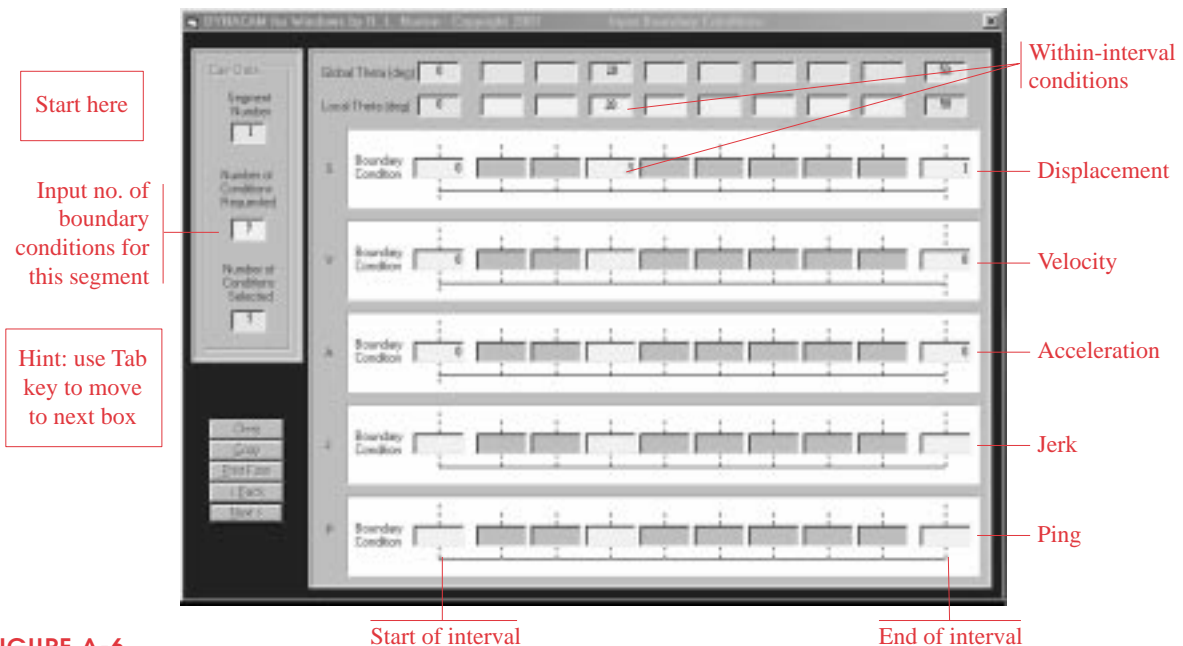


## Polynomial Functions

If any of your segments specified a *Poly* motion, clicking the *Calc* button will bring up the *Boundary Condition* screen shown in Figure A-6. The cursor will be in the box for *Number of Conditions Requested*. Type the number of boundary conditions (BCs) desired, which must be between 2 and 40 inclusive. When you hit *Enter* or *Tab*, or mouse click away from this box, the rest of the screen will activate, allowing you to type in the desired values of BCs. Note that the start and end values of position that you typed on the *Input* screen are already entered in their respective *S* boundary condition boxes at the beginning and end of the segment. Type your additional end of interval conditions on *V*, *A*, *J*, and *P* as desired. If you also need some BCs within the interval, click or tab to one of the boxes in the row labeled *Local Theta* at the top of the screen and type in the value of the angle at which you wish to provide a BC. That column will activate and you may type whatever additional BCs you need.

The box labeled *Number of Conditions Selected* monitors the BC count, and when it matches the *Number of Conditions Requested*, the *Next* button becomes available. Note that what you type in any (yellow) text box is not accepted until you hit *Enter* or move off that box with the *Tab* key or the mouse, allowing you to retype or erase with no effect until you leave the text box. (This is generally true throughout the program.)

Selecting the *Next* button from the BC screen calculates the coefficients of the polynomial by a Gauss-Jordan reduction method with partial pivoting. All computations are done in double precision for accuracy. If an inconsistent set of conditions is sent to the solver, an error message will appear. If the solution succeeds, it calculates *s v a j* for the segment. When finished, it brings up a summary screen that shows the BCs you selected and also the coefficients of the polynomial equation that resulted. You may at this point want to print this screen



**FIGURE A-6**

Boundary Condition Input screen for polynomial functions in program DYNACAM—3-4-5-6 single-dwell function shown