ArcGIS ver. 8.x: Projecting Shapefiles

These instructions describe how to change a shapefile's projection using ArcGIS ver 8.x.

1. Open ArcCatalog and ArcToolBox.
2. Check to make sure the dataset you want to project has a currently defined spatial reference. You can do this in ArcCatalog. Select the dataset → right click → Properties → Field tab → Shape field → Spatial Reference. The Spatial reference will have the word "unknown" in it if the projection is not known.
3. If the spatial reference is unknown then you can define what the current spatial reference. Do this one of two ways:

    a. In ArcCatalog, go the the spatial reference location (see step 2) and click on the button (three small dots) to the right of the spatial reference location. From there you can select the current spatial reference (projection, units, and datum)

    or

    b. In ArcToolbox, use the following wizard: Data Management Tools → Projections → Define Projection Wizard (shapefiles…)

    Now you are ready to project your data! The program will make a copy of your current dataset and then reproject just the copy.

4. Return to ArcToolbox. Use the following wizard to project data. Data Management Tools → Projections → Project Wizard (shapefiles…)
5. Make sure the transformation method is NADCON when you project between NAD27 ←→ NAD83. The method says "1927 to 1983" but it really works for both directions.
6. Check the new file's spatial reference using ArcCatalog. (See step 2)

Further information can be found in:

+Using_ArcToolbox.pdf (digital book)

+Understanding_Map_Projections.pdf (digital book)

+ArcGIS Desktop Help → Contents tab →Map Projections