The invention claimed is:

1. A method for making a working program for a first robot usable with a second robot, each of the first robot and the second robot having joints connecting two flanges, the two flanges comprising a base flange and a tool flange, the method comprising: obtaining the working program for the first robot; selecting positions or angles based on the working program for the first robot; moving the second robot to the positions or angles to produce a position pair data set; estimating kinematic models of the first robot and the second robot based on a base flange offset and a tool flange center point offset between the first robot and the second robot using the position pair data set; and performing a conversion operation on the working program based on the kinematic models.

2. The method of claim 1, further comprising: making a determination about whether the working program is runnable on the second robot within one or more defined tolerances.

3. The method of claim 2, wherein making the determination comprises making a determination that the working program is not runnable on the second robot within the one or more defined tolerances; and wherein, when the working program is not runnable on the second robot within the one or more predefined tolerances, the method further comprises: selecting additional positions based on the working program; moving the second robot to the additional positions to produce an extended position pair data set; estimating revised kinematic models of the first robot and the second robot using the extended position pair data set; and performing a conversion operation on the working program based on the revised kinematic models.

4. The method of claim 1, further comprising: performing a conversion operation on a second working program based on the kinematic models.

5. The method of claim 1, wherein performing the conversion operation comprises: applying forward kinematics to first position pair data in the working program for a first kinematic model associated with the first robot to produce a first program; applying inverse kinematics to the first program using a second kinematic model for the second robot to produce second position pair data; and completing the conversion operation by replacing the first position pair data in the first working program with the second position pair data to produce a converted working program that is usable with the second robot.

6. The method of claim 1, wherein the kinematic models are based on parameters defining transformations.

7. The method of claim 6, wherein the kinematic models are based on three types of Denavit-Hartenberg parameters.

8. The method of claim 7, wherein the three types of Denavit-Hartenberg parameters comprise Schilling parameters, Parallel variant parameters, and RPY parameters.

9. The method of claim 6, wherein RPY parameters are usable to modulate a last joint of each of the first robot and the second robot.

10. The method of claim 1, wherein the kinematic models are estimated using predetermined models as a starting point.

11. Non-transitory machine-readable data storage storing instructions that are executable to make a working program for a first robot usable with a second robot, each of the first robot and the second robot having joints connecting two flanges, the two flanges comprising a base flange and a tool flange, the instructions being executable to perform operations comprising: obtaining the working program for the first robot; selecting positions or angles based on the working program for the first robot; causing the second robot to move to the positions or angles to produce a position pair data set; estimating kinematic models of the first robot and the second robot based on a base flange offset and a tool flange center point offset between the first robot and the second robot using the position pair data set; and performing a conversion operation on the working program based on the kinematic models.

12. The non-transitory machine-readable data storage of claim 11, wherein the operations comprise: making a determination about whether the working program is runnable on the second robot within one or more defined tolerances.

13. The non-transitory machine-readable data storage of claim 12, wherein making the determination comprises making a determination that the working program is not runnable on the second robot within the one or more defined tolerances; and wherein the operations comprise, when the working program is not runnable on the second robot within the one or more predefined tolerances: selecting additional positions based on the working program; causing the second robot to move to the additional positions to produce an extended position pair data set; estimating revised kinematic models of the first robot and the second robot using the extended position pair data set; and performing a conversion operation on the working program based on the revised kinematic models.

14. The non-transitory machine-readable data storage of claim 11, wherein the operations comprise: performing a conversion operation on a second working program based on the kinematic models.

15. The non-transitory machine-readable data storage of claim 11, wherein performing the

conversion operation comprises: applying forward kinematics to first position pair data in the working program for a first kinematic model associated with the first robot to produce a first program; applying inverse kinematics to the first program using a second kinematic model for the second robot to produce second position pair data; and completing the conversion operation by replacing the first position pair data in the first working program with the second position pair data to produce a converted working program that is usable with the second robot.

16. The non-transitory machine-readable data storage of claim 11, wherein the kinematic models are based on parameters defining transformations.

17. The non-transitory machine-readable data storage of claim 16, wherein the kinematic models are based on three types of Denavit-Hartenberg parameters.

18. The non-transitory machine-readable data storage of claim 17, wherein the three types of Denavit-Hartenberg parameters comprise Schilling parameters, Parallel variant parameters, and RPY parameters.

19. The non-transitory machine-readable data storage of claim 16, wherein RPY parameters are usable to modulate a last joint of each of the first robot and the second robot.

20. The non-transitory machine-readable data storage of claim 11, wherein the kinematic models are estimated using predetermined models as a starting point.