



Technical Bulletin

*Place a copy of this bulletin in the front of each Blueprints Manual.
Redline drawings as needed and include a TB reference note.
Reference TB implementation on site Action Item Box-chart and/or
site tool history management log.*

Number: 088a
Date Issued: 03/29/12
Expiration Date: n/a

Subject/Key Words:	GAMA and HVM Solar Robot Service; Supporting Robot Arm Assembly; Safety and Damage Prevention During Servicing of Robot		
Classification:	<input checked="" type="checkbox"/> Informational	<input type="checkbox"/> Mandatory	<input checked="" type="checkbox"/> Safety Alert
	<input type="checkbox"/> Warranty Impact	<input type="checkbox"/> Purchase Parts	<input type="checkbox"/> PM Impact
	<input type="checkbox"/> No Charge For Parts expires ___/___/___. Reference this TB# when ordering NC parts.		

Issue: When servicing the robot assembly without proper support the robot arm assembly can fall causing personal injury and/or damage to the assembly. Follow the procedure in the solution below to prevent injury or damage:

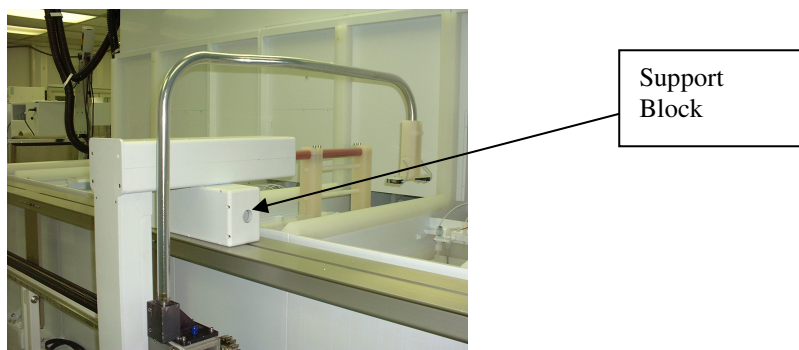
Solution:

1. Using the robot joystick, move the robot over an unoccupied, **drained**, non-quartz rinse tank. If a non-quartz rinse tank is unavailable, position the robot over a queue area.
2. Lower the robot into the tank. Ensure the robot end-effector has a minimum clearance of 3-4" from the bottom of the tank. Measure the distance from the robot horizontal section and the robot decktop to determine the appropriate size support block needed in order to maintain the 3-4" minimum clearance from the bottom of the tank.

The 3-4" clearance is needed to ensure the robot does not rest over the bottom limit switch, as this can cause current limits when the robot is brought back online.

The robot support block should be capable of supporting a 75lb (GAMA) or 100lb (HVM Solar) minimum load.

3. Obtain the appropriately sized robot support block and using the joystick, raise the robot, insert the support block, and gently lower the robot onto the support block.



The robot support block is intended to "support the robot". There is no need to force the robot down onto the block to obtain adequate support. If the robot is forced down onto the block, damage to the robot or the decktop can occur. (continued)

If you have technical questions or require more information, please contact Akrion Systems Technical Support Department via e-mail at techsupport@akrionsystems.com. Authorized service personnel can obtain copies of the latest Akrion Systems procedures and controlled documents from the Akrion Systems Document Control department at doccontrol@akrionsystems.com. Customers must direct all inquires to their local Akrion Systems field service representative. (Form QA1656F1AC)



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4. Properly power down the bench following all standard safety procedures as well as the procedure described in the operations manual.

You can now safely adjust, remove, or replace robot belts, motors and drive systems without stored energy in the robot torso and arm that could result in injury or damage due to unanticipated movement.

Follow Operations Manual to re-energize robot.

Keep the robot joystick in hand to activate robot stop in event of any unwanted movement until proper robot operation is confirmed.