
29.5	1622.2	1505.2	1577.4	1672.8	1894.6	2251.6	2309.1	2035
29.6	1623.4	1504.7	1580.4	1674.3	1892.7	2259.2	2311.3	2040.4
29.7	1624.7	1503.8	1577.3	1676.4	1896.8	2256.2	2312.5	2039.7
29.8	1625.4	1503.2	1581.8	1679.5	1890.5	2250.8	2296.6	2043.5
29.9	1626.5	1502.2	1582.2	1679.9	1904.1	2249.3	2286.8	2052.5
30	1627.3	1501.4	1581.4	1683.4	1903.2	2252.8	2278.6	2053.9
30.1	1628.3	1500.7	1583	1683.6	1905.5	2252.5	2284.8	2060.5
30.2	1629.4	1500.5	1583.4	1689.9	1909.2	2251.5	2281.1	2058.7
30.3	1630.1	1500	1584.4	1688.6	1912	2253.3	2284	2059.7
30.4	1629.8	1499.3	1584.1	1690.4	1913	2256.6	2273.5	2071.9
30.5	1629.4	1499.6	1585.6	1693.2	1917.1	2250.6	2289.6	2070.8
30.6	1629.2	1500.4	1588.8	1691.8	1920.2	2256.8	2291.8	2078.9
30.7	1628.8	1500.6	1588.7	1688.9	1923.1	2254.4	2287.6	2081.1
30.8	1628.5	1500.9	1589.6	1696.2	1924	2255.3	2267.4	2077.3
30.9	1627.9	1500.9	1590.6	1695.6	1925.3	2266	2270	2083.8
31	1627.3	1500.2	1591.8	1699.6	1924.5	2262.6	2276	2084.9
31.1	1625.9	1499.2	1592.9	1700.2	1928.2	2257.7	2287.6	2084.8
31.2	1624.6	1498.6	1593.3	1701	1925.8	2260	2285	2086.3
31.3	1623.6	1497.5	1594.1	1702.3	1932.1	2263.1	2286.5	2087.8
31.4	1621.8	1496.1	1595.1	1703.3	1932.5	2261.3	2290.4	2089.5
31.5	1620.8	1495.4	1596.9	1706.6	1942.3	2263.3	2290.1	2086.8
31.6	1619.4	1494.7	1597.5	1705.5	1939.2	2263.7	2290.5	2088.9
31.7	1618.1	1494.5	1597.9	1708.8	1938.6	2264.7	2291.8	2087.3
31.8	1617.4	1494.8	1595.2	1709.4	1940	2265.1	2295.8	2089.7
31.9	1616.5	1494.5	1600.1	1714.3	1940.1	2261.8	2297.5	2090
32	1615.8	1494.5	1600.6	1706.7	1941.5	2263.5	2296.9	2093.6
32.1	1616.3	1495	1601.5	1714.3	1946.2	2263.4	2294.5	2096.1
32.2	1617.3	1495.4	1601.5	1714	1948.6	2264.5	2297.9	2089.9
32.3	1616.1	1495.3	1602.4	1714.3	1948.8	2266.1	2298.1	2094.6
32.4	1617.1	1495.4	1602	1718.2	1948	2263.1	2296	2093.5
32.5	1619.5	1495.7	1603.3	1720.8	1947	2264.8	2297.5	2089.7
32.6	1618	1496.1	1603.9	1721.5	1952.7	2265.1	2299.7	2107.4
32.7	1619.4	1496.8	1601.7	1720.5	1950.4	2264.9	2301	2088.1
32.8	1622.3	1497.5	1607.2	1726.2	1953.2	2266.8	2299.4	2095.2
32.9	1621.6	1497.7	1607.7	1723.1	1953.9	2265.1	2297.9	2094.6

r →	0	20	30	35	45	55	65	75
t								
33	1620.7	1498	1609	1724.2	1956.4	2268.3	2296.3	2094.7
33.1	1621.6	1498.2	1608.3	1727.4	1956.5	2267.1	2296.3	2095.8
33.2	1621.7	1497.7	1609.2	1733.2	1957	2264.6	2296.9	2094.7
33.3	1619.9	1497.3	1610.8	1721.7	1957.7	2266.4	2299.3	2094.9
33.4	1620.2	1496.9	1610.3	1729.7	1957.7	2269.4	2301.6	2098
33.5	1619	1495.6	1608.6	1730.7	1960.8	2267.9	2301.7	2097.5
33.6	1618.4	1495	1609.5	1733.3	1959.6	2271.7	2302.2	2095
33.7	1617.1	1494.1	1611.7	1735.3	1962.9	2275.5	2300.4	2098
33.8	1615.2	1494.1	1612.4	1726.8	1969.9	2270.1	2296.6	2096.2
33.9	1613.6	1492.8	1613.1	1736.8	2049.7	2264.1	2295.9	2099
34	1612.4	1493.6	1613.4	1740	2047.5	2288.2	2297.6	2098
34.1	1611.1	1493.7	1613	1740.9	2048.7	2267.4	2301.6	2098.6
34.2	1609.9	1494.1	1613.7	1740.6	2049.9	2279.5	2302.2	2099.5
34.3	1608.1	1494	1616.3	1741.8	2049.1	2271.2	2303.7	2103.6
34.4	1608	1494.2	1616.7	1746.3	2047.3	2270.3	2304.5	2103.4
34.5	1609.1	1494	1616.1	1749.2	2050.6	2273.6	2303.6	2102.2
34.6	1606.8	1494.4	1619.1	1747.3	2051.7	2269.5	2305.1	2104.6
34.7	1607.4	1494.2	1621.8	1749.1	2051.9	2271.6	2306.8	2104.4
34.8	1606.8	1495	1621.6	1751.3	2076.7	2268.4	2305.9	2100.7
34.9	1607.9	1495.2	1621.5	1750.1	2051.6	2274.7	2302.6	2102.9
35	1608.9	1495.6	1626	1747.4	2053.6	2277	2305.6	2105.5
35.1	1609.1	1495.9	1621.1	1758.2	2053.9	2271.9	2307.8	2105
35.2	1608.3	1497.4	1625.2	1757.6	2054.9	2277	2307.7	2109
35.3	1608.2	1497.8	1625.5	1754	2055.2	2277.4	2306.7	2103.5
35.4	1608.5	1498.1	1624	1759.1	2056.1	2277.6	2308.2	2105.5
35.5	1607.2	1498.6	1629.3	1760.1	2056.6	2278.2	2306.6	2108.1
35.6	1606.8	1498.6	1628	1761.1	2059.5	2277.2	2309.1	2117.2
35.7	1605.7	1498.3	1627.4	1763.2	2054.5	2276.9	2307.7	2109.6
35.8	1604.5	1497.6	1633.5	1764.6	2054.1	2277.5	2310.2	2110.3
35.9	1603.5	1497.1	1629.9	1763.3	2063.5	2278.1	2312.1	2109.8
36	1602.3	1496.9	1629.9	1761.9	2060.7	2279.5	2308	2103.8
36.1	1600.1	1496.6	1631	1767.5	2062.3	2279.3	2308.4	2109.2
36.2	1597.7	1496.2	1633	1768.2	2045.2	2278.4	2309.2	2111.9
36.3	1594.7	1496	1635.6	1767.4	2060.5	2278.9	2308.8	2111.9
36.4	1593.5	1496.2	1637.7	1776.8	2049.4	2278.6	2308.6	2112.9
36.5	1590.2	1495.4	1641.3	1778.4	2060.3	2278.6	2309	2112.9
36.6	1587.5	1495.7	1633.8	1777.5	2063.7	2277.9	2308.6	2112.7
36.7	1586.6	1496.2	1638.1	1776.6	2049.6	2279.4	2308.9	2119.2
36.8	1583.8	1495.3	1638.9	1775.5	2044.9	2274.2	2308.8	2117.3
36.9	1581.7	1495.8	1640.4	1772.2	2042.6	2281.8	2309.7	2115.1

r →	0	20	30	35	45	55	65	75
t								
37	1580.5	1496.3	1642.2	1777.5	2047.3	2284	2309.5	2116.9
37.1	1578.9	1496	1642.8	1779.6	2043.5	2280.1	2309.3	2118.6
37.2	1577.2	1496.1	1645.6	1781.4	2041.9	2277.5	2309.2	2124.9
37.3	1575.4	1496.4	1644.4	1780.6	2046.4	2278.6	2309.9	2111.7
37.4	1573.6	1497.6	1643.6	1779.2	2046	2278.9	2309.9	2115.2
37.5	1572.6	1498.1	1648.3	1777.5	2045.6	2277.5	2310.4	2115.8
37.6	1570.8	1497.5	1647.8	1793.5	2040.2	2281.1	2311.1	2113.5
37.7	1569.5	1497.8	1657.6	1781.1	2042.5	2279.3	2312.5	2112.9
37.8	1567.8	1499.7	1653.3	1789.9	2037.8	2282.9	2313.4	2114.9
37.9	1565.6	1498.3	1654.4	1780.1	2037.1	2278.3	2312.4	2124.7
38	1564.3	1498.6	1655.3	1792.1	2036	2279.2	2314.6	2114.8
38.1	1561.7	1498.1	1656.8	1793.9	2036.5	2277.6	2315.4	2099.9
38.2	1559.4	1497.7	1656.2	1792.1	2028.9	2277.1	2316.1	2114.9
38.3	1557.3	1497.3	1659.6	1794.2	2031.1	2277.6	2319.5	2115.9
38.4	1555.3	1497	1656.8	1786.6	2033.8	2277.1	2318.7	2116.5
38.5	1552.7	1496.9	1659	1798.9	2032.4	2275.8	2321.6	2117.8
38.6	1550.4	1497.3	1660.8	1798.2	2030.4	2281.4	2319	2114.6
38.7	1546.9	1496.5	1661.7	1796.7	2032.6	2276.7	2320.4	2115
38.8	1542.8	1496.6	1669	1799.4	2028.2	2283.1	2324.6	2124.5
38.9	1543.7	1497.6	1663.5	1802.1	2029.1	2278.7	2326.3	2117.9
39	1539.6	1497	1663	1799.8	2031.9	2276.3	2324.9	2120.8
39.1	1535.2	1497	1662.8	1806.9	2033.3	2279.4	2326.6	2116.5
39.2	1537.7	1496.9	1668.9	1804.9	2033.9	2280.8	2331.8	2114.5
39.3	1533.5	1497.4	1663.5	1803.8	2034.3	2279.2	2331.9	2124.6
39.4	1535.1	1497.3	1671.8	1805.9	2035.2	2283.1	2342	2121.8
39.5	1533.8	1496.9	1668.5	1802.9	2032.9	2279	2329.6	2118.5
39.6	1532.2	1499.7	1673.8	1811	2034.4	2272.5	2331.7	2120.2
39.7	1532.4	1498.6	1672	1808.6	2037.7	2281.3	2336.5	2121.5
39.8	1529.7	1499.2	1676.8	1812.5	2035.8	2281.4	2334.5	2118
39.9	1528.4	1497.7	1676.4	1811.4	2037.2	2283.3	2335.3	2121.6
40	1527.6	1498.2	1678	1812.6	2039.7	2271	2334.6	2113.8
40.1	1525.1	1499.3	1680	1813.7	2042.1	2281.8	2339.5	2119.5
40.2	1524.4	1498.9	1676.1	1815.1	2045.7	2279.2	2341.3	2127.2
40.3	1522	1499.1	1677.7	1815.9	2047.9	2286.7	2338.1	2121.8
40.4	1520.9	1498.7	1685.6	1820	2043.8	2286.1	2340	2122.3
40.5	1518.3	1499	1681.9	1817	2045.9	2283.1	2335.7	2121.4
40.6	1516.4	1498.5	1685.6	1819.3	2051	2287.4	2340.2	2125.4
40.7	1515.7	1498.7	1687.1	1819.5	2049.8	2285	2339.5	2125.5
40.8	1513.6	1498.3	1684.5	1820.7	2043.6	2287.9	2337.3	2120.8
40.9	1511.3	1497.6	1689.5	1822.4	2049	2287.6	2338.6	2122.7

r →	0	20	30	35	45	55	65	75
t								
41	1510.5	1498.4	1686.8	1824.4	2052.2	2284.5	2340	2118.5
41.1	1508.4	1498.5	1691.2	1816.8	2052.1	2284.6	2338.9	2124.5
41.2	1507.9	1498.7	1689.5	1825.9	2056	2289.3	2336	2129.1
41.3	1506.2	1499.2	1702.3	1823.9	2053.2	2290.4	2340.5	2123
41.4	1505.7	1500.2	1692.1	1817	2057.6	2294.5	2333.6	2125.7
41.5	1504.6	1500.1	1695.8	1825.7	2057	2288.4	2339.1	2126.2
41.6	1505.2	1500.9	1697.3	1826.6	2056.5	2293	2336.9	2125.8
41.7	1503.4	1501.4	1697	1820.2	2059.1	2283.4	2339	2125.4
41.8	1505.2	1501.3	1697.8	1834.9	2058.5	2293.5	2329.7	2124.9
41.9	1501.7	1502.3	1702.1	1826	2058.4	2291.4	2342.5	2128.6
42	1502.7	1502.5	1703.7	1823.6	2058.9	2297.4	2338.1	2126.1
42.1	1500.9	1503.7	1703.2	1832.2	2064.3	2295.3	2339.5	2123.6
42.2	1501.2	1504.2	1702.7	1828.3	2054.9	2296.5	2338.1	2122.5
42.3	1498.2	1504.6	1703.8	1832.1	2064.4	2279.6	2340	2125.7
42.4	1497.4	1505	1701.1	1833.3	2061.8	2302.6	2339.6	2129.9
42.5	1495.4	1505.8	1705.8	1833.4	2066.8	2300.4	2335.8	2126.3
42.6	1495.1	1505.3	1707.6	1834.7	2062.9	2296.5	2335.3	2119.1
42.7	1493.1	1505.2	1707.9	1837	2062.2	2298.8	2335.1	2127.5
42.8	1490.4	1504.9	1710.3	1835.5	2063.7	2299.5	2332.7	2127.4
42.9	1490.2	1504.4	1706.5	1835.6	2066.7	2300	2334	2125.3
43	1490.1	1507.1	1708.2	1839.5	2070.1	2298.5	2331.2	2128.2
43.1	1487.3	1506.7	1710.9	1827.1	2065.7	2300.3	2329.9	2130.6
43.2	1487.5	1507.1	1710.1	1841.3	2069.5	2300.5	2335.3	2140.2
43.3	1488.4	1507.2	1712.5	1836.5	2067.1	2300.6	2330.7	2126.2
43.4	1487.2	1507.6	1712.3	1840.2	2068.3	2302.4	2332	2129.6
43.5	1485.9	1508.2	1716.8	1847.1	2069.3	2302.5	2337.1	2130.1
43.6	1486	1508.6	1719.1	1848.2	2071.2	2304.2	2337.5	2130.9
43.7	1486.3	1509.3	1714.7	1835.5	2070.9	2299.4	2339.7	2133.1
43.8	1486.1	1510.1	1718.5	1843.4	2070.2	2301.8	2338.8	2129.9
43.9	1484.8	1511.2	1718.5	1844.4	2074.1	2303.5	2336.8	2132
44	1484.2	1513	1723.8	1849.3	2075.4	2303.7	2339.7	2129
44.1	1484.6	1513.8	1721.2	1848.6	2075.3	2304.9	2340.1	2133.9
44.2	1482.7	1514.5	1718	1848.1	2074.9	2305.8	2341.8	2117.2
44.3	1481.5	1515.5	1722.5	1852.8	2077.6	2302.9	2341.5	2131.5
44.4	1482.4	1517.1	1724.2	1848	2085.4	2304.1	2343.3	2131.6
44.5	1479.6	1517.8	1725	1849.1	2096.1	2304.5	2341.6	2123.3
44.6	1479.7	1518.9	1722.4	1852.2	2084.3	2302.2	2345	2136.3
44.7	1479.4	1519.3	1718.1	1851.6	2076.6	2304.3	2361.6	2129.9
44.8	1478.1	1519.9	1723.1	1854	2081.9	2305	2344.8	2129.8
44.9	1477.8	1521.2	1727.4	1860.5	2082.6	2303.7	2345.5	2132.3

r →	0	20	30	35	45	55	65	75
t								
45	1476.1	1521.5	1729.9	1857.4	2087.2	2302.6	2345.5	2132.9
45.1	1475.8	1522.2	1727.8	1861.1	2088.2	2304.1	2348.5	2134.8
45.2	1473.7	1522.6	1728.6	1857.6	2090.2	2304.9	2349.8	2134.9
45.3	1475.6	1523.4	1726.9	1861.1	2088.7	2304.8	2349.3	2138.7
45.4	1472.9	1523.3	1729.2	1858.5	2083.5	2302.7	2349.1	2132.4
45.5	1473	1525	1725	1852	2089	2304	2348.3	2136.3
45.6	1471.7	1524.3	1733.5	1859.7	2094.3	2299.9	2352.2	2134.4
45.7	1473.6	1535.5	1727.8	1865	2086.3	2305.8	2352.9	2135.5
45.8	1471.9	1526.8	1731.7	1867.9	2093.5	2309.6	2351.2	2134.9
45.9	1473.8	1528.1	1734.1	1863.9	2095.5	2303.8	2345.1	2130.3
46	1472	1528.2	1732.9	1861.1	2096.3	2302.6	2350.3	2134.8
46.1	1470.8	1530	1727.7	1870.3	2098.3	2307.1	2352.8	2134.1
46.2	1474.9	1531.1	1738.4	1853.1	2091.1	2305.2	2346.7	2135
46.3	1471.7	1533.4	1735	1868.9	2090.4	2304.8	2348.2	2137.5
46.4	1473.2	1530.5	1738.8	1868.1	2099	2305.9	2360.7	2136.9
46.5	1474.9	1534.8	1745.4	1870.6	2098.6	2306.4	2346.2	2151.2
46.6	1471.3	1533.7	1737.8	1868.9	2100.5	2305.2	2348.7	2136
46.7	1471.6	1534.9	1735.5	1870.8	2103.9	2307.1	2349.5	2140.6
46.8	1467.9	1535.6	1739.5	1869.7	2112.5	2307	2350.4	2142
46.9	1468.2	1536.4	1741.6	1870	2108.8	2306.5	2347	2127.3
47	1470.2	1536.9	1734.7	1873.3	2106.8	2310.1	2341.9	2135.9
47.1	1469.6	1537.3	1738.6	1873.3	2102.2	2305.8	2348.4	2137.1
47.2	1468.9	1538	1738.5	1875.3	2105.6	2305.4	2347	2129.1
47.3	1468.6	1538.3	1736	1870.9	2119.5	2308.7	2350.4	2153.1
47.4	1464.5	1539	1740.1	1872.1	2120.8	2308.1	2358.3	2133.3
47.5	1466.8	1539.9	1742.8	1871.6	2105.7	2306.3	2342.9	2141.8
47.6	1467.8	1540.9	1739.6	1876.5	2113.5	2308.2	2348	2133.2
47.7	1466.3	1540	1742.6	1873.1	2110.7	2303.3	2345.4	2131.3
47.8	1465.8	1541.4	1745.4	1872.2	2106.6	2303.5	2345.4	2140.8
47.9	1465.1	1542.6	1747.8	1876.2	2108.6	2306	2357.2	2151.5
48	1463.1	1543.8	1747.5	1875.4	2114	2307.8	2350.5	2131.8
48.1	1465.6	1543.6	1746.5	1875.8	2109.2	2306.5	2351.9	2128.1
48.2	1468.1	1544	1752.4	1871.7	2110.4	2308.8	2352.5	2137.2
48.3	1462.5	1546.2	1750.6	1876.2	2114.2	2307.1	2351.9	2127.6
48.4	1466.3	1547.4	1752.8	1876.7	2103.6	2306.9	2347.7	2139.5
48.5	1463.8	1547.4	1749.9	1879.1	2118.5	2298.6	2343.1	2146.5
48.6	1463.5	1548.3	1745.5	1877	2104.1	2307.6	2350.2	2139.4
48.7	1464.4	1549	1751.4	1878.4	2115.3	2307.7	2359.5	2139.9
48.8	1462.5	1549.7	1756.3	1878.7	2115.1	2307.9	2352.1	2145
48.9	1467.5	1550.1	1747.1	1872.4	2124.1	2308.5	2355.7	2148.7

r →	0	20	30	35	45	55	65	75
t								
49	1459	1549.5	1749.2	1875.1	2104.3	2309.8	2355.3	2142.1
49.1	1458.4	1552.3	1753.5	1879.5	2117.9	2308.9	2353.8	2141.8
49.2	1456.4	1552.4	1755.9	1883.6	2112.8	2309.5	2354.9	2139.7
49.3	1457	1552.1	1752.9	1883.4	2124.3	2310.5	2354.9	2137.7
49.4	1454.8	1553.5	1753.8	1874.3	2110.4	2313.5	2357.8	2135.3
49.5	1454.8	1553.7	1758.9	1864.9	2114.1	2307.7	2355.5	2140.4
49.6	1454.2	1553	1758.3	1875.6	2115.3	2308.8	2355	2143.4
49.7	1453	1553.9	1758.2	1886	2117.3	2310.8	2354.9	2143.9
49.8	1451.1	1554.6	1761	1877.2	2120.8	2311.2	2361.6	2146.2
49.9	1451	1557.2	1757.3	1875.8	2113.8	2305.4	2356.4	2145.1
50	1447.6	1555.9	1758.3	1878.3	2119.4	2310.6	2358.1	2143.5
50.1	1447.9	1557.1	1760.8	1879.7	2113.6	2308.8	2359.8	2143.4
50.2	1447	1557.4	1762.3	1881.1	2122.3	2310.3	2353.9	2145.2
50.3	1446.2	1559.3	1766.4	1878.9	2120.4	2310.9	2355.9	2145.4
50.4	1444.5	1558.7	1765	1877.6	2123.7	2310.1	2357	2144.5
50.5	1447.8	1559.6	1752.2	1882.9	2119.7	2310.4	2354.6	2146.7
50.6	1439.7	1566	1768.1	1882.4	2124.4	2310.7	2354	2150.1
50.7	1442.8	1564.2	1753.1	1879.6		2310.1	2362.8	2145.6
50.8	1434.1	1563.3	1765.3	1883		2310.9	2358.6	2144.7
50.9	1434.1	1563.7	1764	1881.3		2312.9	2354.1	2139.6
51	1423.6	1564	1761.2	1883.4		2311.5	2353.2	2140.8
51.1	1434.8	1564.4	1772	1880.1		2309.4	2344.5	2146.8
51.2	1441.8	1564.3	1768.5	1880.8		2312.8	2345.8	2149.3
51.3	1439.5	1561.8	1769.3	1884.3		2309	2352.9	2138
51.4	1438.5	1564.4	1767.5	1884.1		2314.2	2359.2	2145.9
51.5	1438.1	1565.3	1763.9	1881.5		2311.4	2357.2	2136.4
51.6	1443	1565.8	1768.5	1883.9		2315.8	2354.6	2146.6
51.7	1432.3	1564.7	1767.3	1879.9		2313.2	2355.1	2147.5
51.8	1442.7	1566	1766.7	1885.4		2313.6	2361	2149.6
51.9	1442.2	1567.1	1772.4	1883.1		2313.8	2355.3	2145.8
52	1445.1	1572.2	1772.3	1881.5		2315.7	2355.2	2152.3
52.1	1435.8	1568.3	1780.5	1883.6		2320.3	2355.5	2147.1
52.2	1435.5	1568.1	1773	1884.5		2313.6	2353.9	2144.8
52.3	1424.1	1569.2	1772.5	1883.4		2312.8	2356.9	2141.7
52.4	1431.3	1568.3	1774.9	1883.8		2311.5	2348.3	2148.1
52.5	1430.5	1574.1	1773.4	1884.2		2311.8	2354.3	2151.3
52.6	1435.8	1570.3	1777.2	1882.7		2316.1	2355.5	2142.5
52.7	1435.3	1569.4	1775.1	1882.2		2315	2355.6	2150.4
52.8	1439.3	1571.3	1774.3	1887.8		2315.1	2353.6	2153.6
52.9	1434.6	1570.1	1777			2313.3	2357.4	2151.1

r →	0	20	30	35	45	55	65	75
t								
53	1441.5	1573	1775.8			2315	2359.4	2134.3
53.1	1443	1574.7	1773.9			2315.5	2362	2144.9
53.2	1446	1574.6	1773.2			2320.3	2356.6	2149.2
53.3	1451	1574.1	1777.9			2313.5	2353.7	2145.8
53.4	1450.2	1574	1781			2314.8	2355.6	2147.6
53.5	1450.2	1575.4	1772			2314.9	2356.3	2153.1
53.6	1449.5	1578.5	1778.3			2314.5	2355.8	2147.2
53.7	1452.4	1576.8	1774.2			2315.9	2356.8	2134.2
53.8	1450.5	1578.4	1774.6			2316	2364.3	2151.2
53.9	1453.1	1578	1781.3			2312.8	2353.8	2151.8
54	1453.6	1575	1779			2322	2357.3	2146.8
54.1	1452.1	1578.7	1787.3			2319.1	2357.4	2148.7
54.2	1451.7	1578.6	1787.9			2312.7	2357.3	2142.4
54.3	1453.6	1580.6	1786.6			2317.2	2357.8	2149
54.4	1451.2	1581.6	1786.5			2316.6	2355	2148.6
54.5	1446.4	1582.6	1784			2318.5	2355.4	2156.7
54.6	1448.7	1581.4	1785.1			2314.7	2356	2145
54.7	1446.3	1582.3	1792.7			2314.7	2356.8	2147.6
54.8	1447	1583.6				2318	2352.5	2151.6
54.9	1446.5	1584.2				2315.2	2353.9	2153.9
55	1446.6	1583.7				2309.9	2356.8	2149.1
55.1	1445.8	1585				2312.4	2354.5	2152
55.2	1445.8	1585.9				2317.7	2347.4	2155.5
55.3	1447.3	1587.1				2316.7	2354.6	2153
55.4	1445.1	1592.7				2314.6	2354.8	2160.9
55.5	1444.2	1589.6				2320.6	2355.9	2156.7
55.6	1443.4	1588.3				2311.8	2354.1	2152.8
55.7	1452.6	1589.6				2317.8	2361.2	2149.9
55.8	1445.2	1585.1				2318.9	2357.5	2153.3
55.9	1459.2	1588.9				2317.9	2357.1	2150.3
56	1447.4	1591.2				2317.9	2349.9	2151.2
56.1	1449.5	1593.3				2318.7	2355	2157.5
56.2	1446.4	1595.3				2316	2353	2156
56.3	1451.1	1594.6				2323	2355.6	2155.2
56.4	1452.2	1594.3				2314.8	2356.3	2163.5
56.5	1451.6	1594				2316.6	2352.6	2152.1
56.6	1454.2	1593.1				2318.7	2355.8	2153.4
56.7	1453.6	1594.1				2322.5	2359.4	2150.7
56.8	1453.9	1592.5				2319	2355	2158.3
56.9	1453.9	1594.1				2318.4	2354.5	2153.2

r →	0	20	30	35	45	55	65	75
t								
57	1453.2	1595.4				2319.1	2355.4	2153.9
57.1	1454.3	1597.8				2320.8	2355.5	2156.5
57.2	1452.6	1597.3				2319.8	2358.1	2153.9
57.3	1451.8	1598.4				2319.5	2354.7	2162.3
57.4	1452.3	1596				2320.8	2355.1	2149.1
57.5	1451.3	1597.9				2321.5	2353.7	2156.8
57.6	1450.3	1599.6				2322.8	2357.3	2155.7
57.7	1450.9	1599.1				2320.7	2356.9	2158.3
57.8	1450.3	1601.4				2323.3	2356.5	2162.4
57.9	1451.1	1600.9				2318.2	2360.8	2149.8
58	1446.8	1601.8				2321.3	2360.2	2162.7
58.1	1449	1603.7				2322.7	2360	2158.2
58.2	1451.3	1603.7				2322	2360.8	2170.1
58.3	1449.5	1610.1				2325.9	2360.4	2164
58.4	1449.3	1605				2325.2	2359.1	2155.9
58.5	1449.9	1606.8				2325.8	2359.3	2158.2
58.6	1448	1606.5				2326.2	2345.8	2156.4
58.7	1448.2	1605.4				2320.8	2350.4	2160.1
58.8	1447.1	1606.1					2352.8	2158.1
58.9	1445.8	1603					2354.7	2161.1
59	1446.2	1607.1					2354.5	2159
59.1	1453.2	1607.1					2354.8	2155.1
59.2	1447.4	1609					2353	2157.3
59.3	1445.8	1610.3					2356.6	2157.6
59.4	1445.8	1612.1					2360.3	2153.5
59.5	1448	1611.9					2360.2	2154.3
59.6	1447.1	1612.2						2156.2
59.7	1445.6	1613.1						2158
59.8	1446.4	1613.9						2153.7
59.9	1470.5	1615						2156.5
60	1445.5	1613.5						2154.3
60.1	1448.3	1608.7						2154.8
60.2	1448.6	1616.2						2156.5
60.3	1446.7	1622.3						2152.8
60.4	1448.9	1618.9						2155.5
60.5	1447.3	1613.4						2154.1
60.6	1446.3	1618.3						2152.4
60.7	1446.8	1617.4						2157.1
60.8	1448	1619.9						2149.8
60.9	1446.6	1616.1						

r →	0	20	30	35	45	55	65	75
t								
61	1447.6	1620.5						
61.1	1447.4	1620.9						
61.2	1449	1621.3						
61.3	1448.9	1621.5						
61.4	1448.2	1619.5						
61.5	1447.4	1625.6						
61.6	1449.3	1625.4						
61.7	1448.5	1623.3						
61.8	1447.3	1624.9						
61.9	1447.2	1626.2						
62	1450.7	1626.3						
62.1	1451.8	1627.7						
62.2	1448	1626.8						
62.3	1448.1	1625.7						
62.4	1450.6	1625.9						
62.5	1451.9	1625.3						
62.6	1449.3	1641.4						
62.7	1447.3	1630.3						
62.8	1449	1632.8						
62.9	1449.3	1632						
63	1449.5	1632.6						
63.1	1449.2	1633.3						
63.2	1451.8	1630.5						
63.3	1452.3	1628.6						
63.4	1448.6	1628.3						
63.5	1454.7	1632.2						
63.6	1451.5	1632.6						
63.7	1453.2	1634.2						
63.8	1452.9	1634.9						
63.9	1455.2	1637.3						
64	1455.7	1639.2						
64.1	1454.4	1637.7						
64.2	1446.1	1638.8						
64.3	1454.1	1644.9						
64.4	1454.2	1637.7						
64.5	1447.3	1639.2						
64.6		1640.6						
64.7		1639.6						
64.9		1638.5						

2021E PT7 Diagnostic Plate Displacement Table

Diagnostic Plate Displacement of Jack Rabbit Pretest 2021E PT7; time is referenced in microseconds from detonator circuit current start

Jack Rabbit Pretest 2021E PT7 POSITION Data								
Columnar data: z = mm from top of diagnostic plate datum								
absolute timing accuracy relative to time zero = +/- 0.025 microseconds								
relative timing uncertainty between data channels = +/- 0.005 microseconds								
z position uncertainty = +/- 5 percent of measurement								
PDV measurement point position uncertainty = +/- 0.25 millimeters								
r →	0	20	30	35	45	55	65	75
t								
10	0	0	0	0	0	0	0	0
10.1	0	0	0	0	0	0	0	0
10.2	0	0	0	0	0	0	0	0
10.3	0	0	0	0	0	0	0	0
10.4	0	0	0	0	0	0	0	0
10.5	0	0	0	0	0	0	0	0
10.6	5E-05	0	0	0	0	0	0	0
10.7	0.0002	0	0	0	0	0	0	0
10.8	0.0003	0	0	0	0	0	0	0
10.9	0.0004	0	0	0	0	0	0	0
11	0.0005	0	0	0	0	0	0	0
11.1	0.0007	0	0	0	0	0	0	0
11.2	0.0009	0	0	0	0	0	0	0
11.3	0.001	0	0	0	0	0	0	0
11.4	0.0012	0	0	0	0	0	0	0
11.5	0.0013	0	0	0	0	0	0	0
11.6	0.0015	0	0	0	0	0	0	0
11.7	0.0017	0	0	0	0	0	0	0
11.8	0.0019	0	0	0	0	0	0	0
11.9	0.002	0	0	0	0	0	0	0
12	0.0022	0	0	0	0	0	0	0
12.1	0.0024	0	0	0	0	0	0	0
12.2	0.0026	0	0	0	0	0	0	0
12.3	0.0028	0	0	0	0	0	0	0
12.4	0.003	0	0	0	0	0	0	0
12.5	0.0032	0	0	0	0	0	0	0
12.6	0.0035	0	0	0	0	0	0	0
12.7	0.0038	0	0	0	0	0	0	0
12.8	0.0041	0	0	0	0	0	0	0
12.9	0.0045	0	0	0	0	0	0	0

r →	0	20	30	35	45	55	65	75
t								
13	0.005	3E-05	0	0	0	0	0	0
13.1	0.0055	8E-05	0	0	0	0	0	0
13.2	0.0061	0.0001	0	0	0	0	0	0
13.3	0.0068	0.0002	0	0	0	0	0	0
13.4	0.0075	0.0003	0	0	0	0	0	0
13.5	0.0083	0.0003	0	0	0	0	0	0
13.6	0.0092	0.0004	0	0	0	0	0	0
13.7	0.0103	0.0005	0	0	0	0	0	0
13.8	0.0114	0.0006	0	0	0	0	0	0
13.9	0.0128	0.0007	0	0	0	0	0	0
14	0.0144	0.0009	0	0	0	0	0	0
14.1	0.0164	0.001	0	0	0	0	0	0
14.2	0.0209	0.0012	0	0	0	0	0	0
14.3	0.0286	0.0014	0	0	0	0	0	0
14.4	0.0389	0.0017	0	0	0	0	0	0
14.5	0.0514	0.0019	0	0	0	0	0	0
14.6	0.0649	0.0022	0	0	0	0	0	0
14.7	0.0793	0.0025	0	0	0	0	0	0
14.8	0.0946	0.0029	0	0	0	0	0	0
14.9	0.1112	0.0033	0	0	0	0	0	0
15	0.1298	0.0066	0	0	0	0	0	0
15.1	0.1511	0.014	0	0	0	0	0	0
15.2	0.1743	0.0296	0	0	0	0.052	0.1175	0
15.3	0.1985	0.0541	0	0	0	0.2104	0.348	0
15.4	0.2235	0.0813	0	0	0	0.4198	0.5713	0
15.5	0.2491	0.1091	0	0	0	0.6241	0.7906	0
15.6	0.2746	0.1377	0.0031	0	0	0.8273	1.0087	0
15.7	0.2996	0.1669	0.0114	0	0	1.0294	1.2259	0.1072
15.8	0.3241	0.1967	0.0432	0.0022	0	1.23	1.4422	0.319
15.9	0.3479	0.2278	0.0981	0.0264	0	1.4303	1.658	0.5251
16	0.3715	0.26	0.1564	0.0892	0.0341	1.6304	1.873	0.7272
16.1	0.3952	0.2936	0.2172	0.1712	0.1154	1.8299	2.0879	0.9287
16.2	0.4195	0.3288	0.2802	0.2538	0.2111	2.0296	2.3027	1.13
16.3	0.4447	0.3658	0.3452	0.3368	0.3091	2.2293	2.5169	1.3304
16.4	0.4712	0.4042	0.4118	0.4204	0.4412	2.4286	2.7307	1.5304
16.5	0.4994	0.4442	0.4799	0.5044	0.609	2.6276	2.9442	1.7299
16.6	0.5293	0.4855	0.5494	0.5888	0.7798	2.8266	3.1574	1.929
16.7	0.5614	0.5289	0.6198	0.674	0.9488	3.0257	3.3704	2.128
16.8	0.5958	0.5746	0.6913	0.7604	1.1148	3.2246	3.5832	2.327
16.9	0.6325	0.6234	0.7643	0.8479	1.2791	3.4233	3.7959	2.5261

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t								
17	0.6714	0.6759	0.8387	0.9574	1.4424	3.6223	4.0085	2.7254
17.1	0.7123	0.732	0.9143	1.0887	1.6047	3.821	4.2209	2.9244
17.2	0.7549	0.7913	0.9908	1.2203	1.7664	4.0195	4.4332	3.1233
17.3	0.799	0.853	1.0682	1.3517	1.9277	4.2178	4.6455	3.3217
17.4	0.845	0.9164	1.1469	1.4825	2.089	4.416	4.8578	3.5203
17.5	0.8927	0.9815	1.2278	1.612	2.25	4.6142	5.0701	3.7197
17.6	0.942	1.0481	1.3298	1.7409	2.4109	4.8121	5.2823	3.9192
17.7	0.9924	1.1162	1.4547	1.8699	2.5719	5.0101	5.4944	4.1188
17.8	1.0436	1.1858	1.5833	1.9996	2.7328	5.2082	5.7064	4.3187
17.9	1.0955	1.257	1.7115	2.1313	2.8937	5.406	5.9185	4.5188
18	1.1478	1.3298	1.8389	2.2648	3.0546	5.6039	6.1304	4.719
18.1	1.2005	1.4041	1.9654	2.3984	3.2154	5.8019	6.3423	4.9193
18.2	1.2535	1.4798	2.0909	2.5317	3.3759	5.9998	6.554	5.1194
18.3	1.3068	1.5569	2.2159	2.6644	3.5365	6.1974	6.7655	5.3196
18.4	1.3605	1.6352	2.3409	2.7978	3.6972	6.3947	6.977	5.5198
18.5	1.415	1.7151	2.4656	2.9333	3.8579	6.5924	7.1886	5.7201
18.6	1.4705	1.7965	2.5904	3.0711	4.0188	6.79	7.3999	5.9201
18.7	1.5274	1.8792	2.7154	3.2102	4.1811	6.9877	7.6112	6.1202
18.8	1.5867	1.9636	2.8416	3.35	4.3438	7.1855	7.8225	6.3202
18.9	1.6491	2.0497	2.9708	3.4905	4.5066	7.3832	8.0337	6.5202
19	1.7152	2.1381	3.1027	3.6316	4.6696	7.5808	8.2448	6.7204
19.1	1.7857	2.2323	3.2361	3.7731	4.8322	7.7783	8.456	6.9205
19.2	1.8619	2.3335	3.3699	3.9148	4.9951	7.9756	8.667	7.1209
19.3	1.9429	2.4375	3.5039	4.0565	5.1582	8.1729	8.878	7.3211
19.4	2.0253	2.5424	3.6386	4.1983	5.3214	8.3701	9.0888	7.5209
19.5	2.1075	2.648	3.7741	4.3403	5.4847	8.5673	9.2996	7.7209
19.6	2.19	2.7544	3.9101	4.4825	5.6482	8.7643	9.5102	7.9208
19.7	2.2734	2.8614	4.0463	4.6248	5.8115	8.9613	9.7208	8.1207
19.8	2.358	2.9693	4.1828	4.7674	5.9749	9.158	9.9313	8.3207
19.9	2.4442	3.0787	4.3194	4.9103	6.1377	9.3547	10.142	8.5206
20	2.5318	3.1904	4.4562	5.0535	6.3005	9.5518	10.352	8.7204
20.1	2.6207	3.3049	4.5929	5.1968	6.4639	9.7494	10.562	8.9202
20.2	2.7109	3.4225	4.7295	5.3403	6.6275	9.9469	10.772	9.1199
20.3	2.8027	3.5422	4.866	5.4839	6.7914	10.144	10.982	9.3196
20.4	2.896	3.6634	5.0024	5.6275	6.9555	10.341	11.192	9.5193
20.5	2.9912	3.7853	5.139	5.7712	7.1199	10.538	11.402	9.719
20.6	3.0885	3.9078	5.2759	5.9154	7.2843	10.736	11.612	9.9187
20.7	3.1874	4.0311	5.4132	6.06	7.4488	10.933	11.822	10.118
20.8	3.2868	4.1551	5.551	6.2049	7.6136	11.131	12.031	10.318
20.9	3.3864	4.2797	5.6892	6.3503	7.7789	11.328	12.241	10.518

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t								
21	3.4863	4.4051	5.8281	6.4959	7.9446	11.526	12.45	10.717
21.1	3.5864	4.5315	5.9674	6.6417	8.1104	11.724	12.66	10.917
21.2	3.6868	4.6587	6.1072	6.7877	8.2763	11.922	12.869	11.116
21.3	3.7876	4.7866	6.2473	6.9336	8.4426	12.119	13.078	11.315
21.4	3.8889	4.9152	6.3876	7.0795	8.6092	12.317	13.288	11.515
21.5	3.991	5.0446	6.5281	7.2253	8.7762	12.513	13.497	11.714
21.6	4.0941	5.175	6.6687	7.3713	8.9435	12.709	13.706	11.913
21.7	4.1982	5.3063	6.8093	7.5176	9.1109	12.906	13.915	12.113
21.8	4.3031	5.4384	6.95	7.6643	9.2786	13.102	14.124	12.312
21.9	4.4089	5.5713	7.0908	7.8114	9.4466	13.299	14.333	12.511
22	4.5157	5.7048	7.2317	7.9587	9.6148	13.495	14.541	12.711
22.1	4.6236	5.8388	7.3728	8.1062	9.7831	13.69	14.75	12.91
22.2	4.7333	5.9733	7.5141	8.2538	9.9517	13.886	14.958	13.109
22.3	4.8452	6.1084	7.6555	8.4015	10.12	14.082	15.167	13.308
22.4	4.9586	6.2438	7.7972	8.5492	10.289	14.278	15.375	13.508
22.5	5.0725	6.3795	7.939	8.6969	10.458	14.475	15.584	13.707
22.6	5.1869	6.5156	8.0808	8.8445	10.628	14.672	15.792	13.906
22.7	5.3024	6.6522	8.2229	8.9919	10.798	14.869	16	14.105
22.8	5.4199	6.7889	8.3651	9.1398	10.967	15.067	16.209	14.304
22.9	5.5405	6.9259	8.5077	9.2883	11.137	15.266	16.417	14.503
23	5.6652	7.0633	8.6504	9.437	11.308	15.465	16.625	14.702
23.1	5.7945	7.2012	8.7934	9.586	11.479	15.666	16.834	14.901
23.2	5.9278	7.3394	8.9364	9.7353	11.65	15.866	17.042	15.1
23.3	6.0641	7.4779	9.0797	9.885	11.821	16.068	17.25	15.299
23.4	6.2031	7.6169	9.2231	10.035	11.993	16.27	17.459	15.498
23.5	6.3445	7.7562	9.3666	10.185	12.164	16.473	17.668	15.697
23.6	6.4882	7.8961	9.5102	10.336	12.336	16.676	17.877	15.896
23.7	6.6339	8.0363	9.654	10.487	12.508	16.881	18.086	16.095
23.8	6.7821	8.1771	9.7981	10.638	12.681	17.086	18.295	16.294
23.9	6.9329	8.3184	9.9424	10.789	12.853	17.292	18.504	16.492
24	7.0864	8.4603	10.087	10.94	13.026	17.5	18.712	16.691
24.1	7.2427	8.6028	10.232	11.092	13.199	17.709	18.922	16.89
24.2	7.4016	8.7459	10.377	11.243	13.372	17.919	19.131	17.089
24.3	7.563	8.8896	10.523	11.395	13.546	18.131	19.341	17.288
24.4	7.7263	9.034	10.669	11.547	13.72	18.344	19.551	17.487
24.5	7.8905	9.179	10.816	11.7	13.894	18.557	19.762	17.685
24.6	8.0548	9.3248	10.963	11.852	14.069	18.772	19.972	17.884
24.7	8.219	9.4714	11.112	12.005	14.243	18.987	20.182	18.083
24.8	8.3829	9.6188	11.26	12.158	14.418	19.202	20.393	18.281
24.9	8.547	9.767	11.41	12.312	14.593	19.418	20.603	18.48

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t								
25	8.7113	9.9158	11.56	12.465	14.768	19.635	20.813	18.678
25.1	8.876	10.065	11.71	12.619	14.944	19.852	21.023	18.877
25.2	9.0406	10.214	11.862	12.774	15.12	20.069	21.233	19.075
25.3	9.2051	10.364	12.013	12.929	15.296	20.287	21.443	19.274
25.4	9.3694	10.513	12.166	13.085	15.472	20.505	21.653	19.472
25.5	9.5335	10.663	12.319	13.241	15.648	20.723	21.863	19.671
25.6	9.6971	10.813	12.472	13.398	15.825	20.941	22.072	19.869
25.7	9.8603	10.962	12.625	13.555	16.002	21.16	22.282	20.067
25.8	10.023	11.112	12.779	13.712	16.179	21.379	22.492	20.266
25.9	10.185	11.262	12.933	13.87	16.357	21.597	22.702	20.464
26	10.347	11.413	13.087	14.028	16.534	21.816	22.912	20.663
26.1	10.509	11.563	13.241	14.186	16.713	22.035	23.121	20.861
26.2	10.67	11.713	13.396	14.345	16.891	22.254	23.331	21.06
26.3	10.831	11.863	13.55	14.504	17.069	22.473	23.54	21.258
26.4	10.991	12.013	13.705	14.664	17.247	22.692	23.75	21.457
26.5	11.152	12.164	13.86	14.823	17.427	22.911	23.96	21.655
26.6	11.312	12.314	14.015	14.984	17.606	23.13	24.17	21.854
26.7	11.472	12.465	14.17	15.144	17.786	23.349	24.38	22.051
26.8	11.632	12.615	14.326	15.305	17.966	23.568	24.59	22.249
26.9	11.792	12.766	14.481	15.466	18.147	23.787	24.801	22.448
27	11.954	12.917	14.637	15.628	18.328	24.007	25.013	22.647
27.1	12.115	13.068	14.792	15.79	18.509	24.226	25.225	22.845
27.2	12.278	13.22	14.948	15.952	18.69	24.446	25.438	23.044
27.3	12.44	13.371	15.104	16.115	18.872	24.665	25.652	23.242
27.4	12.604	13.522	15.26	16.278	19.054	24.885	25.867	23.441
27.5	12.768	13.674	15.416	16.442	19.236	25.105	26.083	23.64
27.6	12.932	13.825	15.573	16.606	19.419	25.324	26.3	23.839
27.7	13.096	13.976	15.729	16.77	19.602	25.544	26.518	24.038
27.8	13.26	14.128	15.885	16.935	19.786	25.763	26.737	24.237
27.9	13.424	14.279	16.042	17.099	19.969	25.983	26.957	24.436
28	13.588	14.43	16.198	17.263	20.154	26.203	27.178	24.635
28.1	13.751	14.582	16.355	17.426	20.338	26.422	27.4	24.834
28.2	13.914	14.733	16.512	17.591	20.523	26.641	27.623	25.033
28.3	14.077	14.884	16.669	17.756	20.708	26.861	27.847	25.233
28.4	14.24	15.035	16.825	17.921	20.893	27.081	28.071	25.433
28.5	14.403	15.186	16.982	18.086	21.079	27.301	28.296	25.633
28.6	14.566	15.337	17.139	18.251	21.265	27.522	28.521	25.833
28.7	14.728	15.488	17.296	18.417	21.452	27.743	28.746	26.033
28.8	14.891	15.639	17.453	18.582	21.639	27.965	28.972	26.234
28.9	15.053	15.789	17.61	18.748	21.826	28.187	29.198	26.435

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t								
29	15.214	15.94	17.767	18.914	22.014	28.41	29.424	26.636
29.1	15.376	16.09	17.924	19.08	22.202	28.634	29.651	26.838
29.2	15.538	16.241	18.081	19.247	22.39	28.859	29.879	27.04
29.3	15.7	16.392	18.239	19.413	22.579	29.084	30.108	27.242
29.4	15.862	16.542	18.396	19.58	22.768	29.31	30.338	27.445
29.5	16.025	16.693	18.554	19.747	22.957	29.535	30.569	27.649
29.6	16.187	16.843	18.712	19.915	23.146	29.761	30.8	27.853
29.7	16.349	16.994	18.87	20.082	23.336	29.986	31.031	28.057
29.8	16.512	17.144	19.028	20.25	23.525	30.212	31.261	28.261
29.9	16.674	17.294	19.186	20.418	23.715	30.437	31.49	28.466
30	16.837	17.445	19.344	20.586	23.905	30.662	31.719	28.671
30.1	17	17.595	19.502	20.754	24.096	30.887	31.947	28.877
30.2	17.163	17.745	19.661	20.923	24.286	31.112	32.175	29.083
30.3	17.326	17.895	19.819	21.092	24.477	31.337	32.403	29.288
30.4	17.489	18.045	19.977	21.261	24.669	31.563	32.631	29.495
30.5	17.652	18.195	20.136	21.43	24.86	31.788	32.859	29.702
30.6	17.815	18.345	20.295	21.599	25.052	32.014	33.088	29.91
30.7	17.978	18.495	20.453	21.768	25.244	32.239	33.317	30.118
30.8	18.14	18.645	20.612	21.938	25.436	32.465	33.545	30.326
30.9	18.303	18.795	20.771	22.107	25.629	32.691	33.772	30.534
31	18.466	18.945	20.931	22.277	25.821	32.917	33.999	30.742
31.1	18.629	19.095	21.09	22.447	26.014	33.143	34.228	30.951
31.2	18.791	19.245	21.249	22.617	26.207	33.369	34.456	31.159
31.3	18.954	19.395	21.408	22.787	26.4	33.595	34.685	31.368
31.4	19.116	19.544	21.568	22.958	26.593	33.822	34.914	31.577
31.5	19.278	19.694	21.728	23.128	26.787	34.048	35.143	31.785
31.6	19.44	19.843	21.887	23.299	26.981	34.274	35.372	31.994
31.7	19.602	19.993	22.047	23.469	27.175	34.501	35.601	32.203
31.8	19.764	20.142	22.207	23.64	27.369	34.727	35.83	32.412
31.9	19.925	20.292	22.366	23.811	27.563	34.953	36.06	32.621
32	20.087	20.441	22.526	23.983	27.757	35.18	36.289	32.83
32.1	20.249	20.591	22.687	24.154	27.951	35.406	36.519	33.04
32.2	20.41	20.74	22.847	24.325	28.146	35.632	36.749	33.249
32.3	20.572	20.89	23.007	24.496	28.341	35.859	36.978	33.458
32.4	20.734	21.039	23.167	24.668	28.535	36.085	37.208	33.667
32.5	20.895	21.189	23.327	24.84	28.73	36.312	37.438	33.877
32.6	21.057	21.338	23.488	25.012	28.925	36.538	37.668	34.087
32.7	21.219	21.488	23.648	25.184	29.12	36.765	37.898	34.296
32.8	21.381	21.638	23.808	25.357	29.316	36.991	38.128	34.505
32.9	21.543	21.787	23.969	25.529	29.511	37.218	38.358	34.715

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t								
33	21.706	21.937	24.13	25.701	29.706	37.445	38.587	34.924
33.1	21.868	22.087	24.291	25.874	29.902	37.671	38.817	35.134
33.2	22.03	22.237	24.452	26.047	30.098	37.898	39.047	35.343
33.3	22.192	22.387	24.613	26.22	30.293	38.124	39.276	35.553
33.4	22.354	22.536	24.774	26.392	30.489	38.351	39.506	35.763
33.5	22.516	22.686	24.935	26.565	30.685	38.578	39.737	35.972
33.6	22.678	22.835	25.096	26.739	30.881	38.805	39.967	36.182
33.7	22.84	22.985	25.257	26.912	31.077	39.032	40.197	36.392
33.8	23.001	23.134	25.418	27.085	31.274	39.26	40.427	36.601
33.9	23.163	23.284	25.579	27.258	31.475	39.486	40.656	36.811
34	23.324	23.433	25.741	27.432	31.68	39.714	40.886	37.021
34.1	23.485	23.582	25.902	27.606	31.885	39.942	41.116	37.231
34.2	23.646	23.732	26.063	27.78	32.09	40.169	41.346	37.441
34.3	23.807	23.881	26.225	27.954	32.294	40.397	41.577	37.651
34.4	23.968	24.031	26.386	28.129	32.499	40.624	41.807	37.861
34.5	24.129	24.18	26.548	28.303	32.704	40.851	42.037	38.071
34.6	24.289	24.329	26.71	28.478	32.909	41.078	42.268	38.282
34.7	24.45	24.479	26.872	28.653	33.114	41.305	42.498	38.492
34.8	24.611	24.628	27.034	28.828	33.321	41.532	42.729	38.703
34.9	24.772	24.778	27.196	29.003	33.527	41.759	42.959	38.913
35	24.932	24.927	27.358	29.178	33.733	41.987	43.19	39.123
35.1	25.093	25.077	27.521	29.353	33.938	42.214	43.421	39.334
35.2	25.254	25.227	27.683	29.529	34.143	42.442	43.651	39.544
35.3	25.415	25.376	27.846	29.705	34.349	42.67	43.882	39.755
35.4	25.576	25.526	28.008	29.88	34.554	42.897	44.113	39.965
35.5	25.737	25.676	28.171	30.056	34.76	43.125	44.344	40.176
35.6	25.897	25.826	28.334	30.232	34.966	43.353	44.574	40.387
35.7	26.058	25.976	28.496	30.409	35.172	43.581	44.805	40.599
35.8	26.218	26.125	28.66	30.585	35.377	43.808	45.036	40.81
35.9	26.379	26.275	28.823	30.761	35.583	44.036	45.267	41.021
36	26.539	26.425	28.986	30.938	35.789	44.264	45.498	41.231
36.1	26.699	26.575	29.149	31.114	35.995	44.492	45.729	41.442
36.2	26.859	26.724	29.312	31.291	36.201	44.72	45.96	41.653
36.3	27.019	26.874	29.475	31.468	36.406	44.948	46.191	41.864
36.4	27.178	27.023	29.639	31.645	36.611	45.176	46.422	42.075
36.5	27.337	27.173	29.803	31.823	36.817	45.403	46.653	42.287
36.6	27.496	27.323	29.967	32	37.023	45.631	46.883	42.498
36.7	27.655	27.472	30.13	32.178	37.229	45.859	47.114	42.71
36.8	27.814	27.622	30.294	32.356	37.433	46.087	47.345	42.921
36.9	27.972	27.771	30.458	32.533	37.638	46.315	47.576	43.133

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t								
37	28.13	27.921	30.622	32.711	37.842	46.543	47.807	43.345
37.1	28.288	28.071	30.787	32.888	38.047	46.771	48.038	43.556
37.2	28.446	28.22	30.951	33.067	38.251	46.999	48.269	43.769
37.3	28.603	28.37	31.115	33.245	38.456	47.227	48.5	43.98
37.4	28.761	28.519	31.28	33.423	38.66	47.455	48.731	44.192
37.5	28.918	28.669	31.444	33.6	38.865	47.682	48.962	44.403
37.6	29.075	28.819	31.609	33.779	39.069	47.91	49.193	44.615
37.7	29.232	28.969	31.775	33.958	39.273	48.138	49.424	44.826
37.8	29.389	29.119	31.94	34.136	39.477	48.366	49.655	45.038
37.9	29.546	29.269	32.105	34.315	39.681	48.595	49.887	45.25
38	29.702	29.418	32.271	34.493	39.885	48.822	50.118	45.462
38.1	29.859	29.568	32.437	34.673	40.088	49.05	50.35	45.672
38.2	30.015	29.718	32.602	34.852	40.292	49.278	50.581	45.883
38.3	30.17	29.868	32.768	35.031	40.495	49.506	50.813	46.095
38.4	30.326	30.017	32.934	35.21	40.698	49.733	51.045	46.306
38.5	30.482	30.167	33.1	35.39	40.901	49.961	51.277	46.518
38.6	30.637	30.317	33.266	35.569	41.104	50.189	51.509	46.729
38.7	30.792	30.467	33.432	35.749	41.307	50.417	51.741	46.941
38.8	30.946	30.616	33.598	35.929	41.51	50.645	51.973	47.153
38.9	31.1	30.766	33.765	36.109	41.713	50.873	52.206	47.365
39	31.255	30.916	33.931	36.289	41.916	51.101	52.438	47.577
39.1	31.408	31.065	34.097	36.47	42.12	51.328	52.671	47.789
39.2	31.562	31.215	34.264	36.65	42.323	51.557	52.904	48
39.3	31.715	31.365	34.431	36.831	42.526	51.785	53.137	48.212
39.4	31.869	31.515	34.597	37.011	42.73	52.013	53.371	48.425
39.5	32.022	31.664	34.764	37.192	42.933	52.241	53.604	48.637
39.6	32.176	31.814	34.932	37.372	43.137	52.468	53.837	48.849
39.7	32.329	31.964	35.099	37.553	43.34	52.696	54.071	49.061
39.8	32.482	32.114	35.266	37.734	43.544	52.924	54.304	49.273
39.9	32.635	32.264	35.434	37.915	43.748	53.152	54.538	49.485
40	32.788	32.413	35.602	38.097	43.951	53.38	54.771	49.696
40.1	32.94	32.563	35.77	38.278	44.155	53.608	55.005	49.908
40.2	33.093	32.713	35.937	38.459	44.36	53.836	55.239	50.12
40.3	33.245	32.863	36.105	38.641	44.565	54.064	55.473	50.333
40.4	33.397	33.013	36.273	38.823	44.769	54.293	55.707	50.545
40.5	33.549	33.163	36.442	39.005	44.974	54.521	55.941	50.757
40.6	33.701	33.313	36.61	39.186	45.178	54.75	56.174	50.97
40.7	33.853	33.463	36.779	39.368	45.383	54.978	56.408	51.182
40.8	34.004	33.613	36.947	39.55	45.588	55.207	56.642	51.394
40.9	34.155	33.762	37.116	39.732	45.793	55.436	56.876	51.607

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t								
41	34.306	33.912	37.285	39.915	45.998	55.664	57.11	51.819
41.1	34.457	34.062	37.454	40.097	46.203	55.893	57.344	52.031
41.2	34.608	34.212	37.623	40.279	46.408	56.121	57.578	52.244
41.3	34.759	34.362	37.792	40.462	46.614	56.35	57.811	52.456
41.4	34.909	34.512	37.962	40.644	46.819	56.58	58.045	52.669
41.5	35.06	34.662	38.131	40.826	47.025	56.809	58.279	52.881
41.6	35.21	34.812	38.301	41.008	47.231	57.038	58.513	53.094
41.7	35.361	34.962	38.471	41.191	47.437	57.267	58.746	53.306
41.8	35.511	35.112	38.64	41.373	47.643	57.496	58.98	53.519
41.9	35.662	35.262	38.81	41.556	47.848	57.725	59.213	53.732
42	35.812	35.412	38.981	41.739	48.054	57.954	59.447	53.944
42.1	35.962	35.563	39.151	41.922	48.26	58.184	59.681	54.157
42.2	36.112	35.713	39.321	42.105	48.466	58.414	59.915	54.369
42.3	36.262	35.864	39.492	42.288	48.672	58.642	60.149	54.581
42.4	36.412	36.014	39.662	42.471	48.879	58.871	60.383	54.794
42.5	36.561	36.165	39.832	42.654	49.085	59.102	60.617	55.007
42.6	36.711	36.315	40.003	42.838	49.292	59.331	60.85	55.219
42.7	36.86	36.466	40.174	43.021	49.498	59.561	61.084	55.432
42.8	37.01	36.616	40.345	43.205	49.704	59.791	61.317	55.644
42.9	37.159	36.767	40.516	43.389	49.911	60.021	61.551	55.857
43	37.308	36.917	40.686	43.572	50.117	60.251	61.784	56.07
43.1	37.457	37.068	40.857	43.756	50.324	60.481	62.017	56.283
43.2	37.605	37.219	41.028	43.939	50.531	60.711	62.25	56.496
43.3	37.754	37.369	41.199	44.123	50.738	60.941	62.484	56.71
43.4	37.903	37.52	41.371	44.307	50.945	61.171	62.717	56.922
43.5	38.051	37.671	41.542	44.491	51.151	61.401	62.95	57.135
43.6	38.2	37.822	41.714	44.676	51.358	61.632	63.184	57.348
43.7	38.349	37.973	41.886	44.86	51.566	61.862	63.418	57.562
43.8	38.497	38.124	42.057	45.044	51.773	62.092	63.652	57.775
43.9	38.646	38.275	42.229	45.228	51.98	62.322	63.885	57.988
44	38.794	38.426	42.401	45.413	52.187	62.553	64.119	58.201
44.1	38.943	38.577	42.573	45.598	52.395	62.783	64.353	58.414
44.2	39.091	38.729	42.745	45.783	52.602	63.014	64.587	58.627
44.3	39.239	38.88	42.917	45.968	52.81	63.244	64.821	58.839
44.4	39.388	39.032	43.09	46.153	53.018	63.474	65.056	59.052
44.5	39.536	39.183	43.262	46.338	53.227	63.705	65.29	59.265
44.6	39.684	39.335	43.435	46.523	53.436	63.935	65.524	59.478
44.7	39.832	39.487	43.607	46.708	53.644	64.165	65.76	59.691
44.8	39.979	39.639	43.779	46.893	53.852	64.396	65.995	59.904
44.9	40.127	39.791	43.951	47.079	54.06	64.626	66.229	60.117

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t								
45	40.275	39.943	44.124	47.265	54.269	64.857	66.464	60.33
45.1	40.423	40.096	44.297	47.451	54.478	65.087	66.699	60.544
45.2	40.57	40.248	44.47	47.637	54.687	65.318	66.934	60.757
45.3	40.717	40.4	44.643	47.823	54.896	65.548	67.169	60.971
45.4	40.865	40.552	44.815	48.009	55.104	65.778	67.403	61.185
45.5	41.012	40.705	44.988	48.194	55.313	66.009	67.638	61.398
45.6	41.159	40.857	45.161	48.38	55.522	66.239	67.873	61.612
45.7	41.307	41.01	45.334	48.566	55.731	66.469	68.109	61.825
45.8	41.454	41.163	45.507	48.753	55.94	66.7	68.344	62.039
45.9	41.601	41.316	45.68	48.939	56.149	66.931	68.579	62.252
46	41.748	41.469	45.854	49.126	56.359	67.161	68.813	62.465
46.1	41.896	41.622	46.027	49.312	56.569	67.391	69.049	62.679
46.2	42.043	41.775	46.2	49.498	56.778	67.622	69.284	62.892
46.3	42.19	41.928	46.374	49.684	56.987	67.853	69.518	63.106
46.4	42.337	42.081	46.547	49.871	57.197	68.083	69.754	63.319
46.5	42.485	42.235	46.722	50.058	57.407	68.314	69.989	63.534
46.6	42.632	42.388	46.896	50.245	57.617	68.544	70.224	63.748
46.7	42.779	42.542	47.069	50.432	57.827	68.775	70.459	63.962
46.8	42.926	42.695	47.243	50.619	58.038	69.006	70.694	64.176
46.9	43.073	42.849	47.417	50.806	58.249	69.236	70.929	64.39
47	43.22	43.002	47.591	50.993	58.459	69.467	71.163	64.603
47.1	43.367	43.156	47.765	51.181	58.67	69.698	71.398	64.816
47.2	43.514	43.31	47.939	51.368	58.88	69.928	71.632	65.03
47.3	43.661	43.464	48.112	51.555	59.092	70.159	71.867	65.244
47.4	43.808	43.617	48.286	51.743	59.304	70.39	72.103	65.458
47.5	43.954	43.771	48.46	51.93	59.515	70.621	72.338	65.672
47.6	44.101	43.925	48.634	52.117	59.726	70.851	72.572	65.886
47.7	44.248	44.079	48.808	52.305	59.937	71.082	72.807	66.099
47.8	44.394	44.234	48.983	52.492	60.148	71.312	73.041	66.312
47.9	44.541	44.388	49.158	52.679	60.359	71.543	73.277	66.527
48	44.687	44.542	49.332	52.867	60.57	71.773	73.512	66.741
48.1	44.834	44.696	49.507	53.054	60.781	72.004	73.747	66.954
48.2	44.98	44.851	49.682	53.242	60.992	72.235	73.982	67.167
48.3	45.127	45.005	49.857	53.429	61.203	72.466	74.218	67.381
48.4	45.273	45.16	50.032	53.617	61.414	72.696	74.453	67.594
48.5	45.42	45.315	50.207	53.805	61.625	72.927	74.687	67.808
48.6	45.566	45.47	50.382	53.992	61.836	73.157	74.922	68.023
48.7	45.712	45.624	50.557	54.18	62.047	73.388	75.157	68.237
48.8	45.859	45.779	50.732	54.368	62.259	73.619	75.393	68.451
48.9	46.005	45.934	50.908	54.556	62.471	73.849	75.628	68.666

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t								
49	46.152	46.089	51.082	54.743	62.682	74.08	75.864	68.88
49.1	46.297	46.244	51.257	54.931	62.893	74.311	76.099	69.094
49.2	46.443	46.4	51.433	55.119	63.105	74.542	76.335	69.308
49.3	46.589	46.555	51.608	55.307	63.317	74.773	76.57	69.522
49.4	46.734	46.71	51.784	55.495	63.528	75.004	76.806	69.736
49.5	46.88	46.866	51.959	55.682	63.74	75.235	77.041	69.95
49.6	47.025	47.021	52.135	55.869	63.951	75.466	77.277	70.164
49.7	47.171	47.176	52.311	56.057	64.163	75.697	77.512	70.378
49.8	47.316	47.332	52.487	56.245	64.375	75.928	77.748	70.593
49.9	47.461	47.487	52.663	56.433	64.586	76.159	77.984	70.807
50	47.606	47.643	52.839	56.621	64.798	76.39	78.22	71.022
50.1	47.751	47.799	53.015	56.809	65.01	76.621	78.456	71.236
50.2	47.895	47.954	53.191	56.997	65.222	76.852	78.691	71.45
50.3	48.04	48.11	53.367	57.185	65.434	77.083	78.927	71.665
50.4	48.185	48.266	53.544	57.372	65.646	77.314	79.163	71.88
50.5	48.329	48.422	53.72	57.561	65.858	77.545	79.398	72.094
50.6	48.474	48.578	53.896	57.749	66.07	77.776	79.634	72.309
50.7	48.618	48.735	54.072	57.937		78.007	79.869	72.524
50.8	48.762	48.891	54.248	58.125		78.238	80.106	72.738
50.9	48.905	49.047	54.424	58.313		78.469	80.341	72.952
51	49.048	49.204	54.6	58.501		78.701	80.577	73.166
51.1	49.191	49.36	54.777	58.69		78.932	80.811	73.381
51.2	49.335	49.517	54.954	58.878		79.163	81.046	73.596
51.3	49.479	49.673	55.131	59.066		79.394	81.281	73.81
51.4	49.623	49.829	55.308	59.254		79.625	81.516	74.024
51.5	49.766	49.986	55.484	59.443		79.856	81.752	74.238
51.6	49.911	50.142	55.661	59.631		80.088	81.988	74.452
51.7	50.054	50.299	55.838	59.819		80.319	82.223	74.667
51.8	50.198	50.455	56.014	60.007		80.55	82.459	74.882
51.9	50.342	50.612	56.191	60.196		80.782	82.695	75.097
52	50.487	50.769	56.369	60.384		81.013	82.931	75.312
52.1	50.631	50.926	56.546	60.572		81.245	83.166	75.527
52.2	50.774	51.083	56.724	60.761		81.477	83.402	75.741
52.3	50.917	51.24	56.901	60.949		81.708	83.637	75.956
52.4	51.06	51.397	57.079	61.137		81.939	83.872	76.17
52.5	51.203	51.554	57.256	61.326		82.17	84.107	76.385
52.6	51.346	51.711	57.434	61.514		82.402	84.343	76.6
52.7	51.49	51.868	57.611	61.702		82.633	84.578	76.814
52.8	51.634	52.025	57.789	61.891		82.865	84.814	77.03
52.9	51.777	52.182	57.966			83.096	85.049	77.245

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t								
53	51.921	52.339	58.144			83.328	85.285	77.459
53.1	52.065	52.497	58.321			83.559	85.521	77.673
53.2	52.21	52.654	58.499			83.791	85.757	77.888
53.3	52.355	52.811	58.676			84.023	85.993	78.103
53.4	52.5	52.969	58.854			84.254	86.228	78.317
53.5	52.645	53.126	59.032			84.486	86.464	78.532
53.6	52.79	53.284	59.209			84.717	86.7	78.747
53.7	52.935	53.442	59.387			84.949	86.935	78.961
53.8	53.08	53.6	59.564			85.18	87.171	79.176
53.9	53.225	53.757	59.742			85.412	87.407	79.391
54	53.371	53.915	59.92			85.643	87.643	79.606
54.1	53.516	54.073	60.099			85.875	87.878	79.82
54.2	53.661	54.231	60.277			86.107	88.114	80.035
54.3	53.806	54.388	60.456			86.339	88.35	80.25
54.4	53.952	54.547	60.635			86.57	88.586	80.464
54.5	54.096	54.705	60.813			86.802	88.821	80.68
54.6	54.241	54.863	60.992			87.034	89.057	80.895
54.7	54.386	55.021	61.171			87.265	89.292	81.109
54.8	54.531	55.18				87.497	89.528	81.324
54.9	54.675	55.338				87.728	89.763	81.54
55	54.82	55.496				87.96	89.999	81.755
55.1	54.965	55.655				88.191	90.234	81.97
55.2	55.109	55.813				88.422	90.469	82.185
55.3	55.254	55.972				88.654	90.704	82.401
55.4	55.398	56.131				88.886	90.94	82.616
55.5	55.543	56.29				89.117	91.175	82.832
55.6	55.687	56.449				89.349	91.411	83.048
55.7	55.832	56.608				89.58	91.647	83.263
55.8	55.977	56.767				89.812	91.883	83.478
55.9	56.122	56.925				90.044	92.118	83.693
56	56.267	57.084				90.276	92.354	83.908
56.1	56.412	57.243				90.508	92.589	84.124
56.2	56.557	57.403				90.739	92.824	84.339
56.3	56.702	57.562				90.971	93.06	84.555
56.4	56.847	57.722				91.203	93.295	84.771
56.5	56.992	57.881				91.435	93.531	84.987
56.6	57.138	58.041				91.667	93.766	85.202
56.7	57.283	58.2				91.899	94.002	85.417
56.8	57.428	58.359				92.131	94.238	85.633
56.9	57.574	58.519				92.363	94.473	85.848

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t								
57	57.719	58.678				92.595	94.709	86.063
57.1	57.865	58.838				92.827	94.944	86.279
57.2	58.01	58.998				93.059	95.18	86.495
57.3	58.155	59.157				93.291	95.415	86.71
57.4	58.3	59.317				93.523	95.651	86.926
57.5	58.445	59.477				93.755	95.886	87.141
57.6	58.591	59.637				93.987	96.122	87.357
57.7	58.736	59.797				94.219	96.358	87.573
57.8	58.881	59.957				94.451	96.593	87.789
57.9	59.026	60.117				94.683	96.829	88.004
58	59.171	60.277				94.915	97.065	88.22
58.1	59.315	60.437				95.148	97.301	88.436
58.2	59.46	60.597				95.38	97.537	88.652
58.3	59.605	60.758				95.612	97.773	88.869
58.4	59.75	60.919				95.845	98.009	89.085
58.5	59.895	61.08				96.077	98.245	89.301
58.6	60.04	61.24				96.31	98.48	89.516
58.7	60.185	61.401				96.542	98.715	89.732
58.8	60.33	61.561					98.95	89.948
58.9	60.474	61.722					99.186	90.164
59	60.619	61.882					99.421	90.38
59.1	60.764	62.043					99.657	90.596
59.2	60.909	62.204					99.892	90.811
59.3	61.054	62.365					100.13	91.027
59.4	61.198	62.526					100.36	91.243
59.5	61.343	62.687					100.6	91.458
59.6	61.488	62.848						91.674
59.7	61.632	63.01						91.889
59.8	61.777	63.171						92.105
59.9	61.923	63.332						92.32
60	62.069	63.494						92.536
60.1	62.213	63.655						92.751
60.2	62.358	63.816						92.967
60.3	62.503	63.978						93.182
60.4	62.648	64.14						93.398
60.5	62.793	64.302						93.613
60.6	62.937	64.463						93.829
60.7	63.082	64.625						94.044
60.8	63.227	64.787						94.26
60.9	63.371	64.949						

r →	0	20	30	35	45	55	65	75
t								
61	63.516	65.111						
61.1	63.661	65.273						
61.2	63.806	65.435						
61.3	63.951	65.597						
61.4	64.095	65.759						
61.5	64.24	65.921						
61.6	64.385	66.084						
61.7	64.53	66.246						
61.8	64.675	66.409						
61.9	64.819	66.571						
62	64.964	66.734						
62.1	65.109	66.897						
62.2	65.254	67.059						
62.3	65.399	67.222						
62.4	65.544	67.384						
62.5	65.689	67.547						
62.6	65.834	67.71						
62.7	65.979	67.874						
62.8	66.124	68.037						
62.9	66.269	68.2						
63	66.414	68.364						
63.1	66.559	68.527						
63.2	66.704	68.69						
63.3	66.849	68.853						
63.4	66.994	69.016						
63.5	67.139	69.179						
63.6	67.285	69.342						
63.7	67.43	69.505						
63.8	67.575	69.669						
63.9	67.72	69.833						
64	67.866	69.996						
64.1	68.012	70.16						
64.2	68.157	70.324						
64.3	68.302	70.488						
64.4	68.447	70.652						
64.5	68.592	70.816						
64.6		70.98						
64.7		71.144						
64.9		71.472						

2021E PT7 Diagnostic Plate Displacement Contour Table

Time referenced in microseconds from detonator circuit current start

Radial profiles vs time for PT7.

Displacements are given in mm.

Radius (mm)	t=15 μ s	t=20 μ s	t=25 μ s	t=30 μ s	t=35 μ s	t=40 μ s	t=45 μ s
0	0.671	2.532	8.711	16.837	24.932	32.788	40.275
20	0.676	3.191	9.916	17.445	24.928	32.414	39.944
30	0.839	4.457	11.560	19.345	27.359	35.602	44.125
35	0.958	5.054	12.466	20.587	29.179	38.097	47.266
45	1.412	6.270	14.734	23.870	33.696	43.916	54.233
55	3.548	9.477	19.555	30.581	41.906	53.298	64.775
65	4.012	10.356	20.817	31.722	43.193	54.773	66.467
75	2.727	8.724	18.681	28.674	39.125	49.696	60.331

CYLINDRICAL AXIS DEAD-ZONE PRESSURE TABLE

Tabulated Dead-Zone Pressure of Jack Rabbit Pretest 2021E PT3, PT4, PT5, PT6, and PT7

First column: time in microseconds following detonator circuit current start

Columns PT3 through PT7: pressure in kilobars on cylindrical axis (POINT 00)

tpressure	PT3 point 00	PT4 point 00	PT5 point 00	PT6 point 00	PT7 point 00
8	0	0	0	0	0
8.1	0	0	0	0	0
8.2	0	0	0	0	0
8.3	0	0	0	0	0
8.4	0	0	0	0	0
8.5	0	0	0.10517	0	0
8.6	0.0948144	0	0.186951	0	0
8.7	0.188724	0	0.33422	0	0
8.8	0.374615	0	0.47032	0	0
8.9	0.541313	0	0.689604	0	0
9	0.676559	0	0.883364	0	0
9.1	0.829403	0	0.944403	0	0
9.2	0.840152	0	0.872342	0	0
9.3	0.729072	0	0.765535	0	0
9.4	0.672935	0	0.738105	0	0
9.5	0.60538	0	0.703761	0	0
9.6	0.523119	0	0.628822	0	0
9.7	0.45095	0	0.524968	0	0
9.8	0.393052	0	0.425433	0	0
9.9	0.346284	0	0.332209	0	0
10	0.324737	0	0.239703	0	0.135093
10.1	0.342841	0	0.174544	0	0.142551
10.2	0.403255	0	0.164235	0	0.157468
10.3	0.494152	0	0.212757	0	0.172805
10.4	0.60841	0	0.318019	0	0.190128
10.5	0.746382	0	0.458328	0	0.209015
10.6	0.936032	0	0.622507	0	0.222483
10.7	4.50403	0	0.838143	0	0.225944
10.8	9.31521	0	1.10261	0	0.225312
10.9	15.9007	0	1.86572	0	0.227621

tpressure	PT3 point 00	PT4 point 00	PT5 point 00	PT6 point 00	PT7 point 00
11	35.1994	0	6.19776	0	0.232375
11.1	49.3788	0	14.2648	0	0.171019
11.2	49.3536	0	32.4922	0	0.103925
11.3	48.8566	0	48.5639	0	0.0949109
11.4	49.0838	0	53.0394	0	0.0818492
11.5	50.8139	0	58.331	0	0.065902
11.6	53.5651	0	64.2834	0	0.049239
11.7	57.6239	0	70.1094	0.0580478	0.0430352
11.8	59.8512	0	76.1003	0.129863	0.0577892
11.9	62.5549	0	78.0738	0.157398	0.0905568
12	63.216	0.0639942	75.4336	0.184933	0.135447
12.1	48.8632	0.153892	69.7903	0.226044	0.192573
12.2	38.7985	0.205701	60.8356	0.283071	0.259071
12.3	42.662	0.257879	41.3513	0.335497	0.329332
12.4	46.1274	0.315261	23.9061	0.379739	0.412217
12.5	48.8581	0.374899	18.1753	0.429785	0.506166
12.6	51.0197	0.427464	11.677	0.476482	0.601991
12.7	52.2128	0.469242	4.4575	0.510209	0.705538
12.8	50.9327	0.502431	-2.70288	0.473176	0.811899
12.9	46.7115	0.522271	-9.62769	0.408314	0.915527
13	39.7874	0.525928	-11.5575	0.386971	1.02062
13.1	32.594	0.470221	-8.33399	0.365379	1.13845
13.2	26.7093	0.394379	-5.3521	0.318099	1.27601
13.3	20.5698	0.346963	-2.93975	0.25117	1.45421
13.4	14.6076	0.294526	-0.00011892	0.202318	1.75505
13.5	10.7838	0.241165	3.86401	0.172412	2.32657
13.6	9.50213	0.195395	7.69019	0.139715	5.8578
13.7	10.5721	0.158472	9.90215	0.116609	10.4854
13.8	14.807	0.141231	10.9248	0.117839	14.1575
13.9	22.677	0.138715	12.0321	0.126069	17.2682
14	31.6906	0.247801	12.9314	0.484259	18.7329
14.1	38.0748	4.83294	12.9184	5.99542	19.8037
14.2	41.4474	13.4729	11.8694	33.2685	20.995
14.3	44.0256	49.9417	10.7066	57.6309	22.7691
14.4	46.7099	85.1462	10.1722	59.6427	25.4841
14.5	49.1823	90.1592	9.92942	58.7617	28.9245
14.6	51.7304	93.9282	9.10731	57.9589	31.1907
14.7	54.7691	96.6799	8.05329	57.6178	29.0383
14.8	55.5628	98.0435	8.15364	56.8352	25.5086
14.9	52.1097	98.4687	9.23106	55.7036	22.4513

tpressure	PT3 point 00	PT4 point 00	PT5 point 00	PT6 point 00	PT7 point 00
15	45.3128	98.6125	10.4692	55.0721	19.1831
15.1	39.0686	98.5399	12.8444	53.6127	17.0011
15.2	37.5816	94.3179	15.914	46.6181	14.8673
15.3	39.1276	86.0426	18.6492	18.559	12.6032
15.4	42.8445	49.6195	21.5155	-6.67851	10.2352
15.5	50.6384	14.5058	24.2881	-9.74828	7.48441
15.6	59.462	9.62785	26.1624	-9.44306	4.41943
15.7	64.6114	6.8568	26.8636	-9.12487	2.93648
15.8	63.0167	7.62907	26.9147	-9.47429	3.43301
15.9	57.0336	12.121	26.8859	-8.02386	4.5428
16	51.3832	17.1048	26.7138	-4.96767	6.56354
16.1	46.5648	20.0486	26.0032	-1.49884	9.7133
16.2	41.0144	22.2073	23.6366	4.06712	13.6786
16.3	33.4496	25.9459	20.1948	11.496	18.0308
16.4	25.7572	30.1307	16.857	17.6048	22.1852
16.5	17.6122	32.8947	12.8249	21.4672	25.5218
16.6	6.59346	34.9176	8.02205	24.3367	27.7725
16.7	-5.06124	36.1205	3.45264	26.3044	29.3253
16.8	-14.3383	35.1341	-0.225029	27.8971	30.5109
16.9	-20.3494	31.0245	-3.09845	29.8445	31.26
17	-23.1223	25.0639	-5.20612	30.79	31.1606
17.1	-24.2166	19.9884	-6.49886	30.628	30.0582
17.2	-24.114	17.2582	-7.20082	29.1452	28.142
17.3	-22.4983	15.5112	-7.32519	25.4258	25.7304
17.4	-19.8601	12.3107	-6.77358	19.9515	23.0246
17.5	-16.2749	8.81803	-5.5975	14.9376	20.2782
17.6	-12.2567	6.99573	-3.85752	12.0412	17.7947
17.7	-8.58504	6.42008	-1.72945	9.98802	15.8213
17.8	-4.98361	8.3047	0.380571	8.38569	14.1722
17.9	-1.61488	13.5593	2.16571	7.4367	12.5419
18	1.79137	17.939	3.70455	6.72468	11.3141
18.1	4.7316	19.8659	4.90315	6.11381	11.3037
18.2	6.24031	21.7543	7.41733	5.62268	13.0661
18.3	6.34786	24.7084	10.7643	5.0995	16.5222
18.4	5.72472	32.3761	14.2159	4.55614	20.9918
18.5	5.44061	43.6454	17.1379	4.09427	26.7713
18.6	5.00887	51.4348	18.7145	3.7735	34.708
18.7	4.03985	54.1701	20.041	3.74433	41.2591
18.8	2.60895	53.777	19.6653	4.20055	42.7562
18.9	0.583225	51.1874	17.2593	4.71982	41.8959

tpressure	PT3 point 00	PT4 point 00	PT5 point 00	PT6 point 00	PT7 point 00
19	-1.55237	47.3055	13.4141	8.43471	41.3217
19.1	-3.16466	46.0902	9.52638	20.6961	41.0549
19.2	-3.75226	49.6361	7.84308	75.3304	40.8074
19.3	-3.51629	56.0509	6.34998	138.798	39.5956
19.4	-2.71025	62.5495	4.53904	147.986	37.0661
19.5	-1.90631	62.6938	3.25853	136.462	33.6225
19.6	-1.81178	58.6664	3.29709	132.201	29.0831
19.7	-2.34372	57.6732	5.01513	136.359	22.7864
19.8	-2.72999	59.3116	6.52246	168.568	18.165
19.9	-2.34242	62.0609	8.62418	198.051	18.9699
20	-1.36637	64.6324	12.111	216.827	22.1762
20.1	-0.0658501	65.8933	17.8513	227.439	24.0869
20.2	1.2287	62.9975	26.5757	210.956	23.7575
20.3	2.13785	54.6983	36.4926	152.467	21.9766
20.4	2.64007	43.3983	44.6852	87.2613	20.1775
20.5	2.69554	31.5553	50.0918	78.5502	18.5112
20.6	2.32115	21.7176	53.6594	90.606	16.924
20.7	2.16336	12.2571	56.3973	94.4917	15.4687
20.8	2.53149	3.52791	60.289	89.3497	14.1274
20.9	2.86934	-2.41458	65.0466	56.1294	12.928
21	2.85328	-6.58459	69.3373	26.9298	11.5905
21.1	2.59729	-9.74714	75.3704	10.089	9.99145
21.2	2.03621	-11.5082	78.6884	-1.66932	8.93917
21.3	1.17992	-9.41057	73.7724	4.66545	9.30307
21.4	0.149235	-5.08029	62.9947	9.89432	10.5387
21.5	-0.818388	-1.65128	50.2805	12.3443	11.985
21.6	-1.61374	1.12054	38.8638	12.4403	14.046
21.7	-2.32044	3.28319	29.6447	12.7482	16.8875
21.8	-2.97223	4.89558	22.9778	14.2608	18.6152
21.9	-3.60203	6.06166	16.4588	16.6004	18.4752
22	-4.1104	6.80873	8.49264	18.2193	18.0962
22.1	-4.48656	7.15739	0.733161	17.0714	18.29
22.2	-4.6287	7.02937	-8.77144	13.5851	19.756
22.3	-4.4603	5.73204	-16.2732	9.5707	23.0726
22.4	-4.14909	3.47304	-17.3364	5.6549	27.9371
22.5	-3.64411	1.53838	-14.9655	2.08227	33.2133
22.6	-3.12465	0.143084	-10.507	-1.02231	37.2262
22.7	-2.76203	-1.29289	-5.74234	-3.28922	39.1995
22.8	-2.4806	-2.71914	-3.08918	-4.57611	39.9079
22.9	-2.27751	-4.00042	-3.68961	-5.19898	41.3189

tpressure	PT3 point 00	PT4 point 00	PT5 point 00	PT6 point 00	PT7 point 00
23	-2.08351	-5.29893	-6.12025	-5.36183	43.8306
23.1	-2.07577	-6.52573	-7.28101	-4.53705	46.198
23.2	-1.9292	-7.64546	-6.8061	-2.50198	48.0836
23.3	-1.64233	-8.09571	-5.64596	-0.136842	49.0852
23.4	-1.61962	-7.70059	-4.5672	2.02092	48.5145
23.5	-1.87275	-7.17174	-4.50275	3.83395	46.3708
23.6	-2.22867	-6.54634	-5.34363	5.25485	43.6267
23.7	-2.70482	-5.73754	-6.32653	6.28219	41.4558
23.8	-3.0789	-4.69242	-6.59285	6.80002	39.7036
23.9	-3.23886	-3.22418	-6.01546	6.48942	37.0953
24	-3.53403	-0.814804	-5.1037	5.23666	33.7466
24.1	-4.10638	0.873607	-4.43769	3.35979	30.2948
24.2	-4.51408	1.90155	-4.38772	1.29448	26.7426
24.3	-4.55781	3.54377	-4.58864	-0.621483	23.3571
24.4	-4.7005	4.45625	-4.42633	-2.2195	19.9818
24.5	-4.79662	4.50269	-3.78407	-3.40598	16.2997
24.6	-4.48318	4.25921	-3.01677	-4.11312	12.3746
24.7	-3.96572	3.98863	-2.34271	-4.3917	8.24335
24.8	-3.45826	3.61759	-1.92825	-4.26054	4.27032
24.9	-3.14647	3.0107	-1.8226	-3.76648	1.12845
25	-2.91468	2.10699	-1.75023	-2.90276	-0.786685
25.1	-2.61456	0.23919	-1.69588	-2.13083	-1.70133
25.2	-2.1792	-0.437272	-1.59896	-1.62167	-2.05915
25.3	-1.71833	-0.666677	-1.32731	-1.16699	-2.35595
25.4	-1.77389	-2.02286	-1.09847	-0.812402	-3.16009
25.5	-1.9468	-2.63468	-1.03697	-0.582853	-4.19399
25.6	-1.8368	-2.75221	-1.09593	-0.559445	-5.02113
25.7	-1.64786	-2.63027	-1.14553	-0.702701	-5.59315
25.8	-1.61467	-2.41565	-1.08834	-1.02097	-5.86165
25.9	-1.83914	-2.10386	-0.974777	-1.43631	-5.9951
26	-2.09141	-1.6934	-0.838079	-1.89213	-5.92055
26.1	-2.35614	-1.14116	-0.674212	-2.49319	-5.33729
26.2	-2.48926	-0.611758	-0.500239	-2.83155	-4.41243
26.3	-2.49043	-0.61679	-0.331955	-2.88902	-3.26989
26.4	-2.64464	-0.228873	-0.187926	-2.95386	-1.86067
26.5	-2.68685	0.618878	-0.0200772	-2.98747	-0.295934
26.6	-2.55624	0.94475	0.151704	-3.01691	1.17075
26.7	-2.54627	1.0861	0.324315	-2.99178	2.52654
26.8	-2.63584	1.15503	0.456706	-2.79672	3.80216
26.9	-2.65684	1.06198	0.545617	-2.70304	4.76094

tpressure	PT3 point 00	PT4 point 00	PT5 point 00	PT6 point 00	PT7 point 00
27	-2.35116	0.860055	0.690582	-2.85316	5.51198
27.1	-1.83771	0.631994	0.805021	-2.90473	6.08039
27.2	-1.38288	0.25525	0.844995	-2.90191	6.10794
27.3	-1.00624	0.0595125	0.917993	-2.92669	5.5667
27.4	-0.734065	-0.0593429	0.948929	-3.06832	4.63853
27.5	-0.461047	-0.309956	0.947947	-3.33616	3.41782
27.6	-0.233354	-0.53189	0.976439	-3.56083	2.13575
27.7	-0.108459	-0.785812	0.896676	-3.65047	1.0173
27.8	0.0118412	-1.123	0.730147	-3.75986	0.0531856
27.9	0.197442	-1.30104	0.5981	-4.10983	-0.837696
28	0.253288	-1.31334	0.498094	-4.23749	-1.50969
28.1	0.17007	-1.41554	0.263496	-4.13482	-2.08058
28.2	0.0589545	-1.55763	-0.022202	-4.18017	-2.78542
28.3	-0.0649056	-1.60818	-0.281841	-4.16147	-3.24943
28.4	-0.202607	-1.5761	-0.583882	-4.08379	-3.18035
28.5	-0.319088	-1.56798	-0.786954	-3.94615	-2.75242
28.6	-0.407028	-1.52453	-1.08808	-3.74753	-2.12149
28.7	-0.542194	-1.47731	-1.49731	-3.58217	-1.54042
28.8	-0.671617	-1.4235	-1.74848	-3.50136	-1.22484
28.9	-0.768963	-1.23531	-1.97565	-3.44017	-1.09455
29	-0.931166	-1.17811	-2.29592	-3.25037	-0.852429
29.1	-1.00127	-1.27985	-2.65222	-3.09051	-0.487288
29.2	-0.888715	-1.30818	-2.87279	-2.92857	-0.0940189
29.3	-0.692027	-1.55305	-2.97506	-2.78361	0.50904
29.4	-0.413984	-1.5735	-3.08244	-2.8805	1.07633
29.5	-0.108236	-1.42058	-3.23246	-2.85323	1.37641
29.6	0.197806	-1.48991	-3.43174	-2.85286	1.52713
29.7	0.524653	-1.55131	-3.49728	-2.93615	1.51201
29.8	0.898017	-1.60308	-3.51793	-2.86292	1.33356
29.9	1.1353	-1.62194	-3.58213	-2.82759	1.15143
30	1.31205	-1.63964	-3.58924	-3.00452	1.06341
30.1	1.5209	-1.63484	-3.54808	-3.06659	0.914685
30.2	1.69075	-1.5338	-3.52526	-2.82373	0.674006
30.3	1.77834	-1.5433	-3.6025	-2.64328	0.461365
30.4	1.67094	-1.45136	-3.74324	-2.76737	0.243618
30.5	1.5592	-1.58182	-3.84949	-3.42587	-0.0406406
30.6	1.51204	-1.95101	-3.86024	-3.34018	-0.372754
30.7	1.32403	-2.26245	-3.86546	-2.62959	-0.702119
30.8	0.903493	-2.38046	-3.89917	-2.4275	-1.037
30.9	0.493917	-2.25716	-3.90195	-2.3064	-1.27526

tpressure	PT3 point 00	PT4 point 00	PT5 point 00	PT6 point 00	PT7 point 00
31	-0.0262992	-2.32961	-3.92951	-2.21041	-1.40057
31.1	-0.501647	-2.47451	-3.987	-1.95007	-1.55326
31.2	-0.561494	-2.83338	-3.98619	-1.82114	-1.66506
31.3	-0.752914	-2.94849	-3.93926	-2.04026	-1.72966
31.4	-1.14377	-2.66213	-3.89418	-2.21431	-1.77762
31.5	-1.45008	-2.71022	-3.88887	-2.05698	-1.70022
31.6	-1.77404	-2.75425	-3.88138	-1.23436	-1.44247
31.7	-2.08147	-2.48191	-3.85988	-1.33418	-1.26067
31.8	-2.23682	-2.12111	-3.8473	-1.97063	-1.09823
31.9	-2.13239	-1.90316	-3.76968	-2.04432	-0.642823
32	-1.97531	-2.09304	-3.68158	-2.23013	-0.370247
32.1	-1.60718	-2.27819	-3.61804	-2.30014	-0.202847
32.2	-1.27828	-2.24275	-3.5433	-2.31864	0.309387
32.3	-1.39464	-2.00318	-3.48618	-2.36037	0.622106
32.4	-1.39371	-2.06097	-3.4704	-2.38252	0.623234
32.5	-1.16072	-2.41065	-3.40429	-2.28487	0.739737
32.6	-0.869966	-2.29871	-3.25676	-2.21019	0.821362
32.7	-0.5681	-2.24228	-3.15217	-2.11254	0.584919
32.8	-0.256425	-2.5156	-3.06549	-2.09717	0.488927
32.9	0.0913902	-2.65938	-2.9313	-2.24698	0.436288
33	0.436384	-2.88946	-2.87673	-2.30154	0.0527812
33.1	0.728504	-2.91789	-2.89534	-2.31659	-0.157331
33.2	0.983094	-2.79256	-2.86035	-2.31862	-0.382114
33.3	1.25272	-2.88502	-2.80612	-2.26397	-0.952256
33.4	1.47601	-2.86954	-2.76872	-2.22034	-1.32099
33.5	1.61324	-2.88618	-2.68457	-2.14937	-1.38793
33.6	1.6658	-2.93485	-2.59771	-2.15268	-1.57337
33.7	1.674	-2.8274	-2.57347	-2.38116	-1.86471
33.8	1.69892	-2.74503	-2.42821	-2.5068	-1.87479
33.9	1.64102	-2.63837	-2.1782	-2.33619	-1.68464
34	1.45047	-2.4584	-2.21039	-2.24034	-1.71292
34.1	1.2578	-2.33087	-2.38781	-2.17222	-1.7103
34.2	1.0288	-2.26952	-2.39179	-2.03	-1.5625
34.3	0.913133	-2.158	-2.32283	-1.9803	-1.28717
34.4	0.807367	-1.96679	-2.28082	-2.02571	-0.875213
34.5	0.542334	-1.97608	-2.28475	-2.13038	-0.581446
34.6	0.396022	-2.02368	-2.26234	-2.20568	-0.440811
34.7	0.436877	-1.94821	-2.24482	-2.30421	-0.322365
34.8	1.48235	-1.95723	-2.22708	-2.21668	-0.0894409
34.9	11.3755	-1.9912	-2.26762	-2.19084	-0.0337261

tpressure	PT3 point 00	PT4 point 00	PT5 point 00	PT6 point 00	PT7 point 00
35	27.6391	-1.95963	-2.48181	-2.33512	-0.234035
35.1	34.912	-2.22755	-2.46516	-2.33252	-0.248276
35.2	31.481	-2.59048	-2.46625	-2.37748	-0.295558
35.3	25.9547	-2.46935	-2.3102	-2.43871	-0.463764
35.4	22.5712	-2.39746	-2.01214	-2.43043	-0.660018
35.5	20.7486	-2.58435	-1.95184	-2.3966	-1.06158
35.6	19.8971	-2.63257	-1.86415	-2.32971	-1.49036
35.7	19.7329	-2.60083	-1.83397	-2.27749	-1.84293
35.8	20.3718	-2.6143	-1.83135	-2.2393	-2.0876
35.9	19.9504	-2.63208	-1.77804	-2.17617	-2.43303
36	10.3718	-2.53417	-1.70845	-2.19931	-2.79145
36.1	-4.99682	-2.5178	-1.63922	-2.25059	-2.93291
36.2	-11.3178	-2.30058	-1.53187	-2.23211	-3.09718
36.3	-7.14451	-1.96544	-1.1935	-2.26606	-3.285
36.4	-0.765354	-2.07272	-1.08857	-2.34882	-3.36317
36.5	3.07739	-2.36428	-1.22075	-2.37924	-3.4079
36.6	5.21089	-2.20281	-1.10427	-2.41029	-3.40558
36.7	6.81689	-1.86774	-0.927066	-2.41497	-3.32865
36.8	7.89419	-1.9776	-0.746073	-2.37416	-3.19938
36.9	7.81479	-2.00013	-0.4358	-2.39982	-3.09409
37	8.44769	-1.90444	-0.0329143	-2.38985	-2.96645
37.1	11.0683	-1.90739	0.363599	-2.25177	-2.7586
37.2	13.9325	-2.00206	1.15963	-2.11837	-2.71698
37.3	15.4089	-2.19938	1.87412	-2.29336	-2.72838
37.4	14.6703	-2.20592	2.33817	-2.43349	-2.62648
37.5	13.0836	-2.24729	3.09589	-2.29042	-2.66906
37.6	11.8645	-2.13372	4.03957	-2.36797	-2.82471
37.7	11.8925	-2.22614	5.12604	-2.43982	-2.90717
37.8	12.2527	-2.57512	6.07566	-2.42621	-2.94456
37.9	12.059	-2.55027	6.44368	-2.49169	-3.01652
38	12.7363	-2.56263	6.19125	-2.51357	-3.17435
38.1	11.5149	-2.56605	5.57069	-2.61163	-3.39577
38.2	8.13746	-2.60528	4.65211	-2.76236	-3.72697
38.3	4.7441	-2.65588	3.34002	-2.89271	-3.73821
38.4	2.45351	-2.49392	2.64943	-2.74068	-3.69019
38.5	2.8856	-2.4185	3.12764	-2.53429	-4.059
38.6	3.98568	-2.36087	3.45894	-2.62981	-3.91176
38.7	4.811	-2.25473	2.70905	-2.57576	-3.67945
38.8	4.87671	-2.2549	1.90618	-2.50632	-3.54497
38.9	4.50352	-2.24665	1.61433	-2.53108	-3.22029

tpressure	PT3 point 00	PT4 point 00	PT5 point 00	PT6 point 00	PT7 point 00
39	4.18501	-2.1497	1.67039	-2.5891	-3.09638
39.1	3.2434	-2.0178	2.43369	-2.63018	-2.83769
39.2	4.09827	-1.92444	3.20261	-2.60502	-2.59613
39.3	5.51618	-2.05152	3.95878	-2.62706	-2.32679
39.4	5.78922	-2.14056	4.78501	-2.6347	-2.24458
39.5	5.75743	-2.17474	5.00985	-2.60453	-2.25356
39.6	4.92996	-2.28271	4.36062	-2.55649	-1.86023
39.7	4.37822	-2.36093	3.45615	-2.55369	-1.95003
39.8	4.27717	-2.37775	3.32986	-2.5908	-2.08019
39.9	3.88833	-2.43234	3.00773	-2.61199	-2.1629
40	3.35005	-2.51923	2.33535	-2.62773	-2.51937
40.1	3.05642	-2.42186	2.06315	-2.63017	-2.49445
40.2	2.51795	-2.45139	1.58884	-2.61126	-2.59359
40.3	1.31469	-2.69471	1.21262	-2.59612	-2.73528
40.4	0.0567533	-2.67727	1.08194	-2.58837	-2.67563
40.5	-0.683011	-2.41717	1.04864	-2.58653	-2.73714
40.6	-0.733842	-2.42546	1.1605	-2.61723	-2.6815
40.7	-0.396761	-2.41947	1.18973	-2.7232	-2.60372
40.8	-0.309129	-2.01207	1.16203	-2.831	-2.53912
40.9	-0.376423	-1.76373	1.16426	-2.79474	-2.40028
41	-0.406389	-1.55062	1.28697	-2.7001	-2.16217
41.1	-0.355866	-1.20753	1.41966	-2.73679	-1.91926
41.2	-0.199809	-1.35021	1.36397	-2.77133	-1.72664
41.3	0.350248	-1.38114	1.08866	-2.7312	-1.65048
41.4	0.915585	-1.09899	0.920002	-2.66138	-1.50814
41.5	1.06741	-0.916694	0.870071	-2.6669	-1.33669
41.6	0.947644	-0.945191	0.693619	-2.76465	-1.23562
41.7	0.800962	-0.61284	0.419056	-3.07727	-1.24575
41.8	1.08553	-0.257064	0.277171	-4.46995	-1.36504
41.9	1.26681	-0.720771	0.372372	-5.0566	-1.40238
42	1.1755	-0.97886	0.973473	-4.46846	-1.45886
42.1	1.04991	-0.938684	1.74762	-3.58827	-1.59486
42.2	0.695578	-1.00033	2.22855	-4.08557	-1.84602
42.3	0.295467	-0.786844	2.84561	-5.04113	-2.05748
42.4	-0.221296	-0.794552	3.75887	-4.32886	-1.95717
42.5	-0.570762	-0.888421	4.72356	-4.24092	-1.99302
42.6	-0.55841	-0.815644	5.69901	-3.80144	-2.12211
42.7	-0.525527	-0.701345	6.77088	-3.9369	-1.92494
42.8	-0.537715	-0.748106	7.97447	-4.56271	-1.74851
42.9	-0.887015	-0.92605	9.40776	-2.90639	-1.65709

tpressure	PT3 point 00	PT4 point 00	PT5 point 00	PT6 point 00	PT7 point 00
43	-1.04154	-0.726037	11.1996	-3.35669	-1.54774
43.1	-0.922404	-0.634508	12.8415	-4.03966	-1.34571
43.2	-0.923783	-0.65867	14.7176	-3.33636	-1.16304
43.3	-0.718838	-0.671765	16.77	-3.50048	-0.929498
43.4	-0.480845	-0.552442	18.6879	-2.31307	-0.858794
43.5	-0.517282	-0.334986	21.0072	-2.41596	-0.846518
43.6	-0.685775	-0.169082	22.5054	-2.57077	-0.741937
43.7	-0.803887	0.17201	22.8837	-1.91107	-0.77946
43.8	-0.836954	0.216824	23.3738	-2.11191	-0.884135
43.9	-0.836176	-0.0407831	24.0593	-1.3497	-1.00137
44	-0.840305	-0.155818	24.1786	-0.378128	-1.01449
44.1	-0.938694	-0.128275	23.5415	0.304553	-0.938917
44.2	-1.07335	-0.0886585	22.2786	0.416181	-1.08155
44.3	-1.16247	-0.0636041	20.1661	-0.0707609	-1.21226
44.4	-1.34568	0.00195932	17.905	0.920393	-1.25638
44.5	-1.58747	-0.0238514	15.5859	0.943461	-1.267
44.6	-1.62485	-0.0298466	12.6256	-0.143968	-1.42785
44.7	-1.64215	-0.189407	10.8336	-0.559515	-1.32771
44.8	-1.84593	-0.565132	10.672	-1.57558	-1.16089
44.9	-2.12946	-0.584847	10.107	-1.37669	-1.33259
45	-2.44613	-0.507459	8.99164	-1.16513	-1.28038
45.1	-2.48156	-0.651325	8.59022	-2.06863	-1.03653
45.2	-2.22127	-0.775125	8.75637	-1.74661	-1.00658
45.3	-2.10129	-0.183086	8.77886	-1.96721	-0.87647
45.4	-2.16084	0.1106	8.82767	-2.96242	-0.742988
45.5	-2.26144	-0.223217	8.86786	-3.15505	-0.806966
45.6	-2.33501	-0.241636	8.83347	-3.30128	-0.445264
45.7	-2.33329	-0.254989	8.88334	-2.72238	-0.210818
45.8	-2.26566	-0.397261	8.63273	-2.18254	-0.326415
45.9	-2.1817	-0.675512	7.93747	-2.28125	-0.0240872
46	-2.06731	-0.922201	7.34543	-1.98503	0.0327511
46.1	-1.83721	-0.5992	6.86303	-2.00238	-0.127632
46.2	-1.86941	-0.00743278	5.90587	-2.20888	-0.423409
46.3	-2.09646	0.069513	4.79792	-1.87271	-0.684685
46.4	-2.14819	-0.609168	4.18844	-1.53058	-0.532753
46.5	-2.0279	-0.925284	3.81947	-1.68562	-0.441047
46.6	-1.89119	-0.521661	3.67951	-1.78668	-0.318572
46.7	-1.9356	-0.40829	3.81829	-1.79736	-0.605132
46.8	-1.97543	-0.283402	4.03568	-2.09798	-0.989324
46.9	-1.91049	-0.172976	4.28844	-2.15512	-0.991437

tpressure	PT3 point 00	PT4 point 00	PT5 point 00	PT6 point 00	PT7 point 00
47	-1.90907	0.0264371	4.20087	-1.86698	-0.989922
47.1	-1.63636	0.121335	4.13663	-1.91365	-0.895263
47.2	-1.50215	-0.860097	4.25201	-1.72564	-0.799144
47.3	-1.48498	-1.60215	3.80364	-1.55396	-0.635423
47.4	-1.39294	-0.852535	3.17628	-1.85617	-0.583971
47.5	-1.44255	-0.907071	3.21592	-2.17997	-0.711447
47.6	-1.40644	-1.38292	3.43801	-2.19398	-0.449728
47.7	-1.38916	-0.399801	3.40776	-1.98753	-0.591246
47.8	-1.19546	0.0105776	3.43945	-1.57554	-0.651877
47.9	-1.04477	-0.255871	3.06284	-1.18005	-0.228792
48	-1.02252	0.118522	2.51912	-1.34406	-0.299631
48.1	-0.824839	0.489033	2.41585	-1.47927	-0.499271
48.2	-0.896586	0.782282	2.57735	-1.29036	-0.532175
48.3	-0.90835	1.75558	2.6416	-1.32471	-0.151172
48.4	-0.744478	2.09775	2.95428	-1.28416	-0.325088
48.5	-0.659151	1.17823	2.77978	-1.09249	-0.798283
48.6	-0.53947	1.27538	2.34667	-1.25596	-1.0244
48.7	-0.478106	1.73757	1.90256	-1.03843	-1.49776
48.8	-0.318224	0.733553	0.696859	-0.869155	-1.38478
48.9	-0.140075	0.141044	0.295795	-1.31733	-1.41112
49	0.00328912	0.314383	1.31916	-1.17433	-1.55017
49.1	-0.0206686	0.0639025	1.52372	-0.879715	-1.47492
49.2	0.0289887	-0.273252	0.715726	-0.779764	-1.75099
49.3	0.304449	-0.464812	0.765592	-0.838142	-1.82987
49.4	0.47883	-0.67214	0.886783	-1.0068	-2.31407
49.5	0.527349	-0.634442	0.79114	-1.1316	-2.28012
49.6	0.523319	-0.462632	0.358286	-1.15636	-1.65765
49.7	0.628782	-0.396611	0.422249	-0.591366	-1.59837
49.8	0.749834	-0.316314	1.21978	-0.528511	-1.67404
49.9	0.769626	-0.294519	1.49624	-0.865232	-1.43115
50	0.716007	-0.125803	1.35043	-0.846934	-1.62541
50.1	0.815509	-0.218406	0.617182	-1.05242	-1.95345
50.2	1.16065	-0.375307	0.700046	-1.09838	-2.23532
50.3	1.14946	-0.42734	1.27104	-1.16771	-2.64118
50.4	0.511208	-0.43645	0.078988	-1.15907	-3.26492
50.5	0.655508	-0.323719	0.230264	-0.972276	-2.95968
50.6	1.25011	-0.257131	1.07004	-1.07787	-1.39186
50.7	1.15416	-0.254064	1.68515	-1.0206	-1.0026
50.8	1.04078	-0.204489	2.67551	-1.08069	-1.11618
50.9	1.28219	-0.781533	1.57384	-1.31189	-1.03601

tpressure	PT3 point 00	PT4 point 00	PT5 point 00	PT6 point 00	PT7 point 00
51	1.5001	-0.763077	0.228484	-1.08724	-0.82884
51.1	1.47618	0.209725	-0.810667	-0.940729	-0.896002
51.2	1.47295	0.135498	-1.67311	-1.13068	-0.546132
51.3	1.41322	-0.156695	-1.31572	-1.14598	0.590443
51.4	1.41097	0.0298701	0.610649	-1.09216	1.40249
51.5	1.80196	0.0194842	1.76795	-0.991463	1.70671
51.6	1.68861	-0.0384179	1.44472	-1.03269	0.951849
51.7	1.18477	-0.00816885	0.773313	-1.04097	-1.25137
51.8	1.34899	-0.00410221	-1.35233	-1.00366	-1.90028
51.9	1.59698	-0.0702676	-2.33002	-1.0337	-1.18694
52	1.39891	0.500921	-0.228391	-0.967417	-0.755365
52.1	1.25457	0.40638	2.76151	-0.94348	-0.730239
52.2	1.35296	-0.948737	4.20578	-0.862989	-0.0470124
52.3	1.24615	-0.786963	4.11395	-0.798653	-0.0822372
52.4	1.32258	-0.0998786	3.70601	-0.702432	-0.649078
52.5	1.52423	-0.18073	2.48325	-0.872263	-0.203298
52.6	1.72738	-0.14381	2.66656	-1.03299	0.595872
52.7	1.72636	-0.228589	3.10414	-0.817455	1.89259
52.8	1.66681	-1.11526	4.38189	-0.671182	3.06922
52.9	1.70514	-0.921448	7.4166	-0.59424	3.31293
53	1.58074	-0.00670327	8.20292	-0.753007	2.78515
53.1	1.51477	-0.135969	7.49885	-0.754191	2.61847
53.2	1.40966	-0.134757	5.92432	-0.657488	2.33717
53.3	1.44132	0.277297	5.32132	-0.597509	2.12701
53.4	1.54217	0.350743	6.15752	-0.381797	2.41374
53.5	1.3476	0.200885	5.96774	-0.395258	2.18047
53.6	1.24695	0.418422	5.64338	-0.0607479	1.41778
53.7	1.18132	0.309321	6.03694	0.00072569	1.20024
53.8	1.13402	0.0841759	4.93137	-0.288126	0.574787
53.9	1.19835	0.945386	2.70122	-0.154382	-0.264972
54	1.18162	0.8688	2.27775	-0.0868619	-0.390084
54.1	1.14866	-0.0264899	2.01345	0.193544	-0.346983
54.2	1.14999	0.114741	0.808237	0.235351	-0.634472
54.3	1.22295	0.188582	1.31282	0.0354865	-0.688596
54.4	1.01454	0.193793	2.63021	-0.0118497	-0.769446
54.5	0.639461	0.183153	2.97548	-0.0198418	-1.05486
54.6	0.725316	0.0131255	2.94959	-0.0719807	-1.04206
54.7	1.02664	-0.243678	3.07999	-0.256512	-0.788622
54.8	1.06738	-0.525773	2.17853	-0.0980793	-0.945178
54.9	1.04771	-0.305854	3.09534	0.13084	-1.14065

tpressure	PT3 point 00	PT4 point 00	PT5 point 00	PT6 point 00	PT7 point 00
55	1.12393	0.183638	5.76229	0.046369	-0.743642
55.1	1.06646	0.320396	5.31142	0.0329951	0.0639524
55.2	1.09735	0.2979	4.15791	-0.0743496	0.207287
55.3	1.29465	0.281655	3.95131	-0.432774	0.819012
55.4	1.29053	0.201717	3.39913	-0.119141	0.964544
55.5	1.25459	0.0616421	2.6912	0.20004	0.279166
55.6	1.01991	0.0813132	3.92875	0.147282	0.262626
55.7	0.848966	0.216461	4.07481	0.389291	0.439714
55.8	1.20693	0.306418	3.39106	0.468805	0.750358
55.9	1.51568	0.807449	4.99423	0.411409	0.834106
56	1.22347	0.937894	5.2126	0.290025	1.21163
56.1	0.996806	0.316874	3.93354	0.476817	1.48872
56.2	0.933411	0.128075	3.93157	0.748321	0.851587
56.3	0.643763	0.167984	4.27111	0.753131	0.740061
56.4	0.585436	0.183715	5.44367	1.05539	0.19618
56.5	0.780533	0.229331	6.6762	0.91156	0.0638954
56.6	0.720197	0.292738	6.22802	0.78227	0.734116
56.7	1.07423	0.301127	4.53991	0.883734	0.621169
56.8	1.16373	0.212459	4.46696	0.740575	0.485352
56.9	0.297604	0.263633	5.07771	0.815767	0.02827
57	-0.168582	0.61637	4.1655	1.42704	-0.159976
57.1	0.130286	0.558411	2.80549	1.67827	-0.342348
57.2	0.144615	0.313329	2.31201	1.18685	-0.489101
57.3	0.242784	0.0165751	3.68681	0.632323	-0.456553
57.4	0.77671	0.0859123	4.06428	-0.114152	-0.733447
57.5	0.461405	0.456606	3.38523	-0.179637	-0.830258
57.6	-0.59878	0.345571	2.89877	0.129716	-0.526311
57.7	0.370084	0.278331	3.58071	-0.390709	-0.442902
57.8		0.824994	4.13962	-0.16674	-0.407974
57.9		0.827588	4.05316	0.665942	-0.359859
58		0.216209	3.77875	0.879559	-0.420469
58.1		-0.191187	3.34393	0.127703	-0.39944
58.2		-0.152687	4.71726	-0.723557	-0.429382
58.3		0.226712	5.05739	-0.985207	-0.602149
58.4		0.572092	5.3237	-0.909732	-0.685785
58.5		0.61493	4.79774	-0.0941034	0.114299
58.6		0.243185	3.01409	-0.386801	0.358018
58.7		0.287387	4.29116	-1.24597	-0.521529
58.8		0.324975	5.09364	-1.20637	-0.676633
58.9		-0.217949	4.6702	-1.67835	-0.366552

tpressure	PT3 point 00	PT4 point 00	PT5 point 00	PT6 point 00	PT7 point 00
59		-0.111739	4.35876	-3.37101	-0.306247
59.1		0.558525	5.02697	-3.61647	-0.390495
59.2		0.538707	5.18152	-2.43328	-0.311796
59.3		0.452211	3.10452	-2.66425	1.5922
59.4		0.612519	2.13387	-2.73057	1.69862
59.5		0.776242	0.578578	-2.88974	0.127288
59.6		0.525762	1.52744	-2.13309	-0.18659
59.7		0.307496	4.42767	0.32828	-0.396511
59.8		0.33128	3.13003	0.984903	0.168429
59.9		0.232393	1.26767	0.150242	0.333208
60		0.215348	1.2962	0.341914	-0.0173224
60.1		0.218191	3.95651	1.77199	-0.145312
60.2		0.114789	0.258898	1.08515	0.156727
60.3		0.0087829		-0.705461	0.193517
60.4		-0.0903431		-0.17355	-1.6721
60.5		-0.0941711		1.73962	-1.54601
60.6		-0.0540571		1.86551	0.196374
60.7		0.258885		0.647169	0.0760398
60.8		0.515407		-0.880499	0.135513
60.9		0.670057		-1.5785	0.00771746
61		0.950321		-0.378081	0.0412624
61.1		0.965643		-0.617983	0.306595
61.2		0.736265		-0.166321	0.195753
61.3		0.506064		1.94295	-0.0173275
61.4		0.820799		2.38669	0.246815
61.5		1.18069		1.1714	0.608827
61.6		-0.255185		0.721754	0.35081
61.7		-0.251943		2.80797	-0.0286345
61.8		0.862788		2.15007	0.0534172
61.9		0.124416		1.13456	0.395767
62		-0.246836		1.18793	0.406583
62.1		-0.321267		-0.0808895	-0.0097309
62.2		-0.489129		1.63818	-0.105804
62.3		-1.4943		1.09743	0.18768
62.4		-1.3934		-1.49534	0.318074
62.5		-1.33671		-1.97445	0.0621908
62.6		-1.95729		-0.34915	-0.104752
62.7		-0.20719		-0.447206	0.320655
62.8		-0.116062		-2.76654	0.360018
62.9		-0.852525		-2.35599	0.343028

tpressure	PT3 point 00	PT4 point 00	PT5 point 00	PT6 point 00	PT7 point 00
63		0.332555		-2.77723	0.273808
63.1		0.565032		-2.22565	0.259232
63.2		0.320286		0.357979	0.694706
63.3		0.784709		-0.784788	0.86133
63.4		2.41554		-0.792773	0.923471
63.5		2.61337		1.10262	0.829557
63.6		2.31858		1.17954	0.128272
63.7		2.32898		1.75813	-0.0640249
63.8		2.02175		0.999149	0.307029
63.9		2.47091		0.775705	0.0454469
64		2.19378		2.17471	-0.257806
64.1		0.965433		2.36169	-0.0776913
64.2		1.14132		1.74301	0.0240918
64.3		2.43706		1.39976	-0.106267
64.4		2.15638			-0.415386
64.5		1.72019			-1.4964
64.6		1.47579			-1.15293
64.7		1.3629			1.05727
64.8		1.26942			2.16769
64.9		0.540078			
65		-0.3548			
65.1		-0.632841			
65.2		0.379282			
65.3		0.194969			
65.4		-1.17507			
65.5		-1.35885			
65.6		-1.86244			
65.7		-1.1398			
65.8		-0.385542			
65.9		0.269498			
66		0.879341			
66.1		0.979089			
66.2		1.77283			
66.3		1.58076			
66.4		1.48889			
66.5		2.0558			
66.6		2.24755			
66.7		2.0407			
66.8		1.7819			
66.9		1.97417			

tpressure	PT3 point 00	PT4 point 00	PT5 point 00	PT6 point 00	PT7 point 00
67		1.91251			
67.1		2.21319			
67.2		1.65653			
67.3		0.914687			
67.4		1.95654			
67.5		2.59604			
67.6		2.19313			
67.7		1.48851			
67.8		2.65034			
67.9		2.79618			
68		1.38169			
68.1		0.496785			
68.2		0.122228			
68.3		1.44472			
68.4		2.00688			
68.5		0.435288			
68.6		-0.608165			
68.7		-0.58317			

APPENDIX A – COMPUTER READABLE FILE NAMES

To obtain computer readable files containing the data shown in this report, contact:

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DATA CONTENT	FILE NAME
PDV velocity and position data for all 2021E experiments, in 10 worksheets	JackRabbitPretestVeloPosAll.xls
DATA CONTENT	FILE NAME
PDV velocity data (m/s) for 2021E PT3	JackRabbitPretestVelocityPT3.xls
PDV velocity data (m/s) for 2021E PT4	JackRabbitPretestVelocityPT4.xls
PDV velocity data (m/s) for 2021E PT5	JackRabbitPretestVelocityPT5.xls
PDV velocity data (m/s) for 2021E PT6	JackRabbitPretestVelocityPT6.xls
PDV velocity data (m/s) for 2021E PT7	JackRabbitPretestVelocityPT7.xls
DATA CONTENT	FILE NAME
Position data (mm) for 2021E PT3	JackRabbitPretestPositionPT3.xls
Position data (mm) for 2021E PT4	JackRabbitPretestPositionPT4.xls
Position data (mm) for 2021E PT5	JackRabbitPretestPositionPT5.xls
Position data (mm) for 2021E PT6	JackRabbitPretestPositionPT6.xls
Position data (mm) for 2021E PT7	JackRabbitPretestPositionPT7.xls

DATA CONTENT	FILE NAME
Diagnostic Plate Profile Vs Time PT3	ProfileVsTime_PT3_final.xls
Diagnostic Plate Profile Vs Time PT4	ProfileVsTime_PT4_final.xls
Diagnostic Plate Profile Vs Time PT5	ProfileVsTime_PT5_final.xls
Diagnostic Plate Profile Vs Time PT6	ProfileVsTime_PT6_final.xls
Diagnostic Plate Profile Vs Time PT7	ProfileVsTime_PT7_final.xls
DATA CONTENT	FILE NAME
Pressure data (kilobar) on center axis, Point 00 for all 2021E experiments	Pressure00VsTimeAll_JR.txt
Pressure data (kilobar) on center axis, Point 00 for 2021E PT3	Pressure00VsTimePT3_JR.txt
Pressure data (kilobar) on center axis, Point 00 for 2021E PT4	Pressure00VsTimePT4_JR.txt
Pressure data (kilobar) on center axis, Point 00 for 2021E PT5	Pressure00VsTimePT5_JR.txt
Pressure data (kilobar) on center axis, Point 00 for 2021E PT6	Pressure00VsTimePT6_JR.txt
Pressure data (kilobar) on center axis, Point 00 for 2021E PT7	Pressure00VsTimePT7_JR.txt