

Solo Performance Specialties/R&S Racing Midwest Division Solo Series

Round #10 -- Sunday, August 6, 2023

Nebraska Region -- Lincoln Airpark -- Lincoln, NE

Final Results

| Ps | Class | No. | Driver | Car | Region | Run 1 | Run 2 | Run 3 | Run 4 | Best |
|----|-------|-----|--------------------|---------------------------|--------|-----------|-----------|-----------|-----------|---------------|
| T1 | SS-R | 8 | Bill Munsell | 2021 Corvette | Okla | 82.364 | 81.767 | 81.532 | 81.781 | 81.532 |
| T1 | SS | 88 | Tim Reinhardt | 2021 Porsche Cayman GTS 4 | DMV | 84.693 | 81.889 | 92.311(2) | 90.453 | 81.889 |
| T1 | AS | 84 | David Green | 2008 Corvette Z06 | Wich | 77.560 | 77.131 | 77.413 | 76.308 | 76.308 |
| T2 | AS | 63 | Frank Wietharn | 2007 Corvette Z06 | Kan | 81.277 | 79.941 | 79.232 | 79.854 | 79.232 |
| | 3 AS | 187 | Justin Eckles | 2008 Corvette Z06 | Neb | 82.036 | D.N.F. | D.N.F. | 81.233 | 81.233 |
| | 4 AS | 87 | Sue Eckles | 2008 Corvette Z06 | Neb | 84.395 | 83.101 | 93.832(1) | 83.383 | 83.101 |
| T1 | BS | 72 | James Harrison | 2021 Toyota GR Supra | Wich | 83.056 | 81.941 | 81.739 | 82.017 | 81.739 |
| | 2 BS | 73 | Kelly Rowe | 2023 Toyota Supra 3.0 MT | Okla | 85.004 | 82.794 | 82.985 | 82.445 | 82.445 |
| | 3 BS | 13 | Alex Westrope | 2023 Nissan Z | KC | 89.657 | 87.433 | 88.620 | 87.629 | 87.433 |
| T1 | CS | 87 | Mark Wolfe | 2021 Mazda MX-5 | ConD | 81.644 | 80.036 | 79.178 | 80.208 | 79.178 |
| | 2 CS | 92 | Mason Smith | 2022 Mazda MX5 | Wich | 79.791 | 79.984 | D.N.F. | 79.571 | 79.571 |
| | 3 CS | 47 | Spencer Dewey | 2021 Mazda MX-5 | DMV | 80.547 | 80.092 | 80.110 | 84.305(2) | 80.092 |
| T1 | DS | 36 | Greg Reno | 2022 Toyota GR86 | Kan | 80.311 | 86.219(3) | 79.399 | 81.081(1) | 79.399 |
| T2 | DS | 31 | Ross Jacobs | 2017 Ford Focus RS | Badl | 80.945 | 81.003 | 80.486 | 79.928 | 79.928 |
| T3 | DS | 94 | Steven Umholtz | 2016 Ford Focus RS | Neb | 83.252(1) | 80.827 | 80.160 | 80.316 | 80.160 |
| T4 | DS | 88 | Bernie Kaerferlein | 2022 Toyota GR86 | LOL | 81.881 | 80.217 | 80.406 | 80.484 | 80.217 |
| | 5 DS | 63 | Timothy Thompson | 2016 Ford Focus RS | Wich | 82.306 | 80.493 | 80.346 | 80.548 | 80.346 |
| | 6 DS | 9 | Dave Eggert | 2023 Toyota GR86 | DMV | 84.139 | 82.309 | 81.473 | 81.705 | 81.473 |
| | 7 DS | 92 | John LaRondeau | 2023 Toyota GR Corolla | Neb | 83.702 | 82.169 | 83.115 | 83.041 | 82.169 |
| | 8 DS | 29 | David Elfering | 2022 Subaru BRZ | Neb | 90.495(2) | 88.107(1) | 84.635 | 86.557(1) | 84.635 |
| | 9 DS | 15 | Parker Sattler | 2015 Subaru BRZ | Neb | 94.351 | 90.374(1) | 87.664 | 92.723(2) | 87.664 |
| | 10 DS | 77 | Bob Landdeck | 2023 Toyota GR86 | ConD | D.N.F. | 93.397 | 90.455 | 99.818(2) | 90.455 |
| T1 | DSL | 92 | Ann LaRondeau | 2023 Toyota GR Corolla | Neb | D.N.F. | 95.135 | D.N.F. | D.N.F. | 95.135 |
| T1 | ES | 199 | Theresa Walton | 1999 Mazda Miata | Sal | 86.222 | 84.793 | 83.242 | 86.352 | 83.242 |
| | 2 ES | 99 | Robert Seelig | 1999 Mazda Miata | NeOk | 85.100 | 84.125 | 88.109(2) | 86.259(1) | 84.125 |
| | 3 ES | 69 | Andriy Sytyashenko | 2000 Mazda Miata | KC | 88.286(1) | 84.635 | 84.820 | 85.499 | 84.635 |
| T1 | ESL | 96 | Emily Skoglund | 2000 Mazda Miata | StL | 91.215(1) | 92.981 | 85.600 | 89.573(2) | 85.600 |
| T1 | FS | 14 | Tim Mason | 2019 Ford Shelby GT350 | Tex | 79.902 | 79.047 | 79.564 | 78.784 | 78.784 |
| T2 | FS | 35 | Ivy Chang | 2017 Ford Shelby GT350 | Tex | 83.965 | D.N.F. | 85.273 | 83.779 | 83.779 |
| | 3 FS | 94 | Donald Knop | 2007 Ford Shelby GT | Neb | 85.273 | 83.952 | D.N.F. | 84.288 | 83.952 |
| | 4 FS | 194 | Kellie Knop | 2007 Ford Shelby GT | Neb | 92.347(2) | 86.589 | 85.481 | 86.023 | 85.481 |
| T1 | GS | 195 | Ron Williams | 2019 Honda Civic Si | Kan | 79.717 | 79.588 | 78.891 | 79.423 | 78.891 |
| T2 | GS | 95 | Russell Blume | 2019 Honda Civic Si | Kan | 81.589 | 81.571 | 81.861 | 81.097 | 81.097 |
| T3 | GS | 11 | Jim Monroe | 2018 Honda Civic Si | Wich | 85.162 | 82.578 | 84.714(1) | 82.304 | 82.304 |
| | 4 GS | 66 | Phillip Meredith | Volkswagen GTI | Kan | 84.254 | 83.738 | 83.202 | 82.645 | 82.645 |
| | 5 GS | 106 | Alex Bronson | 2016 Ford Focus ST | DMV | 85.395(1) | 84.551(1) | 82.824 | 85.558(1) | 82.824 |
| | 6 GS | 68 | Dillon Glowicki | 2018 Honda Civic Si | Neb | 87.162(1) | 84.312 | 83.921 | 82.978 | 82.978 |
| | 7 GS | 6 | Mike Bronson | 2016 Ford Focus ST | DMV | 86.576 | 84.223 | 83.552 | 85.709 | 83.552 |
| | 8 GS | 24 | Scott Oliver | 2003 BMW 330i | Neb | 88.100 | 87.076 | 86.838 | 90.754(1) | 86.838 |
| T1 | GSL | 95 | Laney Blume | 2019 Honda Civic Si | Kan | 83.275 | 81.125 | 81.025 | 80.697 | 80.697 |
| T1 | HS | 17 | Trish Williams | 2019 Honda Civic Sport | Kan | 92.365(2) | 84.795 | 84.836 | 84.224 | 84.224 |
| T2 | HS | 117 | Tony Votaw | 2019 Honda Civic | Kan | 86.366 | 86.674(1) | 86.133 | 85.424 | 85.424 |
| T1 | SSC | 86 | Mason Herrick | 2016 Scion FR-S | Neb | 78.601 | 78.516 | 81.125(1) | 78.534 | 78.516 |
| T2 | SSC | 151 | Dan Costello | 2013 Scion FR-S | Neb | D.N.F. | 80.811 | 82.619(1) | 84.732(2) | 80.811 |
| T3 | SSC | 187 | Daniel Rowland | 2013 Scion FR-S | KC | 82.350 | 81.461 | 81.203 | 80.871 | 80.871 |
| | 4 SSC | 51 | Stephen Costello | 2013 Scion FR-S | Neb | 80.940 | D.N.F. | 84.808 | 81.160 | 80.940 |

| | | | | | | | | |
|----------|------------------------------|---------------------------|------|-----------|------------|-----------|-----------|---------------|
| 5 SSC | 198 James Green | 2015 Subaru BRZ | Neb | 83.406 | 81.852 | 82.083 | 83.738(1) | 81.852 |
| 6 SSC | 97 Tim Heaton | 2013 Subaru BRZ | Neb | 85.756(1) | 84.401 | 83.445 | 82.960 | 82.960 |
| 7 SSC | 87 Neil Rowland | 2013 Scion FR-S | KC | 89.602(1) | 84.618 | 84.207 | 83.649 | 83.649 |
| T1 SSCL | 72 Julie Heaton | 2013 Subaru BRZ | Neb | 87.206(2) | 82.654 | 81.942 | 81.843 | 81.843 |
| 2 SSCL | 98 Marcia Haynes | 2015 Subaru BRZ | Neb | 92.278(1) | 88.593(1) | 87.042 | 84.579 | 84.579 |
| T1 STU | 99 Brent Schneekloth | 2006 Mitsubishi Evo IX RS | Neb | 78.782(1) | 75.768 | 78.863(2) | 74.853 | 74.853 |
| T2 STU | 45 Mark Hill | 2006 Mitsubishi Evo IX | Kan | 76.890 | 77.327 | 79.136(1) | 76.852 | 76.852 |
| 3 STU | 97 Kevin Murphy | 2005 Mitsubishi Evo VIII | NeOk | 79.065 | 78.032 | 79.792(1) | D.N.F. | 78.032 |
| 4 STU | 66 Andrew Advani | 2019 Subaru WRX STI | Iowa | 80.725(1) | 79.641 | 78.563 | D.N.F. | 78.563 |
| T1 STR | 56 Ali Wilson | 2021 Mazda Miata | Neb | D.N.F. | 82.268 | 84.438 | 80.057 | 80.057 |
| 2 STR | 156 Galen Wilson | 2021 Mazda Miata | LOL | D.N.F. | 82.945 | 81.621 | 81.864 | 81.621 |
| 3 STR | 99 Mark Walton | 2002 Mazda Miata | Sal | 88.743 | 85.779 | 97.147(1) | 86.070 | 85.779 |
| T1 STX | 87 Christian Davenport | 2016 Scion FR-S | Neb | 85.354(1) | 81.240 | 80.116 | 81.030 | 80.116 |
| T2 STX | 184 Blake McIntyre | 2013 Scion FR-S | KC | 86.625 | 84.283 | 86.055(1) | 83.965 | 83.965 |
| 3 STX | 84 Max Bear | 2013 Scion FR-S | KC | 89.534(1) | 87.331 | 90.137(1) | 86.155 | 86.155 |
| 4 STX | 43 Addison Bell | 2005 Mazda RX-8 | Kan | 90.204 | D.N.F. | 88.536 | 86.947 | 86.947 |
| T1 STS | 37 Riley Heaton | 1990 Mazda Miata | Neb | 78.291 | 77.374 | 77.166 | 79.451(1) | 77.166 |
| T2 STS | 194 Andrew Salazar | 1990 Mazda Miata | Cill | 78.056 | 77.509 | 77.548 | 77.760 | 77.509 |
| T3 STS | 99 Emanuel Martin | 1990 Mazda Miata | Cill | 79.409 | 78.569 | 78.177 | 78.063 | 78.063 |
| T4 STS | 137 Jackson Lee | 1990 Mazda Miata | Badl | 80.782(1) | 78.495 | 78.264 | 78.447 | 78.264 |
| 5 STS | 89 Mike Herrick | 1989 Honda Civic Si | Neb | 79.809 | 80.301 | 79.161 | 79.163 | 79.163 |
| 6 STS | 50 Thomas Waylett | 1991 Mazda Miata | Badl | 79.882 | 80.569 | 80.342 | 80.715 | 79.882 |
| 7 STS | 94 Andrew Clark | 1990 Mazda Miata | Neb | D.N.F. | 81.198 | D.N.F. | 80.457 | 80.457 |
| 8 STS | 104 Matthew Eaton | 1990 Mazda Miata | NeOk | D.N.F. | 84.518(1) | 88.782(3) | 81.558 | 81.558 |
| 9 STS | 4 Pax Rolfe | 1990 Mazda Miata | NeOk | 85.219 | 85.075(1) | 85.648(1) | 83.456 | 83.456 |
| 10 STS | 102 Tyra Pyle | 2010 Honda Fit | KC | 89.937 | 90.792(1) | 93.059(1) | 88.432 | 88.432 |
| 11 STS | 20 Ethan Hession | 1990 Mazda Miata | Neb | 90.837 | 96.769(1) | 91.483 | 90.107 | 90.107 |
| 12 STS | 13 Jason Rash | Toyota Yaris | Sal | 95.765 | 105.810(3) | 95.697 | 91.089 | 91.089 |
| T1 STH | 98 Carter Heaton | 2016 Subaru WRX | Neb | 80.471 | 80.037 | 79.184 | 79.030 | 79.030 |
| T2 STH | 47 Ian Schmitz | 2012 Mazda Mazdaspeed 3 | Iowa | 84.822(1) | D.N.F. | 83.887 | 84.381 | 83.887 |
| 3 STH | 43 Greg Cheney | 2014 Ford Fiesta ST | KC | 86.216 | 85.171 | 84.398 | 84.458 | 84.398 |
| T1 CAMS | 10 Andrew Chenoweth | 1985 Corvette | LOL | 78.747 | 76.839 | 77.274 | 75.717 | 75.717 |
| T2 CAMS | 31 Chase Cook | 2003 Corvette Z06 | KC | 80.050 | D.N.F. | 79.238 | 78.134 | 78.134 |
| T3 CAMS | 39 Lonnie Moses | 2002 Corvette | Wich | 81.716 | 79.222 | 78.769 | 79.267 | 78.769 |
| T4 CAMS | 7 Jim French | 2012 Corvette | Wich | 81.570 | 79.022 | 81.912(1) | 79.099 | 79.022 |
| 5 CAMS | 25 Christopher Dirkschneider | 1927 Ford Track T | Neb | 85.995(2) | 79.884 | 88.443 | 79.633 | 79.633 |
| 6 CAMS | 24 James Woodward | 2008 Pontiac Solstice GXP | KC | 82.743 | 80.296 | 80.170 | 79.711 | 79.711 |
| 7 CAMS | 66 Todd Reznicek | 2002 Corvette Z06 | Neb | 84.965(1) | 80.493 | 80.228 | 85.299(2) | 80.228 |
| 8 CAMS | 77 Randy Puls | 1999 Corvette FRC | Wich | 87.928 | 84.031 | 83.266 | 83.801 | 83.266 |
| 9 CAMS | 125 Shawn McNeil | 1927 Ford Track T | Neb | D.N.F. | D.N.F. | 84.414 | D.N.F. | 84.414 |
| 10 CAMS | 20 David Pape | 2000 Corvette | Neb | D.N.F. | 85.982 | 87.197(1) | 85.398(1) | 85.398 |
| 11 CAMS | 44 Kyler Robertson | 1992 Corvette | Neb | 90.511 | 87.708 | D.N.S. | D.N.S. | 87.708 |
| T1 CAMSL | 77 Susan Puls | 1999 Corvette FRC | Wich | 91.307 | 90.485 | 90.703 | 92.024(1) | 90.485 |
| T1 CAMC | 39 Dave Whitworth | 2012 Mustang | Neb | 80.383 | 77.910 | 77.500 | 76.869 | 76.869 |
| T2 CAMC | 38 Ron Ver Mulm | 2019 Camaro ZL1 1LE | DMV | 79.943 | 80.494(1) | 78.617 | 78.256 | 78.256 |
| T3 CAMC | 1 David Cahoon | 2018 Camaro SS 1LE | Colo | 81.457 | D.N.F. | 81.571 | 82.178 | 81.457 |
| 4 CAMC | 8 Ken Stowers | 2019 Mustang | NeOk | 85.681(1) | D.N.F. | 81.019 | 81.643 | 81.643 |
| 5 CAMC | 15 John Weinberg | 2011 Camaro | Neb | 87.224 | 83.554 | 82.356 | 82.018 | 82.018 |
| 6 CAMC | 68 Kent Radford | 2013 Camaro | Neb | 87.430 | 85.984 | 84.841 | 84.529 | 84.529 |
| 7 CAMC | 34 Jason Austgen | 2019 Mustang GT | Neb | 89.762 | 85.576 | 85.557 | 85.807 | 85.557 |
| 8 CAMC | 168 Deniece Radford | 2013 Camaro | Neb | 90.520 | 87.946 | 87.806 | 86.626 | 86.626 |
| T1 CAMCL | 139 Elizabeth Whitworth | 2012 Mustang | Neb | 85.490 | 83.464 | 83.447 | 83.737 | 83.447 |

| | | | | | | | | |
|---------|-----------------------|--------------------------|------|-----------|-----------|---------------|---------------|----------------|
| 2 CAMCL | 39 Samantha Whitworth | 2012 Mustang | Neb | 87.364(1) | 83.928 | 83.450 | 87.431(2) | 83.450 |
| T1 CAMT | 92 Emery Seaton | 1988 Mustang | Iowa | 84.554(3) | 78.529 | D.N.F. | 76.410 | 76.410 |
| T2 CAMT | 192 Brent Seaton | 1988 Mustang | Iowa | 82.008(1) | 80.508 | 79.436 | 80.737 | 79.436 |
| T3 CAMT | 172 Patrick Darling | 1968 Camaro | KC | 81.708 | 80.696 | 80.035 | 79.625 | 79.625 |
| T4 CAMT | 89 John Williams | 1989 Mustang 5.0 | Neb | 82.012 | 79.897 | 79.659 | 80.314 | 79.659 |
| 5 CAMT | 79 Chris Price | 1979 Mustang | Neb | 84.845 | 91.973 | 81.404 | 81.001 | 81.001 |
| 6 CAMT | 9 Bill Niesz | 1967 Pontiac Firebird | Neb | 82.911 | 82.444 | 81.504 | 82.494 | 81.504 |
| 7 CAMT | 28 Opie Viets | 1973 Camaro Z28 | OzMt | 82.488 | 81.972 | 81.823 | 96.981 | 81.823 |
| 8 CAMT | 44 Kurt Chenoweth | 1970 Dodge Challenger | Badl | 88.218(1) | 82.292 | 83.357 | 83.829 | 82.292 |
| 9 CAMT | 72 Ben Fuller | 1968 Camaro | KC | 86.571 | 84.987 | 91.352(2) | 83.087 | 83.087 |
| 10 CAMT | 69 Mitchell Bell | 1969 Camaro | Wich | 94.481 | D.N.F. | 92.397 | D.N.S. | 92.397 |
| T1 XA | 184 Jonathan Griffith | 2005 Mazda RX8 | KC | 81.707 | 79.666 | 81.115 | D.N.S. | 79.666 |
| 2 XA | 84 April Turner | 2005 Mazda RX8 | KC | 87.262(1) | 83.586 | 83.941 | D.N.S. | 83.586 |
| T1 XB | 11 William Quade | 2000 Mazda Miata | Neb | 86.797 | 82.984 | 83.906 | 82.507 | 82.507 |
| 2 XB | 24 Kale Morris | 2001 Mazda Miata | Sal | 85.684 | 83.370 | 83.234 | 83.150 | 83.150 |
| T1 EVX | 23 Matthew Grainger | 2018 Tesla Model 3 | StL | 79.703 | 82.245(1) | D.N.S. | D.N.S. | 79.703 |
| T1 SSP | 194 Ryan Pemberton | 2006 Mitsubishi Evo IX | Neb | 74.787 | 74.418 | 74.418 | 73.897 | 73.897 |
| 2 SSP | 94 Bill Pemberton | 2006 Mitsubishi Evo IX | Neb | 78.905(1) | 76.325 | 78.847(1) | 76.602 | 76.325 |
| T1 ESP | 21 Brandon Dan | Honda Civic Type R | Tex | 76.338 | 79.799(1) | 75.643 | 75.973 | 75.643 |
| T2 ESP | 50 James Darden | 2017 Camaro | Colo | D.N.F. | 76.311 | 76.666 | 75.777 | 75.777 |
| 3 ESP | 80 Jonathan Kuo | 2011 BMW M3 | Colo | 79.587(1) | 77.865 | 77.508 | 76.963 | 76.963 |
| 4 ESP | 98 Robert Tunnell | 2020 BMW M2 Competition | Colo | 78.998 | 82.286(2) | 79.313(1) | 77.402 | 77.402 |
| 5 ESP | 198 Patty Tunnell | 2020 BMW M2 Competition | Colo | 84.981(1) | 81.633 | 80.665 | 79.510 | 79.510 |
| T1 FSP | 53 David Whitener | 1981 Volkswagen Scirocco | Tex | 80.852(2) | 77.203 | D.N.F. | 75.713 | 75.713 |
| T1 SSM | 94 James Lockard | 1994 Mazda RX7 | Neb | 79.309 | 77.535 | 89.648(1) | 77.168 | 77.168 |
| T1 SMF | 98 Craig Wilcox | 1999 Honda Civic | KC | 74.822 | 77.370(1) | 76.193(1) | 80.063(3) | 74.822 |
| T2 SMF | 42 Stevenray Beall | 2000 Honda Civic | Badl | 83.332 | 82.312 | 83.519(1) | 82.222 | 82.222 |
| 3 SMF | 142 Jordan Bontrager | 2000 Honda Civic | Badl | 82.794 | 83.395 | 85.979(2) | 83.120 | 82.794 |
| 4 SMF | 160 Tad Rosburg | 2003 Mini Cooper S | Neb | 86.479 | D.N.F. | 87.987 | 88.782 | 86.479 |
| 5 SMF | 60 Patty Rosburg | 2003 Mini Cooper S | Neb | 93.662 | D.N.F. | 92.843 | 93.970 | 92.843 |
| T1 CP | 43 Chris Miller | 1979 Mustang Turbo | DMV | 77.836 | 76.442 | 76.217 | 76.450 | 76.217 |
| T2 CP | 134 Albert Hermans | 1982 Pontiac MSE TA | KC | 81.686 | 82.466(1) | 80.888 | 80.317 | 80.317 |
| 3 CP | 16 Steven Glaab | 1985 Mustang GT | Neb | 90.078 | 84.035 | 83.825 | 81.438 | 81.438 |
| 4 CP | 173 Travis Durant | 1979 Camaro | Neb | D.N.S. | 81.845 | 85.131 | D.N.S. | 81.845 |
| 5 CP | 34 Art Martinez | 1982 Pontiac MSE TA | Wich | D.N.F. | 85.272 | 83.274 | 83.979 | 83.274 |
| 6 CP | 73 Cole Durant | 1979 Camaro | Neb | D.N.S. | 85.462 | 84.665 | D.N.S. | 84.665 |
| T1 CPL | 73 Izzy Durant | 1979 Camaro | Neb | 101.812 | D.N.F. | 99.387(2) | 102.350(3) | 99.387 |
| T1 FP | 44 Rodman Hunsaker | 1985 Porsche 944 | Neb | 87.937 | 86.745 | 87.090 | 85.131 | 85.131 |
| T1 BM | 65 Dan Cyr | 2019 Lamm Mk V | Chi | D.N.F. | 71.161 | 70.993 | 69.320 | 69.320 |
| T1 FM | 29 Chris Thomas | 1992 Red Devil | Wich | 75.994 | 73.338 | 73.593 | 73.097 | 73.097 |
| T2 FM | 28 Brandon Thomas | Doofwagon Doof 3 | Wich | 78.981 | 75.449 | 73.675 | 77.676(1) | 73.675 |
| 3 FM | 125 Jan Gerber | 1988 KBS Mk IV | Neb | 81.671 | 77.250 | 76.552 | 77.041 | 76.552 |
| 4 FM | 25 Kevin McEnhill | 1988 KBS Mk IV | Neb | 78.829 | 78.952(1) | 81.598(1) | 88.451(1) | 78.829 |
| T1 KM | 84 James Stowers | 2011 Biesse Shark | NeOk | 88.312 | 79.847 | 93.016(1) | 79.303 | 79.303 |
| T1 Pro* | 56 Jeremy Wilson | 2021 Mazda MX5 (STR) | LOL | 78.101 | 77.269 | 76.311 | 78.606(1) | 63.414* |
| 2 Pro* | 156 Jesse Sybesma | 2021 Mazda MX5 (STR) | Neb | 80.736 | 81.490(1) | 80.046 | 78.908 | 65.572* |
| 3 Pro* | 25 Steve Ducharme | 1927 Ford Track T (CAMS) | Neb | D.N.F. | D.N.F. | D.N.F. | 86.349 | 72.964* |

(*on index, not for points)