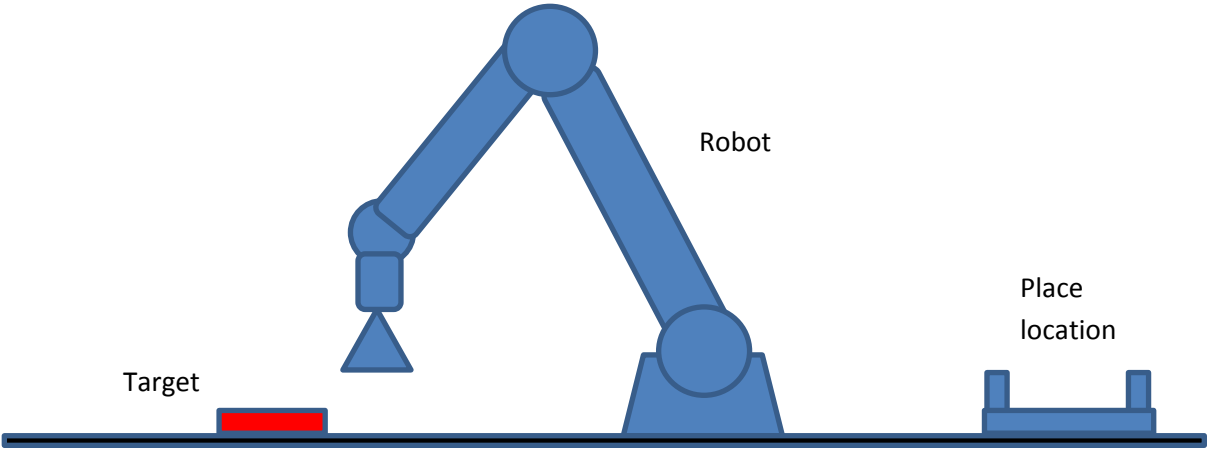


AS200 Alignment Sensor Application Note

Guided Pick

The AS200 Alignment sensor supports Guided Pick applications, where a robot is guided to pick a part always in the same way.

System setup



Training

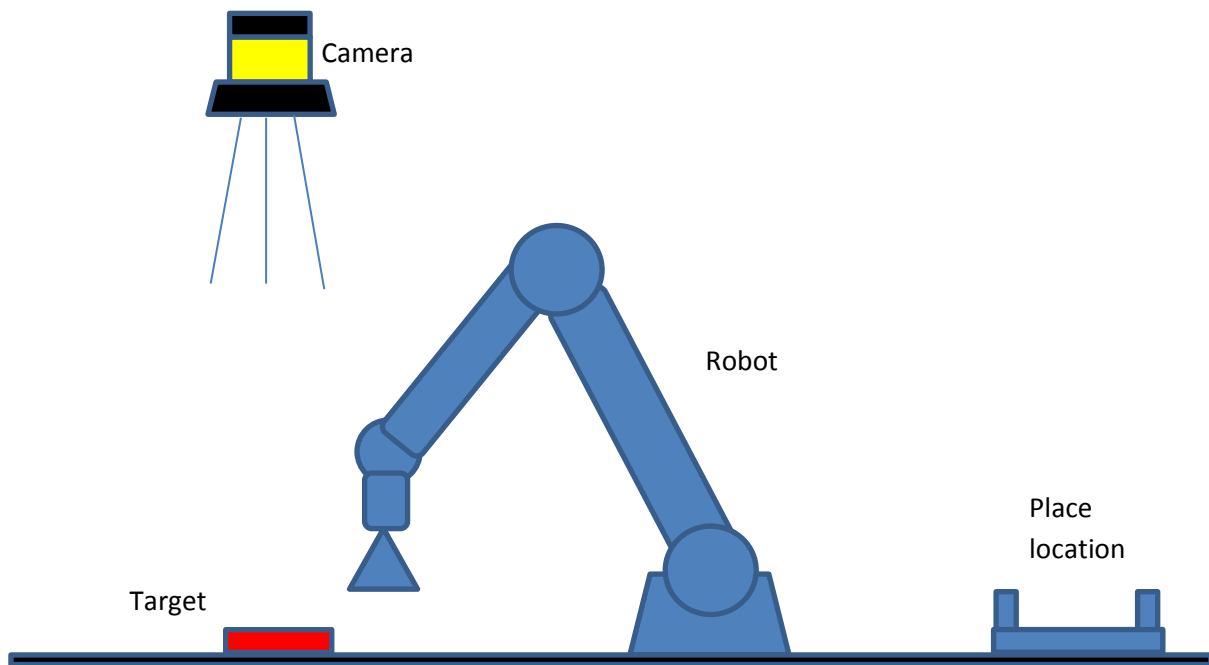
Assuming a sensor has been created and the target features have been trained, there are two options to train a guided pick application.

Training Option 1

Step 1:

Place the part in the pick area, within the field of view of the camera, and run the “TT” command providing the current robot position:

TT.<cam>,<X>,<Y>,<Z>,<A>,,<C>

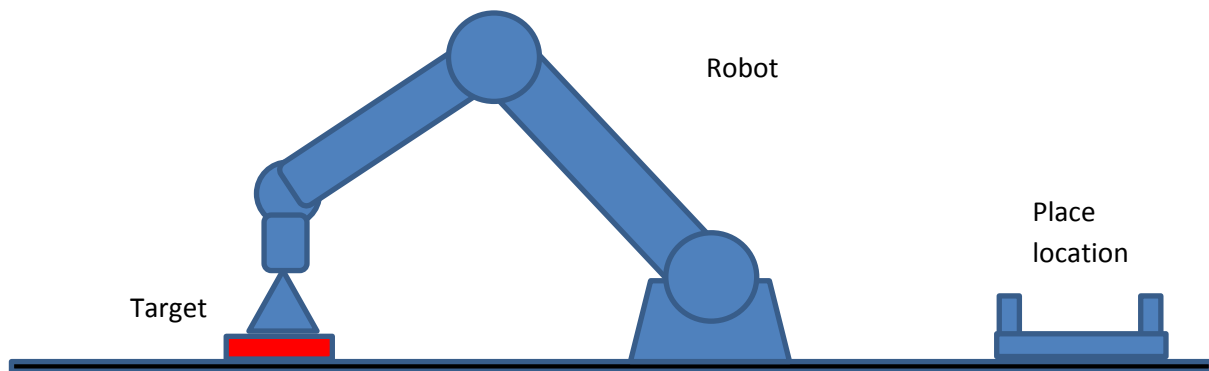


“TT” command: The camera acquires and locates the target in its training position

Step 2:

Jog the robot to properly pick the part at the trained position. Run the "TTR" command providing the robot's pick position:

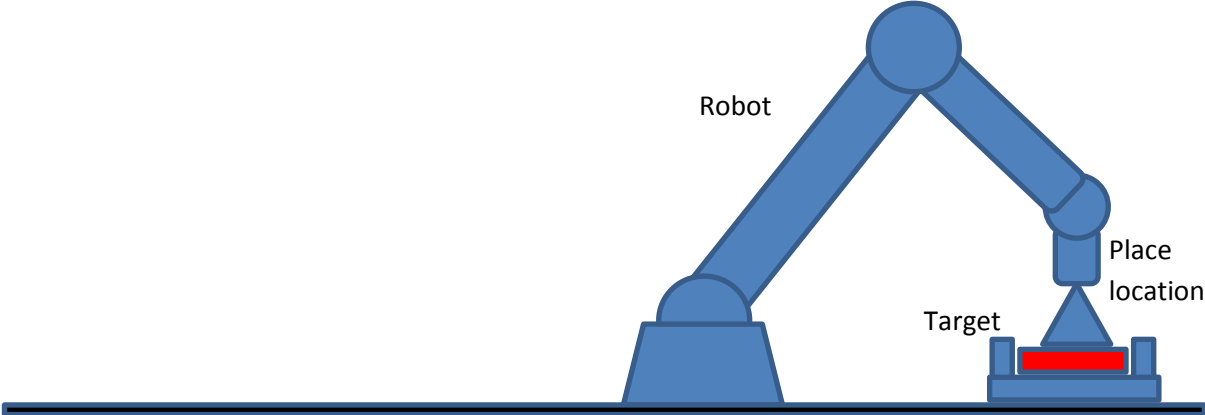
TTR,<cam>,<X>,<Y>,<Z>,<A>,,<C>



"TTR" command: Robot in trained pick position.

Step 3:

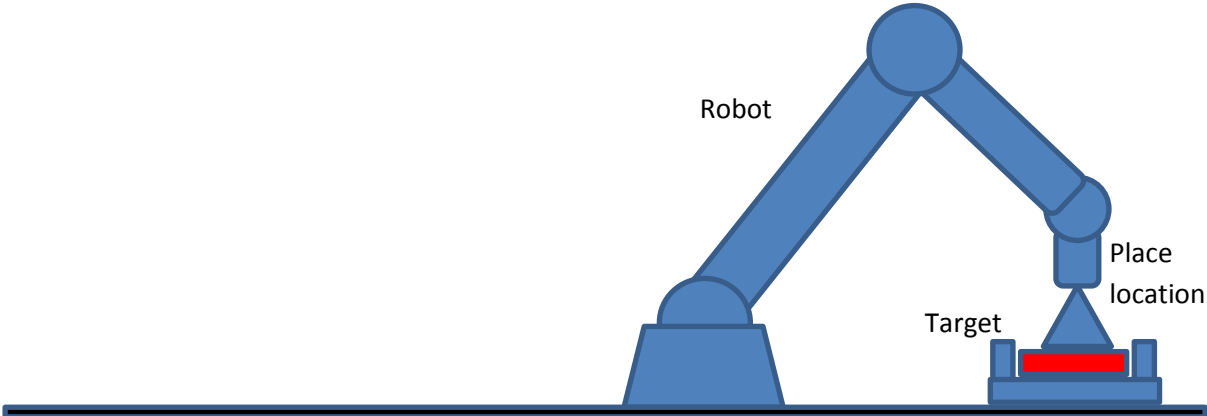
Pick the part and jog the robot to train the proper place position.



Training Option 2

Step 1:

Place target at place location. Jog the robot to pick the part from there. This will be the robot's trained place position.

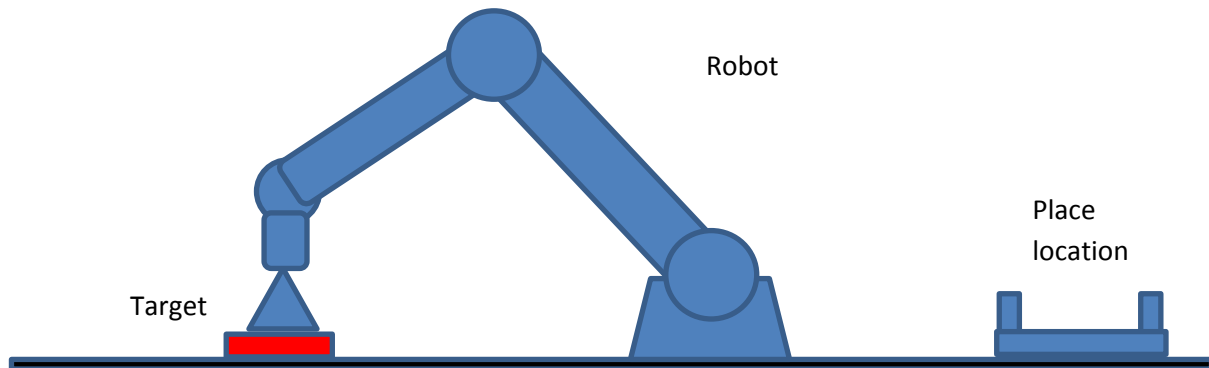


Step 2:

Jog the robot to place the target in the pick area.

Run the "TTR" command providing the robot's current position. This will be the robot's trained pick position.

TTR,<cam>,<X>,<Y>,<Z>,<A>,,<C>

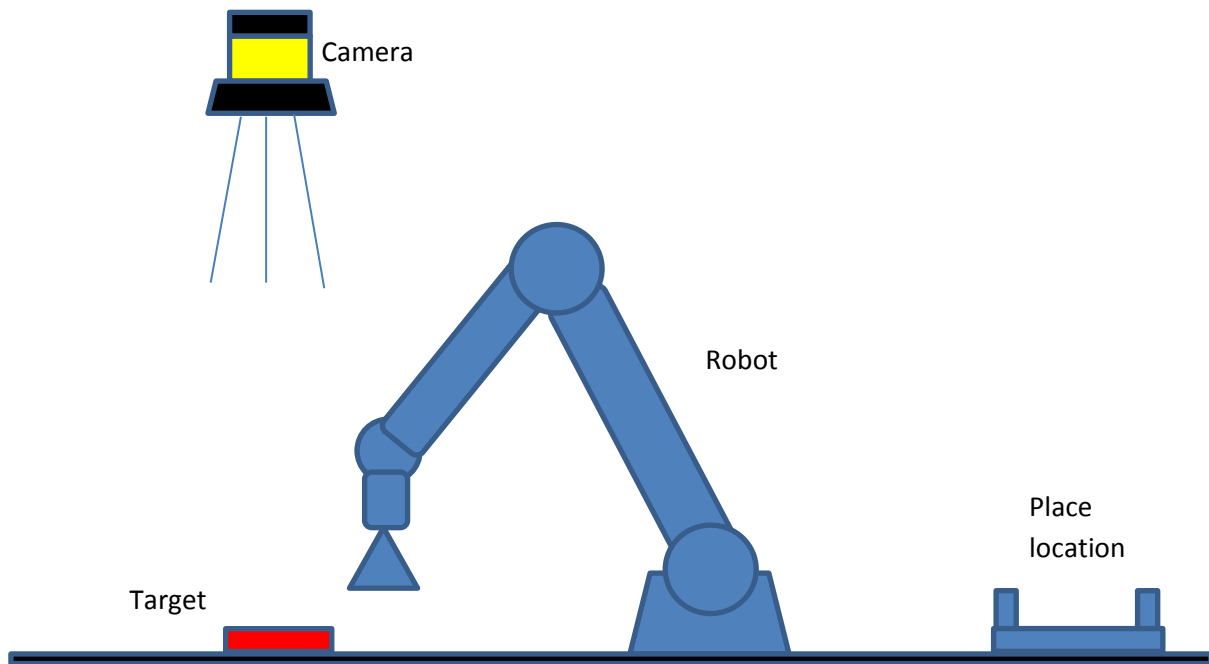


"TTR" command: Robot in trained pick position.

Step 3:

Place the target and move away (target must not move!) to allow free view of the camera to the target.
Run "TT" command to locate the target and register its position:

TT,<cam>,<X>,<Y>,<Z>,<A>,,<C>



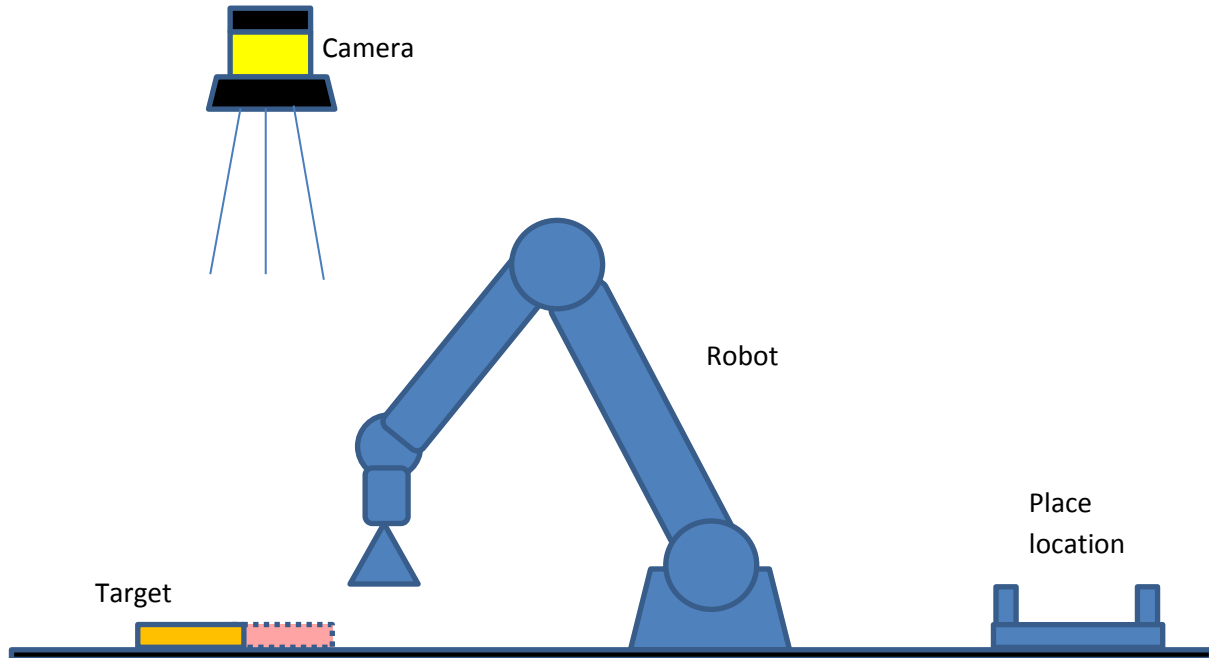
"TT" command: The camera acquires and locates the target in its training position.

Runtime

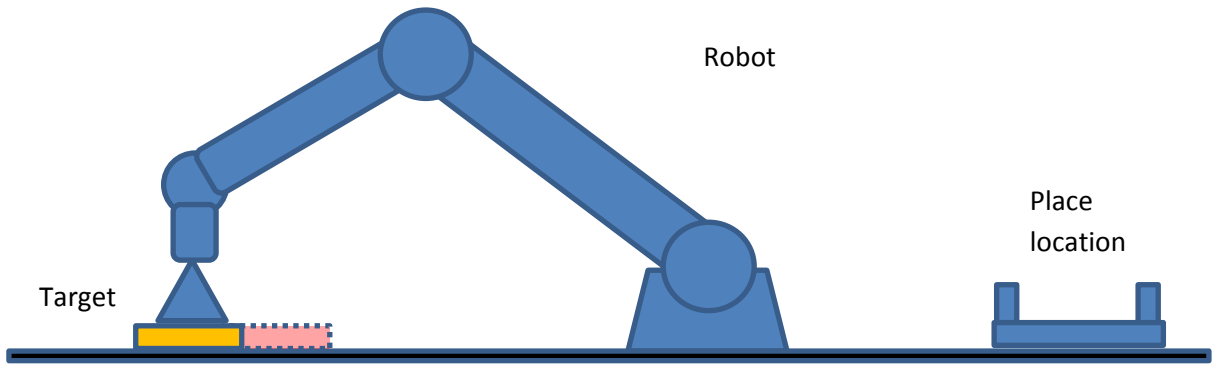
Place the part at a random position within the field of view of the camera.

Run the "XT" command, requesting the absolute position:

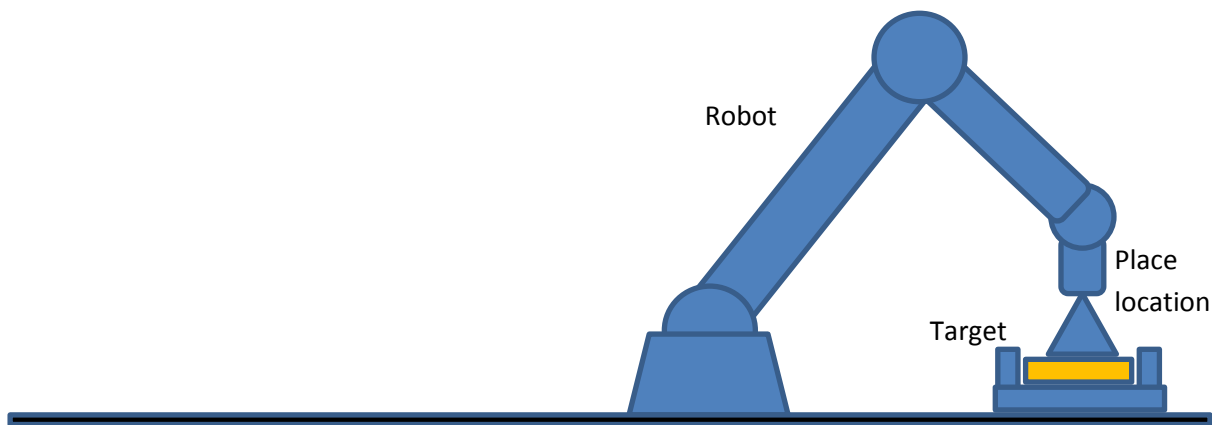
"XT,<cam>,Abs,<X>,<Y>,<Z>,<A>,,<C>"



"XT" command: Locate target at its runtime position and return corrected pick position.



Robot moves to corrected pick position and picks part.



Robot places picked part at the trained place location.