YASKAWA
PARTNER SUPPORT
Shared Integration Experience

This document captures ideas, experiences, and informal recommendations from the Yaskawa Partner Support team. It is meant to augment – not supersede manuals or documentation from motoman.com. Please contact the Partner Support team at partnersupport@motoman.com for updates or clarification.

How to Correct Axis Limits for Weld and Spot Robots in MotoSim

Introduction

Several Robot models share the same structure but have different axis reach limits. A GP12 and an AR1440 are essentially the same robot, just that the AR1440 has less reach; to preserve the thru-arm cables. However, in MotoSim, both models have the same reach as the GP12. This could pose a problem when programming with a weld robot because it is using the larger reach limits of the handling model. Below are instructions on changing the reach of the affected robot models.

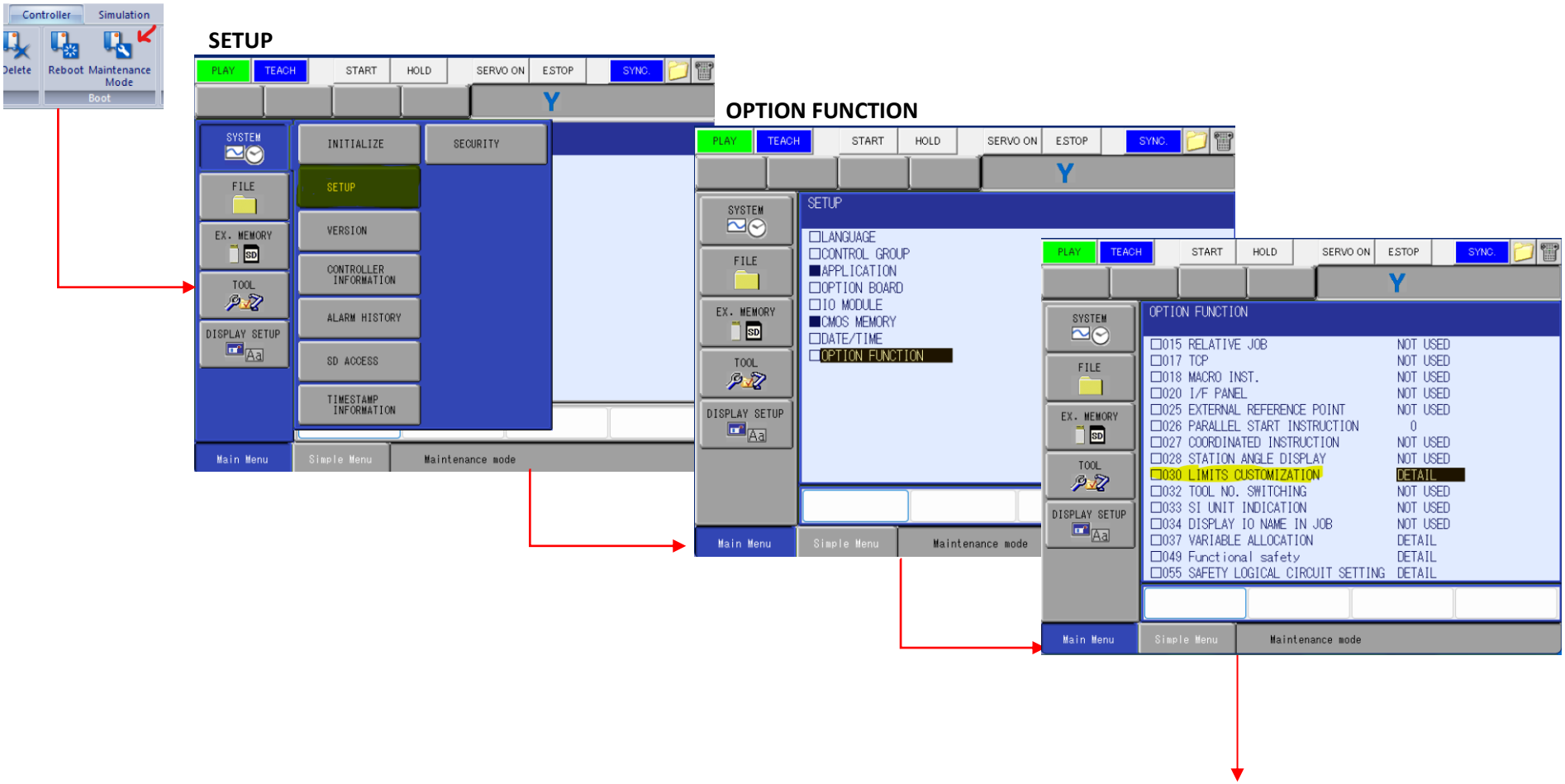
YASKAWA
PARTNER SUPPORT
Shared Integration Experience

This document captures ideas, experiences, and informal recommendations from the Yaskawa Partner Support team. It is meant to augment – not supersede manuals or documentation from motoman.com. Please contact the Partner Support team at partnersupport@motoman.com for updates or clarification.

How to Adjust Robot Axis Rotation

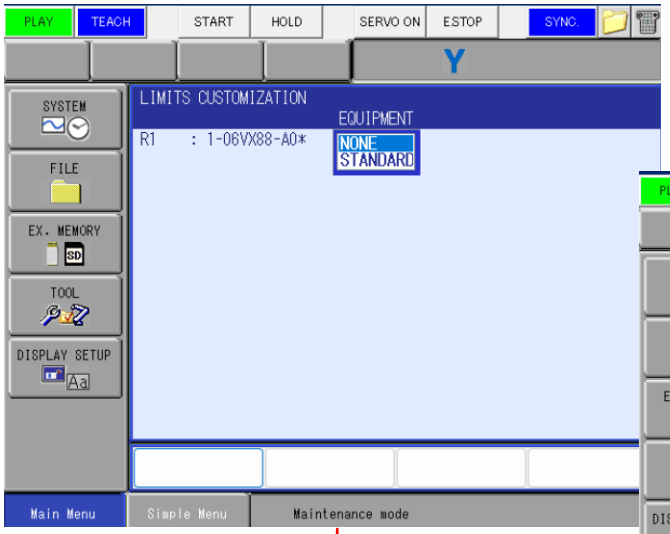
Limits Customization

For most of the Welding or Spot robot models, the reach can be adjusted by navigating to the CONTROLLER tab **/** MAINTENANCE MODE **/** SETUP **/** OPTION FUNCTION **/** LIMITS CUSTOMIZATION. See the MotoSim Manual, section 13.7.1 for more information.

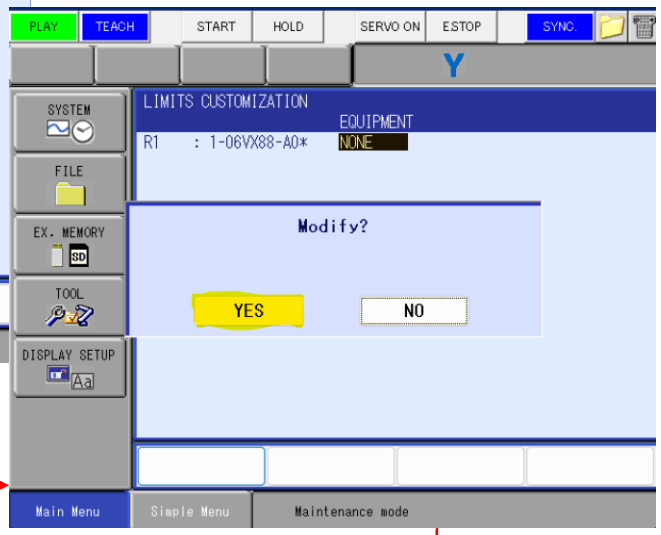


This document captures ideas, experiences, and informal recommendations from the Yaskawa Partner Support team. It is meant to augment – not supersede manuals or documentation from motoman.com. Please contact the Partner Support team at partnersupport@motoman.com for updates or clarification.

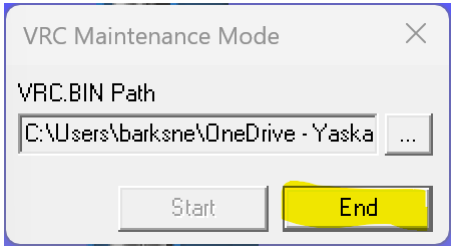
CHANGE TO STANDARD



MODIFY CHANGES



END TO RETURN TO NORMAL MODE



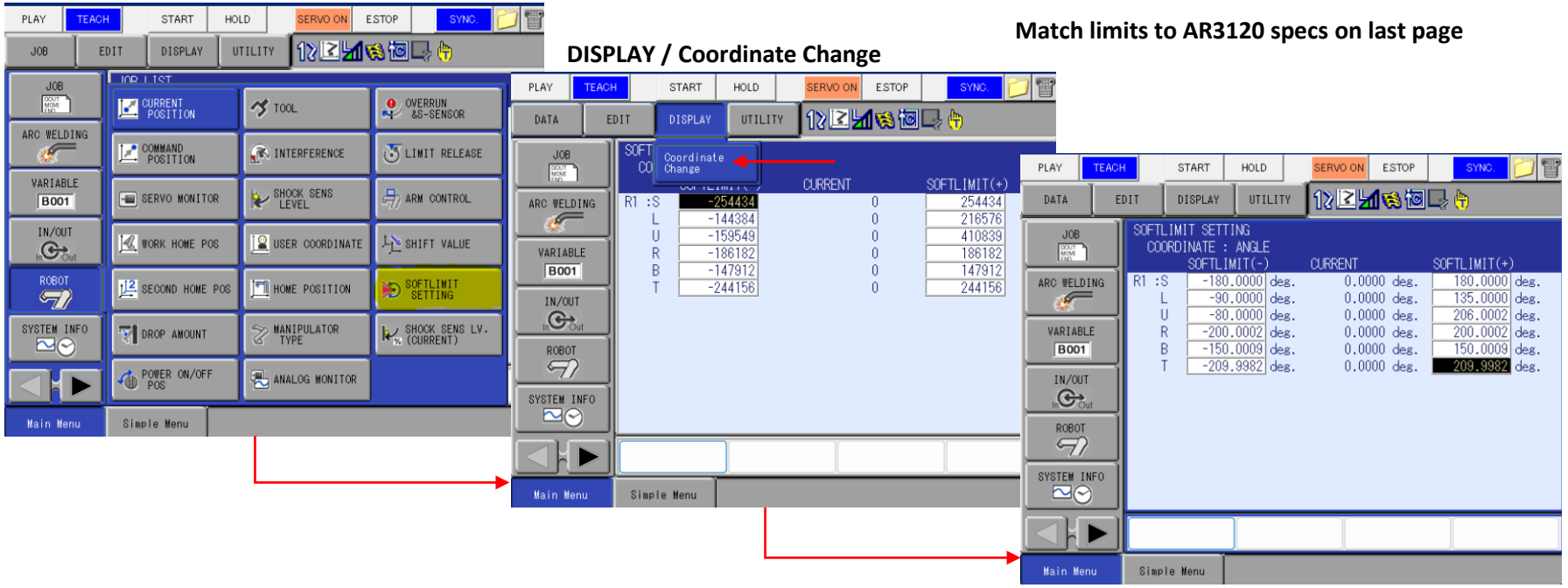
This document captures ideas, experiences, and informal recommendations from the Yaskawa Partner Support team. It is meant to augment – not supersede manuals or documentation from motoman.com. Please contact the Partner Support team at partnersupport@motoman.com for updates or clarification.

Soft Limits

One of the Weld Robots, the AR3120, is strictly a US model and does not have an alternative Limits Customization to choose from. For this model, use the Soft Limits option as seen below.

Select the ROBOT menu **/** SOFTLIMIT SETTINGS **/** DISPLAY **/** Coordinate Change…change ± axis limits that match the AR3120 specs.

ROBOT / SOFTLIMIT SETTING



YASKAWA
PARTNER SUPPORT
Shared Integration Experience

This document captures ideas, experiences, and informal recommendations from the Yaskawa Partner Support team. It is meant to augment – not supersede manuals or documentation from motoman.com. Please contact the Partner Support team at partnersupport@motoman.com for updates or clarification.

Robot Models Affected

AR1440

Axes	Maximum motion range
	degrees
S	±170
L	+155/-90
U	+140/-85
R	±150
B	+90/-135
T	±210

AR1730

Axes	Maximum motion range
	degrees
S	±180
L	+155/-105
U	+160/-86
R	±150
B	+90/-135
T	±210

AR2010

Axes	Maximum motion range
	degrees
S	±180
L	+155/-105
U	+160/-86
R	±150
B	+90/-135
T	±210

AR3120

Axes	Maximum motion range
	degrees
S	±180
L	+135/-90
U	+206/-80
R	±200
B	+150
T	±210

SP80

Axes	Maximum motion range
	degrees
S	±180
L	+155/-90
U	+90/-80
R	±205*
B	±120*
T	±180*

SP150R

Axes	Maximum motion range
	degrees
S	±180
L	+80/-130
U	+78/-79.4
R	±205*
B	±120*
T	±180*

SP165

Axes	Maximum motion range
	degrees
S	±180
L	+76/-60
U	+90/-86
R	±210*
B	±125*
T	±210*

SP165-105

Axes	Maximum motion range
	degrees
S	±180
L	+76/-60
U	+90/-86
R	±210*
B	±125*
T	±210*

SP185R

Axes	Maximum motion range
	degrees
S	±180
L	+80/-130
U	+78/-78.4
R	±205*
B	±120*
T	±180*

SP210

Axes	Maximum motion range
	degrees
S	±180
L	+76/-60
U	+90/-86
R	±210*
B	±125*
T	±210*

SP235

Axes	Maximum motion range
	degrees
S	±180
L	+76/-60
U	+197/-77.8
R	±205*
B	±120*
T	±180*