Checklist for Troubleshooting Non-estimatable Contrasts

1.   Does the number of coefficients agree with the number of levels being tested for the main effect? (e.g., contrast 'Y vs X' trt 0 0 0 1 0 0 0 -1 must have eight treatment levels being accessed within your data set.

2.   Do the coefficients agree with the way the data is read by the computer? A. character strings follow alphabetic sequence.
    B. numeral trt assignments follow in numerical order. (exception. ex., rates of 0 2.5 5 and 8 will be read by the computer in the order 0 5 8 2.5)

3.   Does the variable before the coefficients agree with the way the coefficients were obtained? (e.g., With interactions such as placement*rate, were the placement coefficients multiplied by the rate coefficients?)

4.   Does the variable in the contrast match the variable in the model statement? (e.g., With an interaction contrast such as plcmt*rate*residue, the same interaction should be in the model, not rate*plcmt*residue.)

5.   Is there missing data? (i.e., Do some treatments have a different number of observations per cell?) Compare the same contrasts for different variables and see if some are estimatable for some variables while not for others.

6.   If rates are present, but the methods and or sources are not included for the " 0 " rates, then the 0 rate plots must be deleted to check RATE LIN or RATE QUAD among the other rates. (i.e., the 0 rates were not found for each method and or source variable.)   THE 0 RATES CAN BE INCLUDED IF THE CONTRAST IS DONE USING THE " TRT " VARIABLE.

7.   In a interaction contrast, each level of the heirarchy must add up to zero whether the contrast is orthogonal or not. (e.g. contrast tillage*rate must have at least two levels of tillage used in the contrast so coefficients add to zero for that level of the heirarchy and at least two levels of rate for the same reason.

8.   In an interaction contrast, the order of the variables being crossed must match the order of the variables in the classes statement. (e.g., Classes rate residue plcmt; the three way interaction contrast can only be rate*residue*plcmt, not rate* plcmt*residue.)

Orthogonal Contrasts: essentially have no overlapping of SS.
                       (will add up to the main effect error)

Non Orthogonal Contrasts: overlapping of SS.