3.18. S

3.18.1. SCIO Alarm Code

SCIO-003 WARN Cannot teach any more.

Cause: You cannot add the instruction to the same line. The size of mnemonic code exceeds maximum size of one line data.

Remedy: Please reduce the instruction like a parameter string.

SCIO-016 WARN Prog uses un-installed option.

Cause: The TPP program being loaded uses an option which is not installed on the controller where the program is being loaded (target controller).

Remedy: Determine what options are installed on the controller on which the program was saved (source cpntroller) and are not installed on the target controller Then, on the source controller, check which of these is used in the program. Assuming the option(s) are authorized for the target controller, install the necessary options. If some of these options are not authorized, it ay be necessary to remove uses of the unauthorized option uses and re-save the program on the source controller.

SCIO-020 WARN LBL[%d] exists in line %d:

Cause: This label number exists in another line.

Remedy: Select another label number.

SCIO-030 WARN JOINT motion in slave program

Cause: Robot Link slave program and slave alone program can not use JOINT motion statement.

Remedy: Record this line as LINER or CIRCULAR motion statement

SCIO-031 WARN JOINT position in slave program

Cause: Robot Link slave program and slave alone program can not use JOINT position representation.

Remedy: Record this line as CARTESIAN position representation

SCIO-032 WARN Master UT mismatch

Cause: Current Tool frame number of Master robot is different from Master Tool Number specified in Program detail menu.

Remedy: Change Tool frame number of Master Robot or change master tool number in Program detail menu.

SCIO-033 WARN Slave can have ony one motion line

Cause: Robot link Slave program can have only one motion line.

Remedy: Please teach only one line in slave program.

3.18.2. SEAL Alarm Code

SEAL-000 ABORT Dispensetool internal error

Cause: This error is caused when Dispensetool encounters a problem it is unable to solve internally. This fault is almost always caused by style paths which do things which were not anticipated when this software was written. The reasons for this could be: 1. The sealing path is too fast 2. The sealing instructions (SS and SE) are too close together 3. The delay and timing values specified in your sealing schedules are too large or do not make sense. 4. Your robot's CPU has failed

Remedy: Write down the exact error number and message shown. Write down exactly what your robot was doing at the time of the failure. Make sure you include: Program name, line number, robot's location in the work cell, any cell I/O or other communciation activity, and exactly what the robot was doing right before the fault occured. This fault is usually fixed by doing a COLD start. If that does not work, contact your supervisor or call the FANUC robotics Hot Line.

SEAL-001 WARN %s

Cause: This error is caused when Dispensetool encounters a problem it is unable to solve internally. This fault is almost always caused by style paths which do things which were not anticipated when this software was written. The reasons for this could be: 1. The sealing path is too fast 2. The sealing instructions (SS and SE) are too close together 3. The delay and timing values specified in your sealing schedules are too large or do not make sense. 4. Your robot's CPU has failed

Remedy: Write down the exact error number and message shown. Write down exactly what your robot was doing at the time of the failure. Make sure you include: Program name, line number, robot's location in the work cell, any cell I/O or other communciation activity, and exactly what the robot was doing right before the fault occured. This fault is usually fixed by doing a COLD start. If that does not work, contact your supervisor or call the FANUC robotics Hot Line.

SEAL-002 STOP Flow rate update failed

Cause: This error is caused when Dispensetool encounters a problem it is unable to solve internally. This fault is almost always caused by style paths which do things which were not anticipated when this software was written. The reasons for this could be: 1. The sealing path is too fast 2. The sealing instructions (SS and SE) are too close together 3. The delay and

timing values specified in your sealing schedules are too large or do not make sense. 4. Your robot's CPU has failed

Remedy: Write down the exact error number and message shown. Write down exactly what your robot was doing at the time of the failure. Make sure you include: Program name, line number, robot's location in the work cell, any cell I/O or other communciation activity, and exactly what the robot was doing right before the fault occured. This fault is usually fixed by doing a COLD start. If that does not work, contact your supervisor or call the FANUC robotics Hot Line.

SEAL-003 STOP Digital I/O update failed

Cause: This error is caused when Dispensetool encounters a problem it is unable to solve internally. This fault is almost always caused by style paths which do things which were not anticipated when this software was written. The reasons for this could be: 1. The sealing path is too fast 2. The sealing instructions (SS and SE) are too close together 3. The delay and timing values specified in your sealing schedules are too large or do not make sense. 4. Your robot's CPU has failed

Remedy: Write down the exact error number and message shown. Write down exactly what your robot was doing at the time of the failure. Make sure you include: Program name, line number, robot's location in the work cell, any cell I/O or other communciation activity, and exactly what the robot was doing right before the fault occured. This fault is usually fixed by doing a COLD start. If that does not work, contact your supervisor or call the FANUC robotics Hot Line.

SEAL-004 WARN Dispensetool error at %d

Cause: This error is caused when Dispensetool encounters a problem it is unable to solve internally. This fault is almost always caused by style paths which do things which were not anticipated when this software was written. The reasons for this could be: 1. The sealing path is too fast 2. The sealing instructions (SS and SE) are too close together 3. The delay and timing values specified in your sealing schedules are too large or do not make sense. 4. Your robot's CPU has failed

Remedy: Write down the exact error number and message shown. Write down exactly what your robot was doing at the time of the failure. Make sure you include: Program name, line number, robot's location in the work cell, any cell I/O or other communciation activity, and exactly what the robot was doing right before the fault occured. This fault is usually fixed by doing a COLD start. If that does not work, contact your supervisor or call the FANUC robotics Hot Line.

SEAL-005 WARN Dispensetool error at %s

Cause: This error is caused when Dispensetool encounters a problem it is unable to solve internally. This fault is almost always caused by style paths which do things which were not anticipated when this software was written. The reasons for this could be: 1. The sealing path is too fast 2. The sealing instructions (SS and SE) are too close together 3. The delay and timing values specified in your sealing schedules are too large or do not make sense. 4. Your robot's CPU has failed

Remedy: Write down the exact error number and message shown. Write down exactly what your robot was doing at the time of the failure. Make sure you include: Program name, line number, robot's location in the work cell, any cell I/O or other communciation activity, and exactly what the robot was doing right before the fault occured. This fault is usually fixed by doing a COLD start. If that does not work, contact your supervisor or call the FANUC robotics Hot Line.

SEAL-006 STOP Memory request failed

Cause: This error is caused when Dispensetool encounters a problem it is unable to solve internally. This fault is almost always caused by style paths which do things which were not anticipated when this software was written. The reasons for this could be: 1. The sealing path is too fast 2. The sealing instructions (SS and SE) are too close together 3. The delay and timing values specified in your sealing schedules are too large or do not make sense. 4. Your robot's CPU has failed

Remedy: Write down the exact error number and message shown. Write down exactly what your robot was doing at the time of the failure. Make sure you include: Program name, line number, robot's location in the work cell, any cell I/O or other communciation activity, and exactly what the robot was doing right before the fault occured. This fault is usually fixed by doing a COLD start. If that does not work, contact your supervisor or call the FANUC robotics Hot Line.

SEAL-007 STOP Condition handler failed

Cause: This error is caused when Dispensetool encounters a problem it is unable to solve internally. This fault is almost always caused by style paths which do things which were not anticipated when this software was written. The reasons for this could be: 1. The sealing path is too fast 2. The sealing instructions (SS and SE) are too close together 3. The delay and timing values specified in your sealing schedules are too large or do not make sense. 4. Your robot's CPU has failed

Remedy: Write down the exact error number and message shown. Write down exactly what your robot was doing at the time of the failure. Make sure you include: Program name, line number, robot's location in the work cell, any cell I/O or other communciation activity, and exactly what the robot was doing right before the fault occured. This fault is usually fixed by doing a COLD start. If that does not work, contact your supervisor or call the FANUC robotics Hot Line.

SEAL-008 STOP System call failed

Cause: This error is caused when Dispensetool encounters a problem it is unable to solve internally. This fault is almost always caused by style paths which do things which were not anticipated when this software was written. The reasons for this could be: 1. The sealing path is too fast 2. The sealing instructions (SS and SE) are too close together 3. The delay and timing values specified in your sealing schedules are too large or do not make sense. 4. Your robot's CPU has failed

Remedy: Write down the exact error number and message shown. Write down exactly what your robot was doing at the time of the failure. Make sure you include: Program name, line

number, robot's location in the work cell, any cell I/O or other communciation activity, and exactly what the robot was doing right before the fault occured. This fault is usually fixed by doing a COLD start. If that does not work, contact your supervisor or call the FANUC robotics Hot Line.

SEAL-009 WARN Data missing: %s

Cause: This error is caused when Dispensetool encounters a problem it is unable to solve internally. This fault is almost always caused by style paths which do things which were not anticipated when this software was written. The reasons for this could be: 1. The sealing path is too fast 2. The sealing instructions (SS and SE) are too close together 3. The delay and timing values specified in your sealing schedules are too large or do not make sense. 4. Your robot's CPU has failed

Remedy: Write down the exact error number and message shown. Write down exactly what your robot was doing at the time of the failure. Make sure you include: Program name, line number, robot's location in the work cell, any cell I/O or other communciation activity, and exactly what the robot was doing right before the fault occured. This fault is usually fixed by doing a COLD start. If that does not work, contact your supervisor or call the FANUC robotics Hot Line.

SEAL-021 WARN Gun on/off too late: Sch %d

Cause: In the Schedule number listed, the Gun On signal has been set up to turn on or off too long after the node the SS[] or SE is attached to. Currently, if this signal is set up to turn on or off greater than 100ms after the node, this warning will be posted and the signal will fore 100ms after the node. These are the formulas used to determine when the gun will be turned on or off relative to the node for seal schedule 'n': For SS[n]: Time_Before = EQUIPMENT_DELAY - GUNON_DELAY For SE: Time_Before = EQUIPMENT_DELAY - GUNOFF_DELAY Note that a NEGATIVE Time_Before means AFTER the node.

Remedy: There is no real danger in this condition. You should be aware that if you try to turn the gun on or off after 100ms AFTER the node, the signal will always be fired 100ms after the node and this warning will be posted. To correct this problem, make the equipment_delay more positive or the gunon/gunoff delay more negative, to move the firing of the signal up earlier.

SEAL-022 WARN Meter on too late: Sch %d

Cause: In the Schedule number listed, the Start Meter signal has been set up to turn on or off too long after the node the SS[] or SE is attached to. Currently, if this signal is set up to turn on or off greater than 100ms after the node, this warning will be posted and the signal will fire 100ms after the node. These are the formulas used to determine when this signal will be turned on or off relative to the node for seal schedule 'n': For SS[n]: Time_Before = PRE_PRESSURE_DELAY + EQUIPMENT_DELAY - GUNON_DELAY For SE[n]: Time_Before = DE_PRESSURE_DELAY + EQUIPMENT_DELAY - GUNOFF_DELAY Note that a NEGATIVE Time_Before means AFTER the node.

Remedy: There is no real danger in this condition. You should be aware that if you try to turn this signal on or off after 100ms AFTER the node, the signal will always be fired 100ms after

the node and this warning will be posted. To correct this problem, make the pre/de_pressure_delay or equipment_delay more positive or the gunon/gunoff delay more negative, to move the firing of the signal up earlier.

SEAL-023 WARN Air on/off too late: Sch %d

Cause: In the Schedule number listed, the Atomizing Air signal has been set up to turn on or off too long after the node the SS[] or SE is attached to. Currently, if this signal is set up to turn on or off greater than 100ms after the node, this warning will be posted and the signal will fire 100ms after the node. These are the formulas used to determine when this signal will be turned on or off relative to the node for seal schedule 'n': For SS[n]: Time_Before = ATOMIZING_ON_DELAY + EQUIPMENT_DELAY - GUNON_DELAY For SE[n]: Time_Before = ATOMIZING_OFF_DELAY + EQUIPMENT_DELAY - GUNOFF_DELAY Note that a NEGATIVE Time_Before means AFTER the node.

Remedy: There is no real danger in this condition. You should be aware that if you try to turn this signal on or off after 100ms AFTER the node, the signal will always be fired 100ms after the node and this warning will be posted. To correct this problem, make the atomizing_on/off/_delay or equipment_delay more positive or the gunon/gunoff delay more negative, to move the firing of the signal up earlier.

SEAL-024 WARN Error in motion triggering

Cause: The high performance I/O triggering system (Motion Trigger) has returned a bad status. When this occurs, the redundant triggering system will take over, but the quality of the SSs and SEs will be poor. This condition is usually caused by one or more of the following: 1. A Gun On output is assigned to a output point which is nonzero and does not exist. 2. A Start Meter output is assigned to a output point which is nonzero and does not exist. 3. A Atomizing Air output is assigned to a output point which is nonzero and does not exist. 4. There is a problem with the software setup of the I/O system. 5. There is a problem with the hardware setup of the I/O system.

Remedy: Go to the Equipment Output menu and verify that all the Gun on, Start Meter, and Atomizing Air outputs are correctly defined or their indexes are set to zero. If the VALUE of a output port is '****', then the index number must be set to zero and the robot must be cold started. You must cold start the robot after changing anything on this menu.

SEAL-031 WARN %s

Cause: Site-specific alarm caused by changes made for customer

Remedy: Please consult FANUC regarding specific changes made for your site.

SEAL-032 WARN %s

Cause: Site-specific alarm caused by changes made for customer

Remedy: Please consult FANUC regarding specific changes made for your site.

SEAL-033 WARN %s

Cause: Site-specific alarm caused by changes made for customer

Remedy: Please consult FANUC regarding specific changes made for your site.

SEAL-034 WARN %s

Cause: Site-specific alarm caused by changes made for customer

Remedy: Please consult FANUC regarding specific changes made for your site.

SEAL-035 WARN %s

Cause: Site-specific alarm caused by changes made for customer

Remedy: Please consult FANUC regarding specific changes made for your site.

SEAL-036 WARN %s

Cause: Site-specific alarm caused by changes made for customer

Remedy: Please consult FANUC regarding specific changes made for your site.

SEAL-037 WARN %s

Cause: Site-specific alarm caused by changes made for customer

Remedy: Please consult FANUC regarding specific changes made for your site.

SEAL-038 WARN %s

Cause: Site-specific alarm caused by changes made for customer

Remedy: Please consult FANUC regarding specific changes made for your site.

SEAL-039 WARN %s

Cause: Site-specific alarm caused by changes made for customer

Remedy: Please consult FANUC regarding specific changes made for your site.

SEAL-040 WARN %s

Cause: Site-specific alarm caused by changes made for customer

Remedy: Please consult FANUC regarding specific changes made for your site.

SEAL-041 STOP Seal not ready

Cause: The system ready signal(DI) turns off when the sealant is dispensed.

Remedy: Check the system ready signal of the sealing equipment or disable the system ready signal.

SEAL-042 ABORT Part ID mismatch detected

Cause: Transmitted and received part IDs to dispensing equipments do not match.

Remedy: Check wiring of group I/O line for part ID and part ID acknowledge signals. Check dispensing equipment for proper operation.

SEAL-043 STOP High pressure

Cause: The pressure signal is above its upper limit for set time when the sealant is dispensed.

Remedy: Check the pressure signal of the sealing equipment, disable to check the high pressure signal, or set the time high pressure timeout to a larger value.

SEAL-044 STOP Low pressure (E%d)

Cause: The pressure signal is below its lower limit for set time when the sealant is dispensed.

Remedy: Check the pressure signal of the sealing equipment, disable to check the low pressure signal, or set the time low pressure timeout to a larger value.

SEAL-045 STOP High pressure (E%d)

Cause: The pressure signal is above its upper limit for set time when the sealant is dispensed.

Remedy: Check the pressure signal of the sealing equipment, disable to check the high pressure signal, or set the time high pressure timeout to a larger value.

SEAL-046 STOP Seal not start

Cause: The gun full open signal(DI) has been on for the set time since sealing start.

Remedy: Check the gun full open signal of the sealing equipment, disable the check for this feature, or set the timeout for a longer period.

SEAL-047 STOP Seal interrupt

Cause: The gun full open signal(DI) has been on for the set time since sealing start.

Remedy: Check the gun full open signal of the sealing equipment, disable the check for this feature, or set the timeout for a longer period.

SEAL-048 ABORT Dispenser mode mismatch (E%d)

Cause: Dispenser switch position does not match equipment set up

Remedy: Check key switch on the dispensing equipment and equipment setup

SEAL-049 WARN Calibrations not complete (E%d)

Cause: One or more calibration procedures are not complete

Remedy: Visit equipment SETUP menu and complete all calibration procedures

SEAL-050 WARN Shot meter not full (E%d)

Cause: The dispenser should be full at this point, and is not.

Remedy: Check that the dispenser is full for this operation.

SEAL-051 WARN Both Drums are empty (E%d)

Cause: Both drums are empty

Remedy: Check sealant supply drums to be sure they are properly filled

SEAL-052 ABORT Same fault posted repeatedly (E%d)

Cause: Same fault occurs repeatedly

Remedy: Check dispensing equipment and clear the reported fault

SEAL-053 WARN Robot is in dry run mode

Cause: Dry run parameter is ON.

Remedy: Set DRY RUN parameter to OFF and run calibration again.

SEAL-054 WARN Robot lock mode is ON

Cause: Robot lock parameter is ON.

Remedy: Set ROBOT LOCK parameter to OFF and run calibration again.

SEAL-055 ABORT Part ID out of range

Cause: The Part ID in the JOB header is out of the allowed range for this robot.

Remedy: Make sure the Part ID in the JOB header is between 0 and the maximum Part ID allowed on this equipment.

SEAL-056 WARN Dispenser not ready (E%s)

Cause: Dispenser ready input signal from dispenser is OFF.

Remedy: Check dispenser manual for further information.

SEAL-057 WARN Dispenser fault (E%s)

Cause: A fault was detected at the dispensing controller.

Remedy: Perform the standard dispenser fault recovery procedure. See the dispensing controller's manual for more information.

SEAL-058 WARN Flow rate fault (E%s)

Cause: The dispenser has detected a abnormally low or high material flow rate. This could be caused by a plugged gun.

Remedy: See the dispensing equipment manual for more information. You could try cleaning and purging the gun.

SEAL-059 WARN Not calibrated warning (E%s)

Cause: One or more calibration procedures are not complete

Remedy: Visit equipment SETUP menu and complete all calibration procedures

SEAL-060 WARN High pressure (E%d)

Cause: The high pressure signal(DI) has been on for the configured time during sealing.

Remedy: Check the sealing equipment high pressure signal, disable the check for the high pressure signal, or set the timeout value for a longer period

SEAL-061 WARN Seal not ready

Cause: The system ready signal(DI) turns off when sealant is being dispensed.

Remedy: Check the sealing equipment ready signal or disable the check of the equipment ready signal.

SEAL-062 WARN Reload fault (E%d)

Cause: There is a reload problem with the meter

Remedy: Check the shot meter

SEAL-063 WARN High pressure

Cause: The high pressure signal(DI) has been on for the configured time during sealing.

Remedy: Check the sealing equipment high pressure signal, disable the check for the high pressure signal, or set the timeout value for a longer period

SEAL-064 WARN Not at purge position

Cause: Robot is not at purge position

Remedy: Make sure the robot returns to purge position at the end of each cycle

SEAL-065 WARN Maximum purge count reached

Cause: The Auto Purge feature has determined that the robot should purge now, but the maximum number of purges it is allowed to perform in a row (as set in the equipment setup menu) has been reached.

Remedy: Increase the maximum number of purges allowed or remove the disposable mixing tip from the gun, to prepare it for long term inactivity.

SEAL-066 WARN Seal not start

Cause: The gun full open signal(DI) has been on for the set time since sealing start.

Remedy: Check the gun full open signal of the sealing equipment, disable the check for this feature, or set the timeout for a longer period.

SEAL-067 WARN Seal interrupt

Cause: Gun full open signal(DI) has been on for too long while dispensing.

Remedy: Check the gun full open signal of sealing equipment, disable the checking of this alarm, or set the timeout value to a longer time.

SEAL-068 WARN Flow command excessive%s

Cause: Flow command output voltage is larger than the maximum output.

Remedy: Decrease the motion speed or increase the maximum output.

SEAL-069 WARN Dispenser malfunction (E%d)

Cause: The dispensing equipment controller has detected a fault in its hardware.

Remedy: Perform maintenance and debug procedures as described in the dispensing equipment manual.

SEAL-070 WARN Gun malfunction (E%d)

Cause: A dispensing gun malfunction has been detected by the dispensing controller.

Remedy: Perform dispensing gun maintenance and debug procedures.

SEAL-071 WARN Gun full open too long (E%d)

Cause: A low pressure condition has been detected by the dispensing controller

Remedy: Check the pressure sensors at all points in the system. Perform standard system debug and maintenance procedures.

SEAL-072 WARN High nozzle pressure (E%d)

Cause: A high pressure condition has been detected in the dispensing gun nozzle. In specific, nozzle pressure signal is greater than (NOZZLE SENSOR RATING/100) * 5 volts for over one second.

Remedy: Reduce system pressure if it is permissible. Select a nozzle pressure transducer with a wider operating range.

SEAL-073 WARN High dispensed volume (E%d)

Cause: The volume of material dispensed on the previous job was above the preset limit.

Remedy: Verify that the volume limits are correct for the specified job.

SEAL-074 WARN Low dispensed volume (E%d)

Cause: The volume of material dispensed on the previous job was below the preset limit

Remedy: Verify that the volume limits are correct for the specified job.

SEAL-075 WARN Flow meter fault (E%d)

Cause: A error was detected in the flow meter readings.

Remedy: Verify that the flowmeter is operating correctly.

SEAL-076 WARN Bead defect detected (E%d)

Cause: An incorrect bead condition was detected.

Remedy: Perform dispensing gun maintenance procedures.

SEAL-077 WARN Sealer equipment fault (E%d)

Cause: An unknown error code was received from the dispensing controller.

Remedy: Check the dispensing controller for an error condition. Also check the

communication link between the dispensing controller and robot controller.

SEAL-078 WARN Dispenser comm fault (E%d)

Cause: An error was encountered reading fault data from the dispenser

Remedy: Check the communications link between the dispenser and robot

SEAL-079 WARN Dispenser E-stop (E%d)

Cause: An Emergency Stop condition was detected at the dispensing controller

Remedy: Clear the fault and perform the proper Emergency Stop recovery procedure.

SEAL-080 WARN Dispenser fault (E%d)

Cause: A fault was detected at the dispensing controller.

Remedy: Perform the standard dispenser fault recovery procedure. See the dispensing controller's manual for more information.

SEAL-081 WARN Volume comp at maximum (E%d)

Cause: Interim value for volume has exceeded maximum interim limit.

Remedy: Re-learn part or increase maximum limit.

SEAL-082 WARN Drum A empty (E%d)

Cause: The first of the two drums is empty

Remedy: This is a warning to the operator that the drum might need service

SEAL-083 WARN Drum B empty (E%d)

Cause: The second of the two drums is empty.

Remedy: This is a warning to the operator that the drum might need service.

SEAL-084 WARN Reload timed out (E%d)

Cause: Reload of shot meter took longer than the specified time.

Remedy: Check your dispensing equipment for faults, to make sure time out is long enough.

SEAL-085 WARN Calibration aborted

Cause: Calibration aborted due to user request or possible fault.

Remedy: If unknown cause -- see next most recent alarm for help.

SEAL-086 WARN Volume strobe timeout (E%d)

Cause: Volume present signal not received from Pro-Flo unit.

Remedy: Run calibration again - check Pro-Flo unit for malfunction.

SEAL-087 WARN Volume above limit (E%d)

Cause: The volume of material dispensed on the previous job was above the preset limit.

Remedy: Verify that the volume limits are correct for the specified job.

SEAL-088 WARN Material cal timeout (E%d)

Cause: Material cal complete signal not received from Pro-Flo unit.

Remedy: Check Pro-Flo for malfunction or increase dispense time.

SEAL-089 WARN Volume below limit (E%d)

Cause: The volume of material dispensed on the previous job was below the preset limit

Remedy: Verify that the volume limits are correct for the specified job.

SEAL-090 WARN Nozzle over pressure (E%d)

Cause: The problem is either the nozzle pressure is greater than setpoint for more than time limit or the upstream hose is ruptured and is leaking material.

Remedy: Use on-board diagnostics on the dispensing controller to verify that the nozzle pressure sensor is in order, replace sensor as required. Check for clog in gun or nozzle tip. If the problem is ruptured hose, replace hose

SEAL-091 WARN Matl weight input = 0 (E%d)

Cause: User input was zero for material weight.

Remedy: Run calibration again - do not enter zero for material weight.

SEAL-092 WARN Specific gravity = 0 (E%d)

Cause: User input was zero for specific gravity.

Remedy: Assign a nonzero value for specific gravity. Run cal again. -

SEAL-093 WARN Volume read is zero (E%d)

Cause: Zero volume was detected from Pro-Flo analog signals.

Remedy: Check Pro-Flo for malfunction.

SEAL-094 WARN Dispense time is zero (E%d)

Cause: User input was zero for dispense time.

Remedy: Assign a nonzero value for dispense time. Run cal again. -

SEAL-095 WARN Nozzle under pressure (E%d)

Cause: Nozzle pressure has dropped below setpoint value for more than time limit.

Remedy: Use on-board diagnostics on the dispenser controller to verify that the nozzle pressure sensor is in order, replace sensor as required.

SEAL-096 WARN Matl press entered=0 (E%d)

Cause: User input was zero for material pressure.

Remedy: Check why material pressure is zero during calibration.

SEAL-097 WARN Pressure read is zero (E%d)

Cause: No change in analog signal from pressure transducer.

Remedy: Check pressure transducer and ensure varying pressures during calibration.

SEAL-098 WARN Upstream over pressure (E%d)

Cause: Upstream pressure is greater than setpoint for more than time limit.

Remedy: Use on-board diagnostics on the dispenser controller to verify that the upstream pressure sensor is in order, replace sensor as required. Check for clog in gun or nozzle tip

SEAL-099 WARN Air pressure entered=0 (E%d)

Cause: User input was zero for air pressure.

Remedy: Check why air pressure is zero during calibration.

SEAL-100 WARN NO scale factor/bias (E%d)

Cause: The Scale factor or bias is zero

Remedy: Perform the calibration procedures

SEAL-101 WARN Volume strobe timeout (E%d)

Cause: The volume timer expired

Remedy: Check dispensing equipment for faults, or give the time out variable more time

SEAL-102 WARN Press calib incomplete (E%d)

Cause: Pressure calibration has not been completed.

Remedy: Perform pressure calibration before running this calibration.

SEAL-103 WARN Dispenser not in AUTO (E%d)

Cause: Dispenser Auto Mode signal to the robot has dropped.

Remedy: Make sure dispenser mode selection is set to AUTO or MANUAL as needed

SEAL-104 WARN Analog cal incomplete (E%d)

Cause: Analog voltage calibration has not been completed.

Remedy: Perform analog calibration before running this calibration.

SEAL-105 STOP Dispenser not ON (E%d)

Cause: The Dispenser On signal (from the dispenser to the robot) has dropped.

Remedy: Turn on the dispenser.

SEAL-106 WARN Upstream under press (E%d)

Cause: Upstream pressure has dropped below setpoint value for more than time limit.

Remedy: Use on-board diagnostics on the dispenser controller to verify that the upstream pressure sensor is in order, replace sensor as required.

SEAL-107 WARN Matl calib incomplete (E%d)

Cause: Material learn calibration has not been completed.

Remedy: Perform material calibration before running this calibration.

SEAL-108 WARN Material timeout = 0 (E%d)

Cause: Material learn timeout value is zero

Remedy: Set timeout to nonzero value before running this calibration.

SEAL-109 WARN Low press>=high press (E%d)

Cause: Low pressure atomizing air input was greater or equal to high pressure

Remedy: Check atomizing air equipment

SEAL-110 STOP System/drive not ready (E%d)

Cause: System and Drive Ready signal (from the dispenser to the robot) has dropped.

Remedy: Perform standard dispenser maintenance procedures.

SEAL-111 WARN Negative volume read (E%d)

Cause: Volume read was negative.

Remedy: Check dispensing equipment and run calibration again.

SEAL-112 WARN Vol sig cal incomplete (E%d)

Cause: Volume signal calibration has not been completed.

Remedy: Perform volume signal calibration.

SEAL-113 WARN I/O config incomplete (E%d)

Cause: At least one I/O signal assignment is zero.

Remedy: Set proper I/O ports for all necessary dispenser I/O.

SEAL-114 WARN Dispenser not ready (E%d)

Cause: Dispenser ready input signal from dispenser is OFF.

Remedy: Check dispenser manual for further information.

SEAL-115 WARN No material flow (E%d)

Cause: The dispenser has detected a abnormally low or high material flow rate. This could be caused by a plugged gun.

Remedy: See the dispensing equipment manual for more information. You could try cleaning and purging the gun.

SEAL-116 WARN Flow command too low

Cause: Flow command output voltage is lower than the minimum output.

Remedy: Increase the motion speed or decrease the minimum output.

SEAL-117 WARN System/drive not ready (E%d)

Cause: System and Drive Ready signal (from the dispenser to the robot) has dropped.

Remedy: Perform standard dispenser maintenance procedures.

SEAL-118 WARN Dispenser not in AUTO (E%d)

Cause: Dispenser Auto Mode signal to the robot has dropped.

Remedy: Make sure dispenser mode selection is set to AUTO or MANUAL as needed

SEAL-119 WARN Low pressure (E%d)

Cause: A low pressure warning has been detected by the dispensing controller

Remedy: Check system pressure. Check the pressure sensors in the system. Perform standard system debug and maintenance procedures.

SEAL-120 WARN Dispenser not ON (E%d)

Cause: The Dispenser On signal (from the dispenser to the robot) has dropped.

Remedy: Turn on the dispenser.

SEAL-121 STOP Dispense signal fault (E%d)

Cause: The Dispensing signal (from the dispenser to the robot) should be high during dispensing, but it is not.

Remedy: Perform dispenser maintenance procedures to determine why dispensing is not occurring as it should. Also verify that the dispensing schedule data is correct, and that the dispenser I/O to/from the robot has been mapped correctly.

SEAL-122 ABORT Sealing task already active

Cause: You tried to run a JOB or PROC TPP while another JOB or PROC TPP is already running in another task.

Remedy: Only one sealing task may be running at any time. This means that only one JOB or PROC may be running at any time. You must abort the JOB or PROC which is already running before starting a new one.

SEAL-123 ABORT Job aborted

Cause: The current Job has been aborted due to a fatal error.

Remedy: Correct the cause of this error, which is usually posted immediately after this one.

SEAL-124 ABORT Critical IO is invalid

Cause: This error is usually caused by an IO point which is required by Dispensetool being set to an invalid index number or type.

Remedy: Make sure that all inputs and outputs on the Dispenser IO screen are set to valid IO points (the VALUE is not shown as *****) or the index number has been is set to 0. Cold start the robot controller after making any changes to this screen.

SEAL-129 ABORT Index incorrect

Cause: The index value of seal start instruction is invalid.

Remedy: Check the index value of this SS instruction.

SEAL-131 ABORT SS/SE timing invalid

Cause: This error is caused by timing problems with Sealing commands (SS or SE). Timing problems could occur if the robot does not have enough time to plan for a sealing instruction before the robot passes that point in the path. For example: If the user is using a sealing schedule with a gunon delay of 1000ms and a gunoff delay of -1000ms and the robot executes the seam in 1500ms, the Dispensetool will detect the logic problem and post this fault. A path which has many sealing instructions very close to each other (closer than 30mm at 500mm/sec) is likely to have this problem.

Remedy: Make sure there is adequate time for each SS and SE to execute. You may do this by making sure you have only the minimum number of points in your path that you require. Dispensetool works best with as few points as possible. Also, make sure none of your schedules have gunon, gunoff, or equipment delays beyond that which is needed (usually between -100ms and +100ms is adequate). NOTE: Whenever a SEAL-131 occurs, the robot MUST be cold started to recover.

SEAL-132 WARN Seam segment too short

Cause: There was not enough time between a SS and the next SS or SE for the flow rate computations to be done.

Remedy: Step through your sealing PROCess program, making sure there is at least a centimeter between the points attached to each sealing instruction. Increase the distance between sealing instructions, delete one of the sealing instructions, or slow the robot down.

SEAL-144 WARN Joint motion

Cause: Robot moved with joint motion during sealing.

Remedy: Change motion type from joint to linear or circular.

SEAL-147 ABORT Equipment does not exist

Cause: This equipment is not exist.

Remedy: Check the equipment number in the program detail display.

SEAL-148 ABORT No SE Instruction

Cause: SE instruction is not exist.

Remedy: Add an SE instruction.

SEAL-149 ABORT No equipment number set

Cause: Equipment is not set on this program.

Remedy: Set the equipment number in the program detail display.

SEAL-150 ABORT Equipment is already busy

Cause: Other program is using this equipment now.

Remedy: Change the equipment number or check interlock of each program.

SEAL-151 ABORT TPP not created correctly

Cause: The teach pendant program is not created properly

Remedy: Check program header if the teach pendant program is either a JOB or a PROCESS type to ensure application data header is created correctly

SEAL-152 WARN I/O not correctly assigned

Cause: The index value or type of this I/O port is incorrectly assigned.

Remedy: If you wish to use this I/O port, set the port index and I/O type to the correct values. Verify that a valid value is shown on the I/O menu for this I/O port instead of If you do not wish to use this I/O point, set the index number to zero.

SEAL-153 WARN Program is running

Cause: You can not set volume set point while a program is running

Remedy: Volume set points must be established after program execution

SEAL-155 WARN No SS Instruction before SE

Cause: There is no SS instruction before SE.

Remedy: Check SS instruction on this program.

SEAL-156 WARN MOV_ TPP execution failure

Cause: Unsuccessful execution of a MOV_ type program.

Remedy: Ensure MOV_ program is executable. Reset holds and emergency stops.

SEAL-157 WARN Seal schedule data is zero

Cause: Desired volume or bead width for first sealing schedule was zero.

Remedy: Enter a valid setting for desired volume or bead width.

SEAL-159 WARN UTOOL #1 is not taught

Cause: Current utool is zero - has not been taught.

Remedy: Teach utool before running this calibration.

SEAL-160 WARN REFPOS is not taught

Cause: Current REFPOS has not been taught - is zero.

Remedy: Teach REFPOS before running OFFSET calibration.

SEAL-161 WARN OFFSET out of range

Cause: Difference between REFPOS and OFFSET positions was too large.

Remedy: Check for damaged tool, change tip and run calibration again.

SEAL-162 WARN OFFSET config mismatch

Cause: Difference exists between REFPOS and OFFSET position configurations.

Remedy: Run calibration again while maintaining REFPOS configuration

SEAL-163 WARN File is not closed

Cause: File to be executed is not closed.

Remedy: Perform cold start or temporarily SELECT a different file.

SEAL-164 WARN File does not exist

Cause: File to be executed does not exist.

Remedy: Create and teach the file.

SEAL-170 WARN Invalid tool position

Cause: Commanded tool position is not valid

Remedy: Check supply air to the tool Check proximity sensors on the tool

SEAL-171 WARN Gripper not opened (GP%s)

Cause: All grippers are not opened

Remedy: Check to see if release mechanism is working

SEAL-172 WARN Gripper not closed (GP%s)

Cause: All grippers on this valve are not closed

Remedy: Check to see if clamping mechanism is working

SEAL-173 WARN Part not present (GP%s)

Cause: Sensors not reporting part present

Remedy: Check sensor correct operation

SEAL-174 WARN Part Present (GP%s)

Cause: Sensors reporting part present

Remedy: Check sensor correct operation

SEAL-175 WARN Un-assigned Bit mask

Cause: Variable $sltlstup[1].valve is not assigned

Remedy: Go to Tool Setup and setup gripper configuration

SEAL-177 WARN EOAT timed out: Flip

Cause: The Four Position End of Arm tool was moved, but the FLIP sensor reports that the tool is not in the correct FLIP/UNFLIP position (could be ON or OFF) after the timeout period set on the tool setup menu expired.

Remedy: Check air supply to the four position tool. Check proximity sensors on the four position tool. If the tool is slow, increase the timeout delay on the tool setup screen to allow enough time for the tool to complete motion.

SEAL-178 WARN EOAT timed out: Unflip

Cause: The Four Position End of Arm tool was moved, but the UNFLIP sensor reports that the tool is not in the correct UNFLIP/FLIP position (could be ON or OFF) after the timeout period set on the tool setup menu expired.

Remedy: Check air supply to the four position tool. Check proximity sensors on the four

position tool. If the tool is slow, increase the timeout delay on the tool setup screen to allow enough time for the tool to complete motion.

SEAL-179 WARN EOAT timed out: Extend

Cause: The Four Position End of Arm tool was moved, but the EXTEND sensor reports that the tool is not in the correct EXTEND/RETRACT position (could be ON or OFF) after the timeout period set on the tool setup menu expired.

Remedy: Check air supply to the four position tool. Check proximity sensors on the four position tool. If the tool is slow, increase the timeout delay on the tool setup screen to allow enough time for the tool to complete motion.

SEAL-180 WARN EOAT timed out: Retract

Cause: The Four Position End of Arm tool was moved, but the RETRACT sensor reports that the tool is not in the correct RETRACT/EXTEND position (could be ON or OFF) after the timeout period set on the tool setup menu expired.

Remedy: Check air supply to the four position tool. Check proximity sensors on the four position tool. If the tool is slow, increase the timeout delay on the tool setup screen to allow enough time for the tool to complete motion.

SEAL-182 WARN Invalid kinimatic solution

Cause: Current robot position invalid.

Remedy: Run calibration again.

SEAL-183 WARN Tool offset internal error

Cause: Internal tool offset calibration error.

Remedy: Contact FANUC Robotics Hotline.

SEAL-200 WARN Dispenser malfunction (E%s)

Cause: The dispensing equipment controller has detected a fault in its hardware.

Remedy: Perform maintenance and debug procedures as described in the dispensing equipment manual.

SEAL-201 WARN Gun malfunction (E%s)

Cause: A dispensing gun malfunction has been detected by the dispensing controller.

Remedy: Perform dispensing gun maintenance and debug procedures.

SEAL-202 WARN Gun full open too long (E%s)

Cause: A low pressure condition has been detected by the dispensing controller

Remedy: Check the pressure sensors at all points in the system. Perform standard system debug and maintenance procedures.

SEAL-203 WARN High nozzle pressure (E%s)

Cause: A high pressure condition has been detected in the dispensing gun nozzle. In specific, nozzle pressure signal is greater than (NOZZLE SENSOR RATING/100) * 5 volts for over one second.

Remedy: Reduce system pressure if it is permissible. Select a nozzle pressure transducer with a wider operating range.

SEAL-204 WARN High dispensed volume (E%s)

Cause: The volume of material dispensed on the previous job was above the preset limit.

Remedy: Verify that the volume limits are correct for the specified job.

SEAL-205 WARN Low dispensed volume (E%s)

Cause: The volume of material dispensed on the previous job was below the preset limit

Remedy: Verify that the volume limits are correct for the specified job.

SEAL-206 WARN Flow meter fault (E%s)

Cause: A error was detected in the flow meter readings.

Remedy: Verify that the flowmeter is operating correctly.

SEAL-207 WARN Bead defect detected (E%s)

Cause: An incorrect bead condition was detected.

Remedy: Perform dispensing gun maintenance procedures.

SEAL-208 WARN Volume comp at max (E%s)

Cause: Interim value for volume has exceeded maximum interim limit.

Remedy: Re-learn part or increase maximum limit.

SEAL-209 WARN Nozzle over pressure (E%s)

Cause: The problem is either the nozzle pressure is greater than setpoint for more than time limit or the upstream hose is ruptured and is leaking material.

Remedy: Use on-board diagnostics on the dispensing controller to verify that the nozzle pressure sensor is in order, replace sensor as required. Check for clog in gun or nozzle tip. If the problem is ruptured hose, replace hose

SEAL-210 WARN Nozzle under press (E%s)

Cause: Nozzle pressure has dropped below setpoint value for more than time limit.

Remedy: Use on-board diagnostics on the dispenser controller to verify that the nozzle pressure sensor is in order, replace sensor as required.

SEAL-211 WARN Upstream over press (E%s)

Cause: Upstream pressure is greater than setpoint for more than time limit.

Remedy: Use on-board diagnostics on the dispenser controller to verify that the upstream pressure sensor is in order, replace sensor as required. Check for clog in gun or nozzle tip

SEAL-212 WARN Upstream under press (E%s)

Cause: Upstream pressure has dropped below setpoint value for more than time limit.

Remedy: Use on-board diagnostics on the dispenser controller to verify that the upstream pressure sensor is in order, replace sensor as required.

SEAL-213 WARN Sealer equipment fault (E%s)

Cause: An unknown error code was received from the dispensing controller.

Remedy: Check the dispensing controller for an error condition. Also check the communication link between the dispensing controller and robot controller.

SEAL-214 WARN No material flow (E%s)

Cause: The dispenser has detected a abnormally low or high material flow rate. This could be caused by a plugged gun.

Remedy: See the dispensing equipment manual for more information. You could try cleaning and purging the gun.

SEAL-215 WARN Reload timed out (E%s)

Cause: Reload of shot meter took longer than the specified time.

Remedy: Check your dispensing equipment for faults, to make sure time out is long enough.

SEAL-216 WARN Reload fault occured (E%s)

Cause: There is a reload problem with the meter

Remedy: Check the shot meter

SEAL-217 WARN NO scale factor/bias (E%s)

Cause: The Scale factor or bias is zero

Remedy: Perform the calibration procedures

SEAL-218 ABORT Same fault posted (E%s)

Cause: Same fault occurs repeatedly

Remedy: Check dispensing equipment and clear the reported fault

SEAL-219 WARN Volume strobe timeout (E%s)

Cause: The volume timer expired

Remedy: Check dispensing equipment for faults, or give the time out variable more time

SEAL-220 WARN Volume out of range (E%s)

Cause: The volume dispensed in the last job was out of the normal volumetric range of material dispensed for this job. This could be caused by terminating the job early, causing much less material to be dispensed. This could also be caused by problems with the material, such as using material which has exceeded its shelf life.

Remedy: This warning is normal if it was caused by terminating a job early. If this error happens during normal production, examine the quality of the dispensed job and verify that the dispenser and material are in good condition.

SEAL-221 WARN Bubble detected (E%d)

Cause: A significant bubble was dispensed with the material during the job. This is usually caused by improper loading of new material. NOTE: This will often cause poor quality sealing. Examine the finished part for any gaps in the sealant bead.

Remedy: Make sure any new material is loaded properly into the supply pump. Make sure all excess air has been drained off before using any new material.

SEAL-222 WARN Dispenser not ON (E%s)

Cause: The Dispenser On signal (from the dispenser to the robot) has dropped.

Remedy: Turn on the dispenser.

SEAL-223 WARN Dispenser not in AUTO (E%s)

Cause: Dispenser Auto Mode signal to the robot has dropped.

Remedy: Make sure dispenser mode selection is set to AUTO or MANUAL as needed

SEAL-224 WARN System/drive not ready (E%s)

Cause: System and Drive Ready signal (from the dispenser to the robot) has dropped.

Remedy: Perform standard dispenser maintenance procedures.

SEAL-225 WARN Low pressure warning (E%s)

Cause: A low pressure warning has been detected by the dispensing controller

Remedy: Check system pressure. Check the pressure sensors in the system. Perform standard system debug and maintenance procedures.

SEAL-226 WARN High pressure warning (E%s)

Cause: The pressure signal is above its upper limit for set time when the sealant is dispensed.

Remedy: Check the pressure signal of the sealing equipment, disable to check the high pressure signal, or set the time high pressure timeout to a larger value.

SEAL-227 WARN Low pressure fault (E%s)

Cause: A low pressure warning has been detected by the dispensing controller

Remedy: Check system pressure. Check the pressure sensors in the system. Perform standard system debug and maintenance procedures.

SEAL-228 WARN High pressure fault (E%s)

Cause: The pressure signal is above its upper limit for set time when the sealant is dispensed.

Remedy: Check the pressure signal of the sealing equipment, disable to check the high pressure signal, or set the time high pressure timeout to a larger value.

SEAL-229 WARN Calibration incomplete (E%s)

Cause: One or more calibration procedures are not complete

Remedy: Visit equipment SETUP menu and complete all calibration procedures

SEAL-230 WARN High Dispensed Volume (E%d)

Cause: High Dispensed Volume.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-231 WARN Low Dispensed Volume (E%d)

Cause: Low Dispensed Volume.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-232 WARN High Material Supply Pressure (E%d)

Cause: High Material Supply Pressure.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-233 WARN Low Material Supply Pressure (E%d)

Cause: Low Material Supply Pressure.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-234 WARN No Material Supply Pressure (E%d)

Cause: No Material Supply Pressure.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-235 WARN Nozzle Clog or Down Stream Blockage (E%d)

Cause: Nozzle Clog or Down Stream Blockage.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-236 WARN Gun Cable Failure (E%d)

Cause: Gun Cable Failure.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-237 WARN Flowmeter/Booster Pump Failure (E%d)

Cause: Flowmeter/Booster Pump Failure.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-238 WARN Nozzle Pressure Transducer Failure (E%d)

Cause: Nozzle Pressure Transducer Failure.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-239 WARN Flowmeter cable Failure (E%d)

Cause: Flowmeter cable Failure.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-240 WARN Upstream Pressure Transducer Failed (E%d)

Cause: Upstream Pressure Transducer Failed.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-241 WARN Upstream Pressure Transducer Cable Failed (E%d)

Cause: Upstream Pressure Transducer Cable Failed.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-242 WARN Robot Signal Out of Sequence (E%d)

Cause: Robot Signal Out of Sequence.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-243 WARN Gun Failure (E%d)

Cause: Gun Failure.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-244 WARN Bead Defect Detected (E%d)

Cause: Bead Defect Detected.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-245 WARN Joint Motion While Dispensing

Cause: Joint motion is used between SS and SE instructions

Remedy: Use Linear or Circular motion between SS and SE instructions

SEAL-250 WARN High Dispensed Volume (E%s)

Cause: High Dispensed Volume.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-251 WARN Low Dispensed Volume (E%s)

Cause: Low Dispensed Volume.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-252 WARN High Material Supply Pressure (E%s)

Cause: High Material Supply Pressure.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-253 WARN Low Material Supply Pressure (E%s)

Cause: Low Material Supply Pressure.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-254 WARN No Material Supply Pressure (E%s)

Cause: No Material Supply Pressure.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-255 WARN Nozzle Clog or Down Stream Blockage (E%s)

Cause: Nozzle Clog or Down Stream Blockage.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-256 WARN Gun Cable Failure (E%s)

Cause: Gun Cable Failure.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-257 WARN Flowmeter/Booster Pump Failure (E%s)

Cause: Flowmeter/Booster Pump Failure.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-258 WARN Nozzle Pressure Transducer Failure (E%s)

Cause: Nozzle Pressure Transducer Failure.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-259 WARN Flowmeter cable Failure (E%s)

Cause: Flowmeter cable Failure.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-260 WARN Upstream Pressure Transducer Failed (E%s)

Cause: Upstream Pressure Transducer Failed.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-261 WARN Upstream Pressure Transducer Cable Failed (E%s)

Cause: Upstream Pressure Transducer Cable Failed.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-262 WARN Robot Signal Out of Sequence (E%s)

Cause: Robot Signal Out of Sequence.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-263 WARN Gun Failure (E%s)

Cause: Gun Failure.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-264 WARN Bead Defect Detected (E%s)

Cause: Bead Defect Detected.

Remedy: Refer to Nordson Pro-Flo II dispenser equipment user document.

SEAL-265 WARN Major Dispenser Fault on (E%s)

Cause: A Major Fault was detected on the dispensing equipment.

Remedy: Refer to dispensing equipment for fault details.

SEAL-266 WARN Minor Dispenser Fault on (E%s)

Cause: A Minor Fault was detected on the dispensing equipment.

Remedy: Refer to dispensing equipment for fault details.

SEAL-267 WARN Volume dispensed out of range (E%s)

Cause: Volume OK signal NOT received from dispensing equipment.

Remedy: Refer to dispensing equipment for fault details.

SEAL-268 WARN Flow rate is zero (E%d)

Cause: This error is reported when the process mode is wet and the computed flow rate is equal to zero.

Remedy: Refer to dispensing equipment for fault details.

SEAL-269 WARN Flow command below set point (E%d)

Cause: This error is reported when the computed flow rate command is less than the minimum flow rate specified by the user during the equipment setup.

Remedy: Refer to dispensing equipment for fault details.

SEAL-270 WARN Flow command above set point (E%d)

Cause: This error is reported when the computed flow rate command is great than the user specified (or calibrated) maximum flow rate, which is specified specified under the equipment setup.

Remedy: Refer to dispensing equipment for fault details.

SEAL-271 WARN Channel 2 analog is zero (E%d)

Cause: This error is reported when the process mode is wet and the computed Channel 2 analog command is equal to zero.

Remedy: Refer to dispensing equipment for fault details.

SEAL-272 WARN Channel 2 analog is below set point (E%d)

Cause: This error is reported when the computed Channel 2 analog command is less than the minimum Channel 2 analog output specified by the user during the equipment setup.

Remedy: Refer to dispensing equipment for fault details.

SEAL-273 WARN Channel 2 analog is above set point (E%d)

Cause: This error is reported when the computed Channel 2 analog is great than the user specified (or calibrated) maximum Channel 2 analog output, which is specified under the equipment setup.

Remedy: Refer to dispensing equipment for fault details.

SEAL-274 WARN Dispenser not pressurized (E%s)

Cause: Dispenser is not pressurized

Remedy: Refer to dispensing equipment for fault details.

SEAL-275 WARN Dispenser meter not full (E%s)

Cause: Dispenser meter is not full

Remedy: Refer to dispensing equipment for fault details.

SEAL-276 WARN Dispense meter not pressurized (E%s)

Cause: Dispense meter is not pressurized

Remedy: Refer to dispensing equipment for fault details.

SEAL-277 WARN Drum empty (E%s)

Cause: Drum is empty

Remedy: Refer to dispensing equipment for fault details.

SEAL-278 WARN Auto purge requested (E%s)

Cause: Auto purge is requested

Remedy: Refer to dispensing equipment for fault details.

SEAL-279 WARN primer check passed (E%s)

Cause: Primer check passed (E%s)

Remedy: Refer to dispensing equipment for fault details.

SEAL-280 WARN Primer check failed (E%s)

Cause: Primer check failed

Remedy: Refer to dispensing equipment for fault details.

SEAL-281 WARN Felt not advanced (E%s)

Cause: Felt not advanced

Remedy: Refer to dispensing equipment for fault details.

SEAL-282 WARN Meter Empty (E%d, Mtr %s)

Cause: This warning is posted when the system detects that the meter has reached to its stroke limit during dispensing. After this condition, the system automatically switches to the other meter, and continue dispensing.

Remedy: 1. Reposition the meter prior to start dispensing for the seam. 2. Lower the flow rate so that it can cover the entire seam

SEAL-283 WARN Both Meters Empty

Cause: This warning is posted when the system detects that both meters have reached to their stroke limit during dispensing. This situation occurs if the material supply pressure is too low. After this condition, the system automatically stops dispensing, but the robot keeps moving. Use Error table to change the severity to PAUSE if you want to pause the program with this warning.

Remedy: 1. Increase the material supply pressure. 2. Lower the flow rate.

SEAL-284 WARN Plugged Tip Detected (E%d)

Cause: The system has detected that the material flow has been blocked.

Remedy: 1. Check and clean the gun tip.

SEAL-285 WARN Premature Reload Term (E%d)

Cause: One meter could not complete reloading before the other meter has come to near-empty zone.

Remedy: 1. Increase the material supply pressure 2. Lower the flow rate

SEAL-286 WARN Low Air Pressure (E%d)

Cause: This error message is not currently not implemented

Remedy: N/A

SEAL-287 WARN Cmd prs NOT achieved (E%d)

Cause: The material pressure did not reach the specified pressure within the specified time.

Remedy: 1. Check the IPD air supply pressure 2. Increase the pressure tolerance ($ipd_config[].press_tol)

SEAL-288 WARN Application setup not done

Cause: The application specific TPPs and macros have not been loaded.

Remedy: Perform a controlled start, then select SETUP APPLICATION under the FCTN menu while the application disk is in the drive.

SEAL-289 STOP Macro table already full

Cause: Dispenstool has attempted to install additional macros, but the macro table (under menu SETUP:Macros) was already full.

Remedy: Reduce number of macros needed and remove them from the macro table or

contact FANUC and request a update to expand macro table size.

SEAL-290 STOP Invalid call to SL__INST

Cause: SL__INST has been called, but there was no valid macro index number in register 32.

Remedy: Do not run SL__INST as a program, only call SL__INST from a macro after setting a valid macro index number up in register 32.

SEAL-291 WARN No start sealing input defined

Cause: The PNS Ack Verified input, which is needed with the current communication configuration, has not been defined.

Remedy: Set up a PNS Ack Verified in the Cell Input I/O menu and restart the robot.

SEAL-292 STOP Max Error table entry exceeded

Cause: In setting up the Default error table the maximum number of error table entries ($ERRSEV_NUM) was exceeded.

Remedy: Go into controlled start, Press MENU-0, then choose PROGRAM SETUP. Change the Error Severity Table entry to be a larger number in order to contain all default errors, and press FCTN-START (COLD). After Cold Start, go back into the Error Table setup screen and manually enter in those error that were not setup correctly.

SEAL-293 WARN No SLSHELL has been loaded!!!

Cause: N/A

Remedy: N/A

SEAL-294 WARN Style bit is out of range (E%s)

Cause: The style bit in your JOB program is either less than 0 or great than the maximum style bit value.

Remedy: Set up a bigger maximum style bit or change the style bit in your JOB header

SEAL-295 WARN Key I/O is not assigned (E%s)

Cause: The key dispenser input such as dispenser ready is not assigned.

Remedy: You must set the port index and the type of the dispener input to the correct values. Verify that a valid value is shown on the I/O menu for the I/O port instead of

SEAL-296 STOP Configurable error table empty

Cause: The Dispenstool configurable error table is empty.

Remedy: No action is required, but user should be aware that configurable fault reporting will not function at full capacity.

SEAL-297 WARN Dispenser meter near empty (E%s)

Cause: This warning is posted when the system detects that the meter near empty signal is asserted during dispensing.

Remedy: 1. Reload the meter prior to start dispensing for the seam. 2. Lower the flow rate so that it can cover the entire seam

SEAL-298 WARN %s option has not been loaded

Cause: The option required to setup this equip- ment has not been loaded.

Remedy: Please load the required option, and then try to set this equipment type.

SEAL-299 WARN Enc Belt slip (E%d, Mtr %s)

Cause: System has detected that the encoder to meter belt linkage is slipping.

Remedy: Tighten the belt tension.

SEAL-300 WARN %s I/O not mapped correctly

Cause: Specified I/O point has not been assigned.

Remedy: Assign specified I/O point before attempting calibration.

SEAL-301 WARN OK to reload timeout (E%d)

Cause: Timed out waiting for the OK to reload signal from the Cell controller.

Remedy: Make sure that the Input signal for OK to Reload is mapped and is coming on in response to the Reload Request signal.

SEAL-302 WARN ISD not configured (ISD%d)

Cause: IPD mastering and/or calibrations have not been completed. IPD cannot leave SHUTOFF mode unless they are completed.

Remedy: Complete IPD mastering and calibrations.

SEAL-303 WARN Unable to go FULL resume dist

Cause: Robot was unable to go back the full resume distance because the last taught point was reached before full distance was traversed. Gap may result.

Remedy: 1. Shorten the resume distance. 2. Re-teach points so that there is more distance

between points.

SEAL-304 WARN Force FFR Process Recov items

Cause: Fast Fault Recovery has ended and process specific recovery options must be displayed.

Remedy: Choose a process specific recovery option

SEAL-305 WARN Dispense complete timeout (E%s)

Cause: Fast Fault Recovery has ended and process specific recovery options must be displayed.

Remedy: Choose a process specific recovery option

3.18.3. SENS Alarm Code

SENS-000 SYSTEM Unknown error

Cause: System internal error

Remedy: Notify FANUC

SENS-001 STOP Hardware error occured

Cause: During data reception, parity, overrun and framing errors occurred.

Remedy: Check that the communication setting between the robot and sensor sides is not wrong.

SENS-002 STOP DSR off when transmission

Cause: An attempt was made for data transmission, but DSR signal at the sensor side is in OFF-state.

Remedy: Check that the specification and desconnection of cable connecting the robot and sensor.

SENS-003 STOP Undefined TCC received

Cause: The undefined TCC was received from the sensor.

Remedy: Check the data sent from the sensor.

SENS-004 STOP Invalid software parity

Cause: BCC of thereceived data from the sensor is wrong.

Remedy: Check the data sent from the sensor.

SENS-005 STOP Invalid data format

Cause: The format of the received data is wrong.

Remedy: Check the data sent from the sensor.

SENS-006 STOP Response time over

Cause: The answer from the sensor is not received within the allowable time.

Remedy: Check that the sensor side does not stop due to an error, for example.

SENS-007 STOP Interval time over

Cause: The interval of characters sent from the sensor exceeded the allowable time.

Remedy: Check that the sensor side does not stop due to an error, for example.

SENS-008 STOP Calculate matrix error

Cause: Calculating transform matrix is impossible.

Remedy: Check the compensation data sent from the sensor.

SENS-009 SYSTEM

Cause: N/A

Remedy: N/A

SENS-010 SYSTEM

Cause: N/A

Remedy: N/A

SENS-011 SYSTEM

Cause: N/A

Remedy: N/A

SENS-012 SYSTEM

Cause: N/A

Remedy: N/A

SENS-013 SYSTEM

Cause: N/A

Remedy: N/A

SENS-014 SYSTEM

Cause: N/A

Remedy: N/A

SENS-015 SYSTEM

Cause: N/A

Remedy: N/A

SENS-016 SYSTEM

Cause: N/A

Remedy: N/A

SENS-017 SYSTEM

Cause: N/A

Remedy: N/A

SENS-018 SYSTEM

Cause: N/A

Remedy: N/A

SENS-019 SYSTEM

Cause: N/A

Remedy: N/A

3.18.4. SHAP Alarm Code

SHAP-000 UNKNOWN KW ovrd reg. is out of range.

Cause: N/A

Remedy: N/A

SHAP-001 UNKNOWN Speed ovrd reg. out of range.

Cause: N/A

Remedy: N/A

SHAP-002 UNKNOWN Values cannot be duplicated.

Cause: N/A

Remedy: N/A

SHAP-003 UNKNOWN Corner radius is too large.

Cause: N/A

Remedy: N/A

SHAP-004 UNKNOWN Slot Len. must be > than wid.

Cause: N/A

Remedy: N/A

SHAP-005 UNKNOWN Shape Template was modified!!

Cause: N/A

Remedy: N/A

SHAP-006 UNKNOWN Invalid schedule number used.

Cause: N/A

Remedy: N/A

SHAP-007 UNKNOWN Error Opening Cut Shape Macro

Cause: N/A

Remedy: N/A

SHAP-008 UNKNOWN Error Writing to Shape Macro.

Cause: N/A

Remedy: N/A

SHAP-009 UNKNOWN Blend-in distance too large.

Cause: N/A

Remedy: N/A

SHAP-010 UNKNOWN Length must be > Major dia.

Cause: N/A

Remedy: N/A

SHAP-011 UNKNOWN Maj dia must be > Min dia.

Cause: N/A

Remedy: N/A

SHAP-012 UNKNOWN Program name must be set first.

Cause: N/A

Remedy: N/A

SHAP-013 UNKNOWN Position num must be set first.

Cause: N/A

Remedy: N/A

SHAP-014 UNKNOWN Shift must be cleared first.

Cause: N/A

Remedy: N/A

SHAP-015 UNKNOWN Selected program doesn't exist.

Cause: N/A

Remedy: N/A

SHAP-016 UNKNOWN Position doesn't exist in prog.

Cause: N/A

Remedy: N/A

SHAP-017 UNKNOWN Posn [REPRE] must be cartesian.

Cause: N/A

Remedy: N/A

SHAP-018 UNKNOWN %s

Cause: N/A

Remedy: N/A

SHAP-020 UNKNOWN Line %s: No Destination position.

Cause: N/A

Remedy: N/A

SHAP-021 UNKNOWN Center posn PR[1] uninitialied

Cause: N/A

Remedy: N/A

SHAP-022 UNKNOWN %s - Joint moves not allowed

Cause: N/A

Remedy: N/A

SHAP-023 UNKNOWN Position num is not successvie.

Cause: N/A

Remedy: N/A

SHAP-024 UNKNOWN Doubled defined position id exists

Cause: N/A

Remedy: N/A

SHAP-025 UNKNOWN Position id cannot be found.

Cause: N/A

Remedy: N/A

SHAP-026 UNKNOWN Cannot convert joint motion

Cause: N/A

Remedy: N/A

SHAP-027 UNKNOWN Program includes Incre Inst.

Cause: N/A

Remedy: N/A

SHAP-028 UNKNOWN Points are invalid to transport

Cause: N/A

Remedy: N/A

SHAP-029 UNKNOWN Cannot create circle position

Cause: N/A

Remedy: N/A

3.18.5. SPOT Alarm Code

SPOT-000 WARN Unknown error (SWG0)

Cause: An internal error has occured.

Remedy: Cold start the controller

SPOT-001 PAUSE Backup not closed %s

Cause: BU=* was specified in the SPOT instruction for backup state before the weld, but the backup was opened at the time the instruction was executed.

Remedy: Make sure that the backup is closed when using the BU=* command. Edit the BU=* to BU=C, or insert a BACKUP=CLOSE statement prior to this statement.

SPOT-002 PAUSE Iso contactor fault %s

Cause: The isolation contactor on the specified weld controller is in a fault condition. If no program is running, then this message is posted if either the Iso contactor output is high or the Iso contactor input is high. If a program is running, or a manual weld is being executed, then the output, if defined, must be high, and the input, if defined, must be high too.

Remedy: Make sure that the CLOSE CONTACTOR macro instruction has been programmed in the teach pendant program.

SPOT-003 PAUSE Water saver OK fault %s

Cause: The water saver input is low.

Remedy: Check the input from the weld controller, and reset as necessary.

SPOT-004 PAUSE Water flow OK fault %s

Cause: The water flow OK input is low.

Remedy: Check the input from the weld controller, and reset as necessary.

SPOT-005 PAUSE X-former OK fault %s

Cause: The transformer OK input is low.

Remedy: Check the input from the weld controller, and reset as necessary.

SPOT-006 PAUSE Weld enable mismatch %s

Cause: The weld enable status from the weld controller does not match the robot's weld enable status.

Remedy: Check the robot's weld enable status on the TEST CYCLE menu and compare it to the weld controller's weld enable status. These must be the same.

SPOT-007 PAUSE Weld in process timeout %s

Cause: The robot timed out waiting for the Weld in Process input. from the weld controller.

Remedy: Check the Weld I/O menu, as well as all wiring. If the input is going high, try increasing the timeout by setting $spoteqsetup[].$wld_inpr_to to a bigger number. The default is 2000 ms, or 2 seconds.

SPOT-008 PAUSE Weld complete timeout %s

Cause: The robot timed out waiting for the Weld Complete input from the weld controller.

Remedy: Check the Weld I/O menu, as well as all wiring. If the input is going high, try increasing the timeout by setting $spoteqsetup[].$wld_comp_to to a bigger number. The default is 2000 ms, or 2 seconds.

SPOT-009 WARN Got weld complete early %s

Cause: The Weld Complete input was detected before the Weld in Process input was received.

Remedy: Check the length of the weld controller's Weld Complete output. It may need to be decreased.

SPOT-010 PAUSE Major alarm detected %s

Cause: A Major Alarm was received.

Remedy: Check the weld controller for the reason for this alarm. Reset the fault, then chose

Skip/Retry option to continue the program.

SPOT-011 WARN Minor alarm detected %s

Cause: A Minor Alarm was received.

Remedy: Check the weld controller for the reason for this alarm.

SPOT-012 PAUSE Bad schedule (S=%s)

Cause: An inavlid weld schedule was programmed in the teach pendant program.

Remedy: Check the S= value of the current line of the teach pendant program. The smallest schedule number allowed is 0. For digital weld controllers, the the largest schedule number allowed depends on the width of the Weld Schedule group output. If this GOUT is 4 I/O points wide, then the maximum schedule is 15. If the GOUT is 5 I/O points wide, then the maximum scheudule is 31. For serial weld controllers, the maximum schedule is 32. Re-program the S= value in the teach pendant program.

SPOT-013 PAUSE Undefined pressure (P=*)

Cause: A P=* was encountered in the teach pendant program, but no previous pressure value has been used.

Remedy: Be sure to include a direct pressure value instead of using the *.

SPOT-014 PAUSE BACKUP CLOSE DETECT timed out %s

Cause: The robot timed out waiting for the backup gun to close.

Remedy: Check the Equipment I/O menu, as well as all wiring. If the input is going high, try increasing the timeout by setting $spoteqsetup[].$bu_cl_to to to a bigger number. The default is 2000 ms, or 2 seconds.

SPOT-015 PAUSE GUN CLOSE DETECT timed out %s

Cause: The robot timed out waiting for the gun to close.

Remedy: Check the Equipment I/O menu, as well as all wiring. If the input is going high, try increasing the timeout by setting $spoteqsetup[].$gun_cl_to to to a bigger number. The default is 2000 ms, or 2 seconds.

SPOT-016 PAUSE BACKUP OPEN DETECT timed out %s

Cause: The robot timed out waiting for the backup gun to open.

Remedy: Check the Equipment I/O menu, as well as all wiring. If the input is going high, try increasing the timeout by setting $spoteqsetup[].$bu_op_to to to a bigger number. The default is 2000 ms, or 2 seconds.

SPOT-017 PAUSE GUN OPEN DETECT timed out %s

Cause: The robot timed out waiting for the gun to open.

Remedy: Check the Equipment I/O menu, as well as all wiring. If the input is going high, try increasing the timeout by setting $spoteqsetup[].$bu_cl_to (gun open = backup close) to to a bigger number. The default is 2000 ms, or 2 seconds.

SPOT-018 PAUSE Serial comm error %s

Cause: A serial communications error was detected.

Remedy: Ensure that all cables to the serial port are properly connected, and that the weld controller is powered on. The error code that is appended to this error message is the status of attempted read/write operation.

SPOT-019 PAUSE Serial polling timeout

Cause: A timeout occured while polling the serial weld controller for status information.

Remedy: Ensure that all cables to the serial port are properly connected, and that the weld controller is powered on. Retry the command.

SPOT-020 PAUSE Not in safe starting position

Cause: The robot has been jogged away from the position where the teach pendant was enabled.

Remedy: Move the robot back to the position where the teach pendant was enabled, abort the program, or continue (in linear motion) from position where the robot is currently positioned.

SPOT-021 PAUSE GUN CLOSE DETECT input is on %s

Cause: The GUN CLOSE DETECT input is high at the same time that the GUN OPEN DETECT input is to be checked.

Remedy: Check the sensors to verify that the inputs are being properly turned on and off.

SPOT-022 PAUSE GUN OPEN DETECT input is on %s

Cause: The GUN OPEN DETECT input is high at the same time that the GUN CLOSE DETECT input is to be checked.

Remedy: Check the sensors to verify that the inputs are being properly turned on and off.

SPOT-023 PAUSE BU CLOSE DETECT is on %s

Cause: The GUN OPEN DETECT input is high at the same time that the GUN CLOSE

DETECT input is to be checked.

Remedy: Check the sensors to verify that the inputs are being properly turned on and off.

SPOT-024 PAUSE BU OPEN DETECT is on %s

Cause: The GUN OPEN DETECT input is high at the same time that the GUN CLOSE DETECT input is to be checked.

Remedy: Check the sensors to verify that the inputs are being properly turned on and off.

SPOT-025 PAUSE Bad pressure (P=%s)

Cause: An inavlid binary valve pressure was programmed in the teach pendant program.

Remedy: Check the P= value of the current line of the teach pendant program. The smallest valve pressure allowed is 0. For digital weld controllers, the largest pressure number allowed depends on the width of the Valve Pressure group output. If this GOUT is 4 I/O points wide, then the maximum pressure is 15. If the GOUT is 5 I/O points wide, then the maximum pressure is 31. For serial weld controllers, the maximum pressure is 15. Re-program the P= value in the teach pendant program.

SPOT-026 PAUSE Reset welder timeout %s

Cause: The robot timed out waiting for the weld controller to reset a major fault

Remedy: Check the weld controller for the reason for this alarm. Reset the fault, then chose Skip/Retry option to continue the program.

SPOT-027 PAUSE Serial sequence not started

Cause: A system failure has caused internal syncronization problems

Remedy: Please cold start controller

SPOT-028 PAUSE Serial initialization failed

Cause: Serial port specification is invalid

Remedy: Make sure that the port exists

SPOT-029 PAUSE Serial option not loaded

Cause: Incorrect options loaded for serial weld control

Remedy: Make sure serial options properly loaded.

SPOT-030 PAUSE Gun contactor fault %s

Cause: The specified gun contactor is in a fault condition. If a program is running, or a manual weld is being executed, then the output, if defined, must be high, and the input, if defined, must be high too.

Remedy: Make sure that the correct macro instruction has been programmed in the teach pendant program.

SPOT-031 PAUSE Gun open fault %s

Cause: This error is only posted for set/reset type guns. The shot pin was not correctly set, so the gun could not be opened.

Remedy: Check the setting of the shot pin. Make sure the shot pin has been made before attempting to close the gun.

SPOT-032 PAUSE Gun close fault %s

Cause: The Gun Close Detect input was not received within the specified timeout period.

Remedy: Verify the input is assigned correctly; verify the input is being made when the gun is closed; or if needed, increase the timeout value (in $spoteqsetup.$gun_cl_to).

SPOT-033 PAUSE Backup open fault %s

Cause: The BU Open Detect input was not received within the specified timeout period.

Remedy: Verify the input is assigned correctly; verify the input is being made when the backup gun is opened; or if needed, increase the timeout value (in $spoteqsetup.$bu_op_to).

SPOT-034 PAUSE Backup close fault %s

Cause: The BU Close Detect input was not received within the specified timeout period.

Remedy: Verify the input is assigned correctly; verify the input is being made when the backup gun is closed; or if needed, increase the timeout value (in $spoteqsetup.$bu_cl_to).

SPOT-035 PAUSE Invalid equipment (%s defined)

Cause: An invalid equipment number was specified.

Remedy: The current number of equipments that the system is configured for is displayed in the error message. Only use the value one up to and including the number posted on the error line. If you need to increase the number of equipment, then perform an INIT start (backup all files first), and enter the new number of equipment when prompted during the SETUP APPLICATION menu

SPOT-036 PAUSE Invalid weld controller (%s defined)

Cause: An invalid weld controller number was specified.

Remedy: The current number of weld controllers that the system is configured for is displayed in the error message. Only use the value one up to and including the number posted on the error line. If you need to increase the number of weld controllers, then perform a controlled start, and define the new number of weld controllers when prompted during the SETUP APPLICATION menu

SPOT-037 WARN No gun contactors defined

Cause: The GUN CONTACTOR TPE instruction was programmed, but no gun contactors are defined.

Remedy: Gun contactors are defined at controlled start, from the SETUP APPLICATION option under the FCTN key. If extra gun contactors are defined at controlled start, then the Equipment I/O menu will allow you to define the I/O for the gun contactor.

SPOT-038 WARN Stud feed hopper low: add studs

Cause: The stud low detect prox switch in the feed hopper for the current Power unit has indicated that the hopper needs more studs.

Remedy: Refill the hopper, or, if it is not low, check the function of the prox.

SPOT-039 PAUSE System air pressure below 85psi

Cause: The welder power unit air pressure detect switch has indicated that the system air has fallen below the minimum operating level of 85 psi.

Remedy: Increase system air pressure.

SPOT-040 WARN Stud Welder Not Ready

Cause: The Ready Relay for the current stud welding power unit is off. This is caused by the unit having a fault that has not been reset.

Remedy: Reset the fault

SPOT-041 WARN Tool not attached %s

Cause: A TPE instruction was programmed to use a tool change equipment, but that tool was not attached to the arm.

Remedy: Make sure that the proper tool is attached to the arm before attempting to use it. Tool changes are done with TPE macros. Make sure that a call to the correct macro is made before attempting the SPOT or BACKUP operation.

SPOT-042 WARN Stud Welder Time Out Fault

Cause: The robot detected a Stud Welder Time Out Fault from the current controller during a weld. This fault occurrs when the controller does not detect a completed weld or a bad weld

after the timer times out. Usually means that the stud is welded to both the target and the gun.

Remedy: Once the robot is paused, carefully pry the gun and the stud apart, then reset fault on weld controller and resume the program.

SPOT-043 PAUSE Stud Welder Weld Fault

Cause: The Stud Weld controller has signaled the robot that a weld fault has occured. This indicates that insuficient current was passed during the weld, genererally resulting in a poor quality weld.

Remedy: The stud checker will automaticly verify the quality of the weld. If bad, check the position of the gun at the weld spot. Also check the schedule settings.

SPOT-044 WARN Stud Welder Arc Voltage Fault

Cause: This fault is signaled by the Stud Weld controller if the voltage sensor reports too little arc voltage during the weld process. May result in a poor quality weld.

Remedy: The stud checker will automaticly verify the quality of the weld. If bad, check the position of the gun at the weld spot to insure that the tip is the correct distance.

SPOT-045 WARN No Current detected: %s

Cause: The robot did not see the current sensor input go high throughout the weld, indicating no current

Remedy: Check the weld controler to verify that the schedule does include a heat setting. If so, verify operation of sensor

SPOT-046 WARN Weld auto retried %s time(s)

Cause: The Auto Retry Weld feature encountered a weld fault and retried the weld the indicated number of times. This warning is posted for every. SPOT instruction encountered in which the weld was retried at least once.

Remedy: This is just a warning to let the operator know that a weld was retried, and to alert the operator that weld controller maintenance may be required.

SPOT-047 WARN Collision Detection Alarm

Cause: A Collision Detection Alarm has been detected. The robot may have collided with an object or a Tip Stick may have occured.

Remedy: Carefully jog the robot away from interfering objects or free the weld gun from the Tip Stick.

SPOT-048 PAUSE No Coll. Guard Reg. Defined

Cause: No register has been defined for use with the Collision Guard Update macro.

Remedy: Use the Collision Guard SETUP screen to define a register for use with the macro.

SPOT-049 PAUSE Coll. Guard Reg. Data Error

Cause: The data contained in the Collision Guard macro register is not an integer or is not in the range of 1 to 200.

Remedy: Enter the correct data into the Collision Guard macro register.

SPOT-050 PAUSE Bad Pressure (EP=%s)

Cause: An inavlid binary equalization pressure was programmed in the teach pendant program.

Remedy: Check the EP= value of the current line of the teach pendant program. The smallest valve pressure allowed is 0. For digital weld controllers, the largest pressure number allowed depends on the width of the Equalization Pressure group output. If this GOUT is 4 I/O points wide, then the maximum pressure is 15. If the GOUT is 5 I/O points wide, then the maximum pressure is 31. For serial weld controllers, the maximum pressure is 15. Re-program the EP= value in the teach pendant program.

SPOT-051 PAUSE Undefined Pressure (EP=*)

Cause: Undefined pressure (EP=*) Cause: A EP=* was encountered in the teach pendant program, but no previous pressure value has been used.

Remedy: Be sure to include a direct equalization pressure value instead of using the *.

SPOT-052 PAUSE Suspect Weld

Cause: Suspect Weld Cause: A faulty stud weld has occurred. pressure value has been used.

Remedy: Check the stud that generated the error and remove if necessary. Remedey: Select the appropriate type of recover by pressing F4 [CHOICE].

SPOT-053 WARN Feeder Low - Gun1

Cause: Feeder Low-Gun1 Cause: The stud feeder for gun 1 is low on studs Remedy: Add more studs to the feeder for gun 1 at an appropriate time.

Remedy: N/A

SPOT-054 WARN Feeder Low - Gun2

Cause: Feeder Low-Gun1 Cause: The stud feeder for gun 2 is low on studs Remedy: Add more studs to the feeder for gun 2 at an appropriate time.

Remedy: N/A

SPOT-055 PAUSE Stud Controller Fault1

Cause: Stud Controller Fault1 Cause: A weld controller fault has occured on gun 1

Remedy: Check the stud welding controller for the reason for this fault. Reset the fault, then choose the appropiate type of fault recovery.

SPOT-056 PAUSE Weld Head Not Retracted-Gun1

Cause: Weld Head Not Retracted-Gun1 Cause: Studwelding gun 1 has not been retracted.

Remedy: Press SHIFT-GUN which will return the studwelding gun to its retracted position. Reset the fault, then choose the appropiate type of fault recovery.

SPOT-057 PAUSE Weld Head Not Retracted-Gun2

Cause: Weld Head Not Retracted-Gun2 Cause: Studwelding gun2 has not been retracted.

Remedy: Press SHIFT-GUN which will return the studwelding gun to its retracted position. Reset the fault, then choose the appropiate type of fault recovery.

SPOT-058 PAUSE Studwelder - Air Pressure Low

Cause: Studwelded - Air Pressure Low Cause: The studwelding controller detect that the air pressure has fallen below the minimum operating level of 85 psi.

Remedy: Increase system air pressure.

SPOT-059 PAUSE Stud Controller Fault2

Cause: Stud Controller Fault1 Cause: A weld controller fault has occured on gun 2

Remedy: Check the stud welding controller for the reason for this fault. Reset the fault, then choose the appropiate type of fault recovery.

SPOT-060 PAUSE Robot Not At Home Position

Cause: N/A

Remedy: N/A

SPOT-061 WARN Request Failed

Cause: N/A

Remedy: N/A

SPOT-062 WARN Please retry function again

Cause: N/A

Remedy: N/A

SPOT-063 STOP %s

Cause: A weld fault has happened on the weld controller.

Remedy: Please refer to manual for weld controller for detailed info on the fault.

SPOT-064 WARN %s

Cause: A weld alert has happened on the weld controller.

Remedy: Please refer to manual for weld controller for detailed info on the alert.

SPOT-065 WARN %s

Cause: A weld event has happened on the weld controller.

Remedy: This is logging information only. No remedy is required.

SPOT-066 WARN Iwc NOT ready

Cause: Iwc NOT ready Cause: Unable to perform operation, due to IWC status.

Remedy: Please see specific IWC error status and follow that remedy.

SPOT-067 PAUSE No Shunt Trip output for WC:%s

Cause: Shunt Trip output not defined Cause: The Shunt Trip output has not been defined.

Remedy: Please define a DO[] for the Shunt Trip.

SPOT-071 PAUSE Backup not closed-gun 1

Cause: BU=* was specified in the SPOT instruction for backup state before the weld, but the backup was opened at the time the instruction was executed.

Remedy: Make sure that the backup is closed when using the BU=* command. Edit the BU=* to BU=C, or insert a BACKUP=CLOSE statement prior to this statement.

SPOT-072 PAUSE Iso contactor fault-gun 1

Cause: The isolation contactor on the specified weld controller is in a fault condition. If no program is running, then this message is posted if either the Iso contactor output is high or the Iso contactor input is high. If a program is running, or a manual weld is being executed, then

the output, if defined, must be high, and the input, if defined, must be high too.

Remedy: Make sure that the CLOSE CONTACTOR macro instruction has been programmed in the teach pendant program.

SPOT-073 PAUSE Water saver fault-gun 1

Cause: The water saver input is low.

Remedy: Check the input from the weld controller, and reset as necessary.

SPOT-074 PAUSE Water flow fault-gun 1

Cause: The water flow OK input is low.

Remedy: Check the input from the weld controller, and reset as necessary.

SPOT-075 PAUSE X-former fault-gun 1

Cause: The transformer OK input is low.

Remedy: Check the input from the weld controller, and reset as necessary.

SPOT-076 PAUSE Weld enable mismatch-gun 1

Cause: The weld enable status from the weld controller does not match the robot's weld enable status.

Remedy: Check the robot's weld enable status on the TEST CYCLE menu and compare it to the weld controller's weld enable status. These must be the same.

SPOT-077 PAUSE Weld in process timeout-gun 1

Cause: The robot timed out waiting for the Weld in Process input. from the weld controller.

Remedy: Check the Weld I/O menu, as well as all wiring. If the input is going high, try increasing the timeout by setting $spoteqsetup[].$wld_inpr_to to a bigger number. The default is 2000 ms, or 2 seconds.

SPOT-078 PAUSE Weld complete timeout-gun 1

Cause: The robot timed out waiting for the Weld Complete input from the weld controller.

Remedy: Check the Weld I/O menu, as well as all wiring. If the input is going high, try increasing the timeout by setting $spoteqsetup[].$wld_comp_to to a bigger number. The default is 2000 ms, or 2 seconds.

SPOT-079 WARN Got weld complete early-gun 1

Cause: The Weld Complete input was detected before the Weld in Process input was received.

Remedy: Check the length of the weld controller's Weld Complete output. It may need to be decreased.

SPOT-080 PAUSE Major alarm detected-gun 1

Cause: A Major Alarm was received.

Remedy: Check the weld controller for the reason for this alarm. Reset the fault, then chose Skip/Retry option to continue the program.

SPOT-081 WARN Minor alarm detected-gun 1

Cause: A Minor Alarm was received.

Remedy: Check the weld controller for the reason for this alarm.

SPOT-082 PAUSE Bad schedule (S=%s)-gun 1

Cause: An inavlid weld schedule was programmed in the teach pendant program.

Remedy: Check the S= value of the current line of the teach pendant program. The smallest schedule number allowed is 0. For digital weld controllers, the the largest schedule number allowed depends on the width of the Weld Schedule group output. If this GOUT is 4 I/O points wide, then the maximum schedule is 15. If the GOUT is 5 I/O points wide, then the maximum scheudule is 31. For serial weld controllers, the maximum schedule is 32. Re-program the S= value in the teach pendant program.

SPOT-083 PAUSE Undefined pressure (P=*)-gun 1

Cause: A P=* was encountered in the teach pendant program, but no previous pressure value has been used.

Remedy: Be sure to include a direct pressure value instead of using the *.

SPOT-084 PAUSE BACKUP CLOSE timed out-gun 1

Cause: The robot timed out waiting for the backup gun to close.

Remedy: Check the Equipment I/O menu, as well as all wiring. If the input is going high, try increasing the timeout by setting $spoteqsetup[].$bu_cl_to to to a bigger number. The default is 2000 ms, or 2 seconds.

SPOT-085 PAUSE GUN CLOSE timed out-gun 1

Cause: The robot timed out waiting for the gun to close.

Remedy: Check the Equipment I/O menu, as well as all wiring. If the input is going high, try increasing the timeout by setting $spoteqsetup[].$gun_cl_to to to a bigger number. The default is 2000 ms, or 2 seconds.

SPOT-086 PAUSE BACKUP OPEN timed out-gun 1

Cause: The robot timed out waiting for the backup gun to open.

Remedy: Check the Equipment I/O menu, as well as all wiring. If the input is going high, try increasing the timeout by setting $spoteqsetup[].$bu_op_to to to a bigger number. The default is 2000 ms, or 2 seconds.

SPOT-087 PAUSE GUN OPEN timed out-gun 1

Cause: The robot timed out waiting for the gun to open.

Remedy: Check the Equipment I/O menu, as well as all wiring. If the input is going high, try increasing the timeout by setting $spoteqsetup[].$bu_cl_to (gun open = backup close) to to a bigger number. The default is 2000 ms, or 2 seconds.

SPOT-088 PAUSE Serial comm error %s-gun 1

Cause: A serial communications error was detected.

Remedy: Ensure that all cables to the serial port are properly connected, and that the weld controller is powered on. The error code that is appended to this error message is the status of attempted read/write operation.

SPOT-089 PAUSE Serial polling timeout-gun 1

Cause: A timeout occured while polling the serial weld controller for status information.

Remedy: Ensure that all cables to the serial port are properly connected, and that the weld controller is powered on. Retry the command.

SPOT-092 PAUSE GUN OPEN DETECT input is on %s-gun 1

Cause: The GUN OPEN DETECT input is high at the same time that the GUN CLOSE DETECT input is to be checked.

Remedy: Check the sensors to verify that the inputs are being properly turned on and off.

SPOT-093 PAUSE BU CLOSE DETECT is on %s-gun 1

Cause: The GUN OPEN DETECT input is high at the same time that the GUN CLOSE DETECT input is to be checked.

Remedy: Check the sensors to verify that the inputs are being properly turned on and off.

SPOT-094 PAUSE BU OPEN DETECT is on %s-gun 1

Cause: The GUN OPEN DETECT input is high at the same time that the GUN CLOSE DETECT input is to be checked.

Remedy: Check the sensors to verify that the inputs are being properly turned on and off.

SPOT-095 PAUSE Bad pressure (P=%s)-gun 1

Cause: An inavlid binary valve pressure was programmed in the teach pendant program.

Remedy: Check the P= value of the current line of the teach pendant program. The smallest valve pressure allowed is 0. For digital weld controllers, the largest pressure number allowed depends on the width of the Valve Pressure group output. If this GOUT is 4 I/O points wide, then the maximum pressure is 15. If the GOUT is 5 I/O points wide, then the maximum pressure is 31. For serial weld controllers, the maximum pressure is 15. Re-program the P= value in the teach pendant program.

SPOT-096 PAUSE Reset welder timeout-gun 1

Cause: The robot timed out waiting for the weld controller to reset a major fault

Remedy: Check the weld controller for the reason for this alarm. Reset the fault, then chose Skip/Retry option to continue the program.

SPOT-100 PAUSE Gun contactor fault %s-gun 1

Cause: The specified gun contactor is in a fault condition. If a program is running, or a manual weld is being executed, then the output, if defined, must be high, and the input, if defined, must be high too.

Remedy: Make sure that the correct macro instruction has been programmed in the teach pendant program.

SPOT-101 PAUSE Gun open fault %s-gun 1

Cause: This error is only posted for set/reset type guns. The shot pin was not correctly set, so the gun could not be opened.

Remedy: Check the setting of the shot pin. Make sure the shot pin has been made before attempting to close the gun.

SPOT-102 PAUSE Gun close fault %s-gun 1

Cause: The Gun Close Detect input was not received within the specified timeout period.

Remedy: Verify the input is assigned correctly; verify the input is being made when the gun is closed; or if needed, increase the timeout value (in $spoteqsetup.$gun_cl_to).

SPOT-103 PAUSE Backup open fault %s-gun 1

Cause: The BU Open Detect input was not received within the specified timeout period.

Remedy: Verify the input is assigned correctly; verify the input is being made when the backup gun is opened; or if needed, increase the timeout value (in $spoteqsetup.$bu_op_to).

SPOT-104 PAUSE Backup close fault %s-gun 1

Cause: The BU Close Detect input was not received within the specified timeout period.

Remedy: Verify the input is assigned correctly; verify the input is being made when the backup gun is closed; or if needed, increase the timeout value (in $spoteqsetup.$bu_cl_to).

SPOT-120 PAUSE Bad Pressure (EP=%s)-gun 1

Cause: An inavlid binary equalization pressure was programmed in the teach pendant program.

Remedy: Check the EP= value of the current line of the teach pendant program. The smallest valve pressure allowed is 0. For digital weld controllers, the largest pressure number allowed depends on the width of the Equalization Pressure group output. If this GOUT is 4 I/O points wide, then the maximum pressure is 15. If the GOUT is 5 I/O points wide, then the maximum pressure is 31. For serial weld controllers, the maximum pressure is 15. Re-program the EP= value in the teach pendant program.

SPOT-121 PAUSE Undefined Pressure (EP=*)-gun 1

Cause: Undefined pressure (EP=*) Cause: A EP=* was encountered in the teach pendant program, but no previous pressure value has been used.

Remedy: Be sure to include a direct equalization pressure value instead of using the *.

SPOT-141 PAUSE Backup not closed-gun 2

Cause: BU=* was specified in the SPOT instruction for backup state before the weld, but the backup was opened at the time the instruction was executed.

Remedy: Make sure that the backup is closed when using the BU=* command. Edit the BU=* to BU=C, or insert a BACKUP=CLOSE statement prior to this statement.

SPOT-143 PAUSE Water saver OK fault-gun 2

Cause: The water saver input is low.

Remedy: Check the input from the weld controller, and reset as necessary.

SPOT-144 PAUSE Water flow OK fault-gun 2

Cause: The water flow OK input is low.

Remedy: Check the input from the weld controller, and reset as necessary.

SPOT-145 PAUSE X-former OK fault-gun 2

Cause: The transformer OK input is low.

Remedy: Check the input from the weld controller, and reset as necessary.

SPOT-146 PAUSE Weld enable mismatch %s-gun 2

Cause: The weld enable status from the weld controller does not match the robot's weld enable status.

Remedy: Check the robot's weld enable status on the TEST CYCLE menu and compare it to the weld controller's weld enable status. These must be the same.

SPOT-147 PAUSE Weld in process timeout %s-gun 2

Cause: The robot timed out waiting for the Weld in Process input. from the weld controller.

Remedy: Check the Weld I/O menu, as well as all wiring. If the input is going high, try increasing the timeout by setting $spoteqsetup[].$wld_inpr_to to a bigger number. The default is 2000 ms, or 2 seconds.

SPOT-148 PAUSE Weld complete timeout %s-gun 2

Cause: The robot timed out waiting for the Weld Complete input from the weld controller.

Remedy: Check the Weld I/O menu, as well as all wiring. If the input is going high, try increasing the timeout by setting $spoteqsetup[].$wld_comp_to to a bigger number. The default is 2000 ms, or 2 seconds.

SPOT-149 WARN Got weld complete early %s-gun 2

Cause: The Weld Complete input was detected before the Weld in Process input was received.

Remedy: Check the length of the weld controller's Weld Complete output. It may need to be decreased.

SPOT-150 PAUSE Major alarm detected %s-gun 2

Cause: A Major Alarm was received.

Remedy: Check the weld controller for the reason for this alarm. Reset the fault, then chose Skip/Retry option to continue the program.

SPOT-151 WARN Minor alarm detected %s-gun 2

Cause: A Minor Alarm was received.

Remedy: Check the weld controller for the reason for this alarm.

SPOT-152 PAUSE Bad schedule (S=%s)-gun 2

Cause: An inavlid weld schedule was programmed in the teach pendant program.

Remedy: Check the S= value of the current line of the teach pendant program. The smallest schedule number allowed is 0. For digital weld controllers, the the largest schedule number allowed depends on the width of the Weld Schedule group output. If this GOUT is 4 I/O points wide, then the maximum schedule is 15. If the GOUT is 5 I/O points wide, then the maximum scheudule is 31. For serial weld controllers, the maximum schedule is 32. Re-program the S= value in the teach pendant program.

SPOT-153 PAUSE Undefined pressure (P=*)-gun 2

Cause: A P=* was encountered in the teach pendant program, but no previous pressure value has been used.

Remedy: Be sure to include a direct pressure value instead of using the *.

SPOT-154 PAUSE BACKUP CLOSE DETECT timed out %s-gun 2

Cause: The robot timed out waiting for the backup gun to close.

Remedy: Check the Equipment I/O menu, as well as all wiring. If the input is going high, try increasing the timeout by setting $spoteqsetup[].$bu_cl_to to to a bigger number. The default is 2000 ms, or 2 seconds.

SPOT-155 PAUSE GUN CLOSE DETECT timed out %s-gun 2

Cause: The robot timed out waiting for the gun to close.

Remedy: Check the Equipment I/O menu, as well as all wiring. If the input is going high, try increasing the timeout by setting $spoteqsetup[].$gun_cl_to to to a bigger number. The default is 2000 ms, or 2 seconds.

SPOT-156 PAUSE BACKUP OPEN DETECT timed out %s-gun 2

Cause: The robot timed out waiting for the backup gun to open.

Remedy: Check the Equipment I/O menu, as well as all wiring. If the input is going high, try increasing the timeout by setting $spoteqsetup[].$bu_op_to to to a bigger number. The default is 2000 ms, or 2 seconds.

SPOT-157 PAUSE GUN OPEN DETECT timed out %s-gun 2

Cause: The robot timed out waiting for the gun to open.

Remedy: Check the Equipment I/O menu, as well as all wiring. If the input is going high, try increasing the timeout by setting $spoteqsetup[].$bu_cl_to (gun open = backup close) to to a bigger number. The default is 2000 ms, or 2 seconds.

SPOT-165 PAUSE Bad pressure (P=%s)-gun 2

Cause: An inavlid binary valve pressure was programmed in the teach pendant program.

Remedy: Check the P= value of the current line of the teach pendant program. The smallest valve pressure allowed is 0. For digital weld controllers, the largest pressure number allowed depends on the width of the Valve Pressure group output. If this GOUT is 4 I/O points wide, then the maximum pressure is 15. If the GOUT is 5 I/O points wide, then the maximum pressure is 31. For serial weld controllers, the maximum pressure is 15. Re-program the P= value in the teach pendant program.

SPOT-166 PAUSE Reset welder timeout %s-gun 2

Cause: The robot timed out waiting for the weld controller to reset a major fault

Remedy: Check the weld controller for the reason for this alarm. Reset the fault, then chose Skip/Retry option to continue the program.

SPOT-170 PAUSE Gun contactor fault %s-gun 2

Cause: The specified gun contactor is in a fault condition. If a program is running, or a manual weld is being executed, then the output, if defined, must be high, and the input, if defined, must be high too.

Remedy: Make sure that the correct macro instruction has been programmed in the teach pendant program.

SPOT-171 PAUSE Gun open fault %s-gun 2

Cause: This error is only posted for set/reset type guns. The shot pin was not correctly set, so the gun could not be opened.

Remedy: Check the setting of the shot pin. Make sure the shot pin has been made before attempting to close the gun.

SPOT-172 PAUSE Gun close fault %s-gun 2

Cause: The Gun Close Detect input was not received within the specified timeout period.

Remedy: Verify the input is assigned correctly; verify the input is being made when the gun is closed; or if needed, increase the timeout value (in $spoteqsetup.$gun_cl_to).

SPOT-173 PAUSE Backup open fault %s-gun 2

Cause: The BU Open Detect input was not received within the specified timeout period.

Remedy: Verify the input is assigned correctly; verify the input is being made when the backup gun is opened; or if needed, increase the timeout value (in $spoteqsetup.$bu_op_to).

SPOT-174 PAUSE Backup close fault %s-gun 2

Cause: The BU Close Detect input was not received within the specified timeout period.

Remedy: Verify the input is assigned correctly; verify the input is being made when the backup gun is closed; or if needed, increase the timeout value (in $spoteqsetup.$bu_cl_to).

SPOT-190 PAUSE Bad Pressure (EP=%s)-gun 2

Cause: An inavlid binary equalization pressure was programmed in the teach pendant program.

Remedy: Check the EP= value of the current line of the teach pendant program. The smallest valve pressure allowed is 0. For digital weld controllers, the largest pressure number allowed depends on the width of the Equalization Pressure group output. If this GOUT is 4 I/O points wide, then the maximum pressure is 15. If the GOUT is 5 I/O points wide, then the maximum pressure is 31. For serial weld controllers, the maximum pressure is 15. Re-program the EP= value in the teach pendant program.

SPOT-191 PAUSE Undefined Pressure (EP=*)-gun 2

Cause: Undefined pressure (EP=*) Cause: A EP=* was encountered in the teach pendant program, but no previous pressure value has been used.

Remedy: Be sure to include a direct equalization pressure value instead of using the *.

SPOT-211 PAUSE Backup not closed %s-both guns

Cause: BU=* was specified in the SPOT instruction for backup state before the weld, but the backup was opened at the time the instruction was executed.

Remedy: Make sure that the backup is closed when using the BU=* command. Edit the BU=* to BU=C, or insert a BACKUP=CLOSE statement prior to this statement.

SPOT-212 PAUSE Iso contactor fault %s-both guns

Cause: The isolation contactor on the specified weld controller is in a fault condition. If no program is running, then this message is posted if either the Iso contactor output is high or the Iso contactor input is high. If a program is running, or a manual weld is being executed, then the output, if defined, must be high, and the input, if defined, must be high too.

Remedy: Make sure that the CLOSE CONTACTOR macro instruction has been programmed in the teach pendant program.

SPOT-213 PAUSE Water saver OK fault %s-both guns

Cause: The water saver input is low.

Remedy: Check the input from the weld controller, and reset as necessary.

SPOT-214 PAUSE Water flow OK fault %s-both guns

Cause: The water flow OK input is low.

Remedy: Check the input from the weld controller, and reset as necessary.

SPOT-215 PAUSE X-former OK fault %s-both guns

Cause: The transformer OK input is low.

Remedy: Check the input from the weld controller, and reset as necessary.

SPOT-216 PAUSE Weld enable mismatch %s-both guns

Cause: The weld enable status from the weld controller does not match the robot's weld enable status.

Remedy: Check the robot's weld enable status on the TEST CYCLE menu and compare it to the weld controller's weld enable status. These must be the same.

SPOT-217 PAUSE Weld in process timeout %s-both guns

Cause: The robot timed out waiting for the Weld in Process input. from the weld controller.

Remedy: Check the Weld I/O menu, as well as all wiring. If the input is going high, try increasing the timeout by setting $spoteqsetup[].$wld_inpr_to to a bigger number. The default is 2000 ms, or 2 seconds.

SPOT-218 PAUSE Weld complete timeout %s-both guns

Cause: The robot timed out waiting for the Weld Complete input from the weld controller.

Remedy: Check the Weld I/O menu, as well as all wiring. If the input is going high, try increasing the timeout by setting $spoteqsetup[].$wld_comp_to to a bigger number. The default is 2000 ms, or 2 seconds.

SPOT-219 WARN Got weld complete early %s-both guns

Cause: The Weld Complete input was detected before the Weld in Process input was received.

Remedy: Check the length of the weld controller's Weld Complete output. It may need to be decreased.

SPOT-220 PAUSE Major alarm detected %s-both guns

Cause: A Major Alarm was received.

Remedy: Check the weld controller for the reason for this alarm. Reset the fault, then chose Skip/Retry option to continue the program.

SPOT-221 WARN Minor alarm detected %s-both guns

Cause: A Minor Alarm was received.

Remedy: Check the weld controller for the reason for this alarm.

SPOT-222 PAUSE Bad schedule (S=%s)-both_guns

Cause: An inavlid weld schedule was programmed in the teach pendant program.

Remedy: Check the S= value of the current line of the teach pendant program. The smallest schedule number allowed is 0. For digital weld controllers, the the largest schedule number allowed depends on the width of the Weld Schedule group output. If this GOUT is 4 I/O points wide, then the maximum schedule is 15. If the GOUT is 5 I/O points wide, then the maximum scheudule is 31. For serial weld controllers, the maximum schedule is 32. Re-program the S= value in the teach pendant program.

SPOT-223 PAUSE Undefined pressure (P=*)-both guns

Cause: A P=* was encountered in the teach pendant program, but no previous pressure value has been used.

Remedy: Be sure to include a direct pressure value instead of using the *.

SPOT-224 PAUSE BACKUP CLOSE DETECT timed out %s-both guns

Cause: The robot timed out waiting for the backup gun to close.

Remedy: Check the Equipment I/O menu, as well as all wiring. If the input is going high, try increasing the timeout by setting $spoteqsetup[].$bu_cl_to to to a bigger number. The default is 2000 ms, or 2 seconds.

SPOT-225 PAUSE GUN CLOSE DETECT timed out %s-both guns

Cause: The robot timed out waiting for the gun to close.

Remedy: Check the Equipment I/O menu, as well as all wiring. If the input is going high, try increasing the timeout by setting $spoteqsetup[].$gun_cl_to to to a bigger number. The default is 2000 ms, or 2 seconds.

SPOT-226 PAUSE BACKUP OPEN DETECT timed out %s-both guns

Cause: The robot timed out waiting for the backup gun to open.

Remedy: Check the Equipment I/O menu, as well as all wiring. If the input is going high, try increasing the timeout by setting $spoteqsetup[].$bu_op_to to to a bigger number. The default is 2000 ms, or 2 seconds.

SPOT-227 PAUSE GUN OPEN DETECT timed out %s-both guns

Cause: The robot timed out waiting for the gun to open.

Remedy: Check the Equipment I/O menu, as well as all wiring. If the input is going high, try increasing the timeout by setting $spoteqsetup[].$bu_cl_to (gun open = backup close) to to a bigger number. The default is 2000 ms, or 2 seconds.

SPOT-235 PAUSE Bad pressure-both guns

Cause: An inavlid binary valve pressure was programmed in the teach pendant program.

Remedy: Check the P= value of the current line of the teach pendant program. The smallest valve pressure allowed is 0. For digital weld controllers, the largest pressure number allowed depends on the width of the Valve Pressure group output. If this GOUT is 4 I/O points wide, then the maximum pressure is 15. If the GOUT is 5 I/O points wide, then the maximum pressure is 31. For serial weld controllers, the maximum pressure is 15. Re-program the P= value in the teach pendant program.

SPOT-236 PAUSE Reset welder timeout %s-both guns

Cause: The robot timed out waiting for the weld controller to reset a major fault

Remedy: Check the weld controller for the reason for this alarm. Reset the fault, then chose Skip/Retry option to continue the program.

SPOT-240 PAUSE Gun contactor fault %s-both guns

Cause: The specified gun contactor is in a fault condition. If a program is running, or a manual weld is being executed, then the output, if defined, must be high, and the input, if defined, must be high too.

Remedy: Make sure that the correct macro instruction has been programmed in the teach pendant program.

SPOT-241 PAUSE Gun open fault %s-both guns

Cause: This error is only posted for set/reset type guns. The shot pin was not correctly set, so the gun could not be opened.

Remedy: Check the setting of the shot pin. Make sure the shot pin has been made before attempting to close the gun.

SPOT-242 PAUSE Gun close fault %s-both guns

Cause: The Gun Close Detect input was not received within the specified timeout period.

Remedy: Verify the input is assigned correctly; verify the input is being made when the gun is closed; or if needed, increase the timeout value (in $spoteqsetup.$gun_cl_to).

SPOT-243 PAUSE Backup open fault %s-both guns

Cause: The BU Open Detect input was not received within the specified timeout period.

Remedy: Verify the input is assigned correctly; verify the input is being made when the backup gun is opened; or if needed, increase the timeout value (in $spoteqsetup.$bu_op_to).

SPOT-244 PAUSE Backup close fault %s-both guns

Cause: The BU Close Detect input was not received within the specified timeout period.

Remedy: Verify the input is assigned correctly; verify the input is being made when the backup gun is closed; or if needed, increase the timeout value (in $spoteqsetup.$bu_cl_to).

SPOT-245 PAUSE Bad Pressures (EP=%s)-both guns

Cause: An inavlid binary equalization pressure was programmed in the teach pendant program.

Remedy: Check the EP= value of the current line of the teach pendant program. The smallest valve pressure allowed is 0. For digital weld controllers, the largest pressure number allowed depends on the width of the Equalization Pressure group output. If this GOUT is 4 I/O points wide, then the maximum pressure is 15. If the GOUT is 5 I/O points wide, then the maximum pressure is 31. For serial weld controllers, the maximum pressure is 15. Re-program the EP= value in the teach pendant program.

SPOT-246 PAUSE Undefined Pressures (EP=*)-both guns

Cause: Undefined pressure (EP=*) Cause: A EP=* was encountered in the teach pendant program, but no previous pressure value has been used.

Remedy: Be sure to include a direct equalization pressure value instead of using the *.

SPOT-350 WARN IWC board not found

Cause: IWC board not found Cause: No IWC boards were found on the controller.

Remedy: If an IWC board was expected, this indicates that there is probably a serious hardware problem and the board should be replaced. If an IWC board is not expected, then the IWC driver should be removed from the configuration.

SPOT-351 WARN IWC driver not running

Cause: IWC driver not running Cause: The IWC driver is waiting for the PC/104 motherboard to complete its reset cycle.

Remedy: This is a system programming error.

SPOT-352 WARN Invalid IWC index

Cause: Invalid IWC index Cause: The specified IWC board is not installed.

Remedy: This is a system programming error.

SPOT-353 WARN IWC message in progress

Cause: IWC message in progress Cause: A message cannot be sent to the IWC because a previous message transaction is still in progress.

Remedy: This is a system programming error.

SPOT-354 WARN Invalid IWC msg buffers

Cause: Invalid IWC msg buffers Cause: The buffers sent for a message transaction are not valid in number and/or length.

Remedy: This is a system programming error.

SPOT-355 WARN Invalid IWC function code

Cause: Invalid IWC function code Cause: The function request to the IWC driver is invalid.

Remedy: This is a system programming error.

SPOT-356 WARN Checksum error, IWC msg send

Cause: Checksum error, IWC msg send Cause: The IWC reported a checksum error during a message send operation. This may indicate a problem with the board or driver software.

Remedy: Notify Product Development.

SPOT-357 WARN Invalid buffer, IWC msg send

Cause: Invalid buffer, IWC msg send Cause: The IWC reported an invalid buffer during a message send operation. This may indicate a problem with the board or driver software.

Remedy: Notify Product Development.

SPOT-358 WARN Checksum error, IWC msg recv

Cause: Checksum error, IWC msg recv Cause: An invalid checksum was computed on a message segment received from the IWC board. This may indicate a problem with the board

or driver software.

Remedy: Notify Product Development.

SPOT-359 WARN Invalid buffer, IWC msg recv

Cause: Invalid buffer, IWC msg recv Cause: An invalid buffer tag was detected on a message segment received from the IWC board. This may indicate a problem with the board or driver software.

Remedy: Notify Product Development.

SPOT-360 WARN IWC buffer too small

Cause: IWC buffer too small Cause: The buffer passed to the IWC driver was too small to hold the message received from the IWC.

Remedy: This is a system programming error.

SPOT-361 WARN Ack timeout, IWC msg send

Cause: Ack timeout, IWC msg send Cause: The IWC did not acknowledge a message segment that was sent to it.

Remedy: Notify Product Development.

SPOT-362 WARN Timeout, IWC msg recv

Cause: Timeout, IWC msg recv Cause: The IWC did not send a response message within the allowable time limit.

Remedy: Notify Product Development.

SPOT-363 WARN IWC motherboard error

Cause: IWC motherboard error Cause: The IWC driver was unable to communicate with the PC/104 motherboard driver.

Remedy: Notify Product Development.

SPOT-364 WARN IWC has invalid DPRAM signature

Cause: IWC has invalid DPRAM signature Cause: An IWC board was detected, but the contents of the dual-port RAM area is not what is expected.

Remedy: Make sure that the correct type of IWC board is installed. If the problem persists, swap in a new board.

SPOT-365 WARN Unsupported IWC version/rev level

Cause: Unsupported IWC version/rev level Cause: An IWC board was detected, but the version and/or revision level of its dual-port RAM is not supported by the installed driver.

Remedy: Install an IWC with a compatible version level, or check to see if there is an updated version of the driver available.

SPOT-366 WARN Unable to register IWC interrupt

Cause: Unable to register IWC interrupt Cause: The driver was unable to register an interrupt for the IWC board.

Remedy: Notify Product Development.

SPOT-367 WARN Only 40 functions allowed in a schedule

Cause: Only 40 functions allowed in a schedule Cause: User tried to insert more than 40 functions into a schedule.

Remedy: Do not insert more than 40 functions in a schedule.

SPOT-368 WARN Imp. can only come before weld FCTN

Cause: Imp. can only come before weld FCTN Cause: User tried to insert an impulse function (function 60) before a non weld function.

Remedy: Insert the impulse function directly before a weld function.

SPOT-369 WARN FCTN not supported by the timer

Cause: FCTN not supported by the timer Cause: The user directly entered an invalid function number to be inserted.

Remedy: Choose another function from the choice list, or lookup the function number of a valid function.

SPOT-370 WARN Could not download schedule %d

Cause: Could not download schedule %s Cause: The schedule failed 2 download tries to the timer.

Remedy: Try cycle power.

SPOT-371 WARN Could not download stepper %d

Cause: Could not download stepper %s Cause: The stepper failed 2 download tries to the timer.

Remedy: Try cycle power.

SPOT-372 WARN Could not read sequence file %d

Cause: Could not read sequence file %d Cause: The sequence file could not be read from the FROM.

Remedy: Make sure the sequence exists on FROM.

SPOT-373 WARN Could not download setup data

Cause: Could not download setup data Cause: The setup data failed 2 download tries to the timer.

Remedy: Try cycle power.

SPOT-374 WARN Could not download Dynamic data

Cause: Could not download Dynamic data Cause: The dynamic data failed 2 download tries to the timer.

Remedy: Try cycle power.

SPOT-375 WARN Could not read stepper file %d

Cause: Could not read stepper file %d Cause: The stepper file could not be read from the FROM.

Remedy: Make sure the stepper exists on FROM.

SPOT-376 WARN Could not read setup file %s

Cause: Could not read setup file Cause: The setup file could not be read from the FROM.

Remedy: Make sure the setup file exists on FROM.

SPOT-377 WARN Could not read file %s

Cause: Could not read file %s Cause: The named file could not be read from the Device.

Remedy: Make sure the file exists on the Device.

SPOT-378 WARN IWC ID jumpers incorrect

Cause: IWC ID jumpers incorrect Cause: The ID jumpers on the IWC card(s) are not set so that the cards can be identified as card #1 and card #2

Remedy: If there is one card in the system, its ID must be set to 1. If there are two cards, one must be set as card 1 and the other as card 2 according to which slots they are in.

SPOT-379 WARN IWC slave busy

Cause: IWC slave busy Cause: IWC slave busy bit is set in status word.

Remedy: Retry operation after a short delay.

SPOT-380 WARN Invalid IWC Firmware Version

Cause: Invalid IWC Firmware Version Cause: The firmware versions on the timer card must be the same if there are 2 timers. Either the firmware version itself is different, or the revision level of the firmware is different.

Remedy: Make sure the firmware version and revision level match for both cards. It could be viewed by plugging in one card at a time and viewing the revision level of each.

SPOT-382 PAUSE IWC(DG) illegal stepper number(%d)

Cause: An illegal value for the SN SPELL OUT SN field in the reset stepper instruction was used for the Dengensha IWC.

Remedy: Change the instruction to use a value that is between 0 and 4.

SPOT-385 PAUSE IWC(DG) illegal counter specified(%d)

Cause: An invalid value for the SV SPELL OUT field in the reset stepper instruction was used.

Remedy: Reset the SV value to be between 0 and 2.

SPOT-386 PAUSE Reset stepper timeout %s

Cause: The weld controller did not acknowledge the reset stepper command in the alloted time.

Remedy: Check that the weld controller is functioning correctly.

SPOT-401 PAUSE WTC E01: Controller Failure

Cause: This is a fault from the WTC weld controller.

Remedy: View the error code remedy information in the WTC weld controller manual.

3.18.6. SRIO Alarm Code

SRIO-001 WARN S. PORT ILLEGAL FUNCTION CODE

Cause: Illegal function code was specified. System error.

Remedy: System error.

SRIO-002 WARN SERIAL PORT NOT OPEN

Cause: Serial port is not opened.

Remedy: Open serial port before using it.

SRIO-003 WARN SERIAL PORT ALREADY OPEN

Cause: Serial port has already been opened, and it was tried to be opened again.

Remedy: Do not try to open the serial port which has already be opened.

SRIO-004 WARN SERIAL PORT NOT INITIALIZE

Cause: Serial port is not initialized.

Remedy: Initialize the serial port before using it.

SRIO-005 WARN SERIAL PORT DSR OFF

Cause: Serial port DSR is off.

Remedy: Check if serial port setup is correct. Check if cable is broken. Check if there exists a noise source near controller. Check target device status.

SRIO-006 WARN SERIAL PORT PARITY ERROR

Cause: Serial port parity error occured.

Remedy: Check if serial port setup is correct. Check if cable is broken. Check if there exists a noise source near controller.

SRIO-007 WARN SERIAL PORT OVERRUN ERROR

Cause: Serial port overrun error occured.

Remedy: Check if serial port setup is correct. Check if cable is broken. Check if there exists a noise source near controller.

SRIO-008 WARN SERIAL PORT FRAME ERROR

Cause: Serial port frame error occured.

Remedy: Check if serial port setup is correct. Check if cable is broken. Check if there exists a noise source near controller.

SRIO-009 WARN S. PORT PARITY & OVERRUN

Cause: Serial port parity error and overrun error occured.

Remedy: Check if serial port setup is correct. Check if cable is broken. Check if there exists a

noise source near controller.

SRIO-010 WARN S. PORT PARITY & FRAME

Cause: Serial port parity error and frame error occured

Remedy: Check if serial port setup is correct. Check if cable is broken. Check if there exists a noise source near controller.

SRIO-011 WARN S. PORT OVERRUN & FRAME

Cause: Serial port overrun error and frame error occured.

Remedy: Check if serial port setup is correct. Check if cable is broken. Check if there exists a noise source near controller.

SRIO-012 WARN S. PORT PRTY & OVRRN & FRM

Cause: Serial port parity error, overrun error, and frame error occured.

Remedy: Check if serial port setup is correct. Check if cable is broken. Check if there exists a noise source near controller.

SRIO-013 WARN S. PORT DSR OFF & HARDWARE ERR

Cause: Serial port DSR is off and harware error occured.

Remedy: Check if serial port setup is correct. Check if cable is broken. Check if there exists a noise source near controller. Check target device status. Check the hardware.

SRIO-014 WARN S. PORT ILLEGAL REQUEST COUNT

Cause: Serial port request count is illegal. System error.

Remedy: System error.

SRIO-015 WARN SERIAL PORT CANCEL

Cause: Cancel current serial port setup. This code does not appear at normal time. System error.

Remedy: System error.

SRIO-016 WARN S. PORT POWER FAILURE CANCEL

Cause: Initialize serial port at power failure recovery. This code does not appear at normal time. System error.

Remedy: System error.

3.18.7. SRVO Alarm Code

SRVO-001 SERVO Operator panel E-stop

Cause: The operator panel emergency stop push button is pressed.

Remedy: Twist the operator panel emergency stop push button clockwise to release. Press RESET.

SRVO-002 SERVO Teach pendant E-stop

Cause: The teach pendant emergency stop push button is pressed.

Remedy: Twist the teach pendant emergency stop push button clockwise to release. Press RESET.

SRVO-003 SERVO Deadman switch released

Cause: The teach pendant deadman switch is released while the teach pendant is enabled.

Remedy: Press teach pendant deadman switch. Press RESET.

SRVO-004 SERVO Fence open

Cause: On the terminal block on the printed circuit board of the operator panel, no connection is established between the FENCE1 and FENCE2 signals. When a safety door is connected, it is open.

Remedy: Establish a connection between FENCE1 and FENCE2, then press the RESET key. When a safety door is connected, close the door before starting work.

SRVO-005 SERVO Robot overtravel

Cause: A hardware limit switch on an axis was tripped. Usually, robot movement cannot exceed a limit beyond the maximum range of movement (software limits) for each axis. However, when the robot is shipped, the overtravel state is set for transit.

Remedy: Perform the following steps: 1. Jog the robot off of the overtravel switch: 1) Press MENUS. 2) Select MANUAL FCTNS. 3) Press F1, [TYPE]. 4) Select OT_RELEASE. The axis that has overtraveled will display TRUE in either OT_MINUS or OT_PLUS. 5) Move the cursor to the OT_MINUS or OT_PLUS value of the axis in overtravel. 6) Press F2, RELEASE. The value of the overtraveled axis should change back to FALSE. 7) Press and hold down the SHIFT key until you have completed Steps 1) through 4). 8) Press RESET and wait for the servo power to turn on. 9) Press COORD until the JOINT coordinate system is selected. 10) Continuously press and hold the DEADMAN switch and turn the teach pendant ON/OFF switch to ON. 11) Jog the overtraveled axis off of the overtravel switch. When you have finished jogging, you can release the SHIFT key. 12) Turn the teach pendant ON/OFF switch to OFF and release the DEADMAN switch. NOTE: If you accidentally release the key during this procedure, you will need to repeat Step 7). 2. While you hold down the SHIFT key, press

RESET to clear the alarm. 3. Replace the servo amplifier. 4. If this does not clear the alarm, verify that all connectors are securely connected.

SRVO-006 SERVO Hand broken

Cause: A safety hand has broken. If no broken hand can be found, however, the most likely cause is the HBK signal of a robot connection cable being at the 0 V level.

Remedy: 1. While holding down the SHIFT key, press the alarm release button to clear the alarm. 2. While holding down the SHIFT key, position the tool to the workplace by jogging. 1) Replace the safety hand. 2) Check the cable. 3. Check cable RP1 for loose connection, damaged pins, or damaged cable. 4. Replace the servo amplifier.

SRVO-007 SERVO External emergency stops

Cause: The external emergency stop push button is pressed. On the terminal block of the printed circuit board for the operator panel, no connection is established between EMGIN1 and EMGIN2.

Remedy: If using external emergency stop, clear the source of the fault, and press RESET. If not using external emergency stop, check the wiring at EMGIN1 and EMGIN2.

SRVO-008 SERVO Brake fuse blown

Cause: The brake fuse is blown on the EMG Control PCB.

Remedy: Replace the fuse. Check the LED (FALM) on the printed circuit board for emergency stop control to determine whether the fuse has blown.

SRVO-009 SERVO Pneumatic pressure alarm

Cause: The pneumatic pressure alarm indicates the presence of a defect. If the pneumatic pressure alarm is not detected, however, the most likely cause is the PPABN signal of a robot connection cable being at the 0 V level.

Remedy: If the pneumatic pressure alarm is not detected, check the cable.

SRVO-010 SERVO Belt broken

Cause: The belt broken robot digital input (RDI7) is asserted.

Remedy: 1. If the belt is found to be defective in any way, repair it and then press the RESET key. 2. When the belt is found to be normal, the signal RDI[7] in the robot connection cable might be abnormal. Check the cable. 3. Check the system variable $PARAM_GROUP.$BELT_ENABLE.

SRVO-011 SERVO TP released while enabled

Cause: The teach pendant attachment switch on the operator panel was operated while the

teach pendant was enabled.

Remedy: Reconnect the teach pendant cable to continue operation.

SRVO-012 SERVO Power failure recovery

Cause: Normal power on (hot start).

Remedy: This is just a notification. You do not have to do anything for this warning message.

SRVO-013 SYSTEM Srvo module config changed

Cause: Upon power-up with power restoration enabled (hot start), the configuration of the DSP modules on the axis control printed circuit board and the multi-function printed circuit board has been changed.

Remedy: Turn on the power in cold start mode.

SRVO-014 WARN Fan motor abnormal

Cause: A fan motor in the control unit is abnormal.

Remedy: Check the fan motors and fan motor connection cables. Replace any faulty fan motor(s) and/or cable(s).

SRVO-015 SERVO System over heat

Cause: The temperature of the control unit is higher than the specified value.

Remedy: 1. If the ambient temperature is higher than the specified temperature (45 degrees C), provide ventilation to reduce the ambient temperature to the specified value. 2. Check that the fans are operating normally. If not, check the fan motors and fan motor connection cables. Replace any faulty fan motor(s) and/or cables(s). 3. If the thermostat on the backplane printed circuit board is faulty, replace the backplane unit.

SRVO-016 SERVO Cooling water volume drop

Cause: Cooling water volume dropped.

Remedy: Consult your FANUC Robotics technical representative.

SRVO-017 SERVO No robot internal mirror

Cause: No robot internal mirror.

Remedy: Consult your FANUC Robotics technical representative.

SRVO-019 SERVO SVON input

Cause: On the terminal block on the printed circuit board of the operator panel, no connection is established between signals *SVON1 and *SVON2. When an external switch is connected, it should be checked.

Remedy: Establish a connection between *SVON1 and *SVON2.

SRVO-020 SERVO SRDY off (TP)

Cause: The teach pendant cable is disconnected or a momentary break occurred in any one of the TP emergency stop circuits: TP emergency stop, DEADMAN, or fence.

Remedy: Check the teach pendant cable and connections.

SRVO-021 SERVO SRDY off (Group:%d Axis:%d)

Cause: When HRDY is on, SRDY is off even though no other alarm cause is present. HRDY is the signal sent from the host to the servo system to specify whether to turn the servo amplifier's MCC on or off. SRDY is the signal sent from the servo system to the host to indicate whether the servo amplifier's MCC is on or off. Generally, if a servo amplifier's MCC is not turned on despite the signal for turning the MCC on having been issued, an alarm is issued for the servo amplifier. The host does not issue this alarm (SRDY off) if an alarm for the servo amplifier is detected. So, this alarm indicates that the MCC is not turned on when no error can be found.

Remedy: 1. Check whether the door is open. Also check the door switch. 2. Check the following cables. Replace them if necessary: connector CRR15 on the emergency stop board, terminals A1 and A2 on the MCC contactor, and connector CRR20 on the emergency stop board that connects to terminals 1, 2, 3 of the MCC contactor. 3. Replace the magnetic contactor and then the emergency stop printed circuit board. WARNING: Before you continue to the next step, perform a complete controller backup to save all of your programs and settings from memory for this robot. After you complete the next step, restore the saved data to the new Main CPU board if memory has been lost. Otherwise, you could injure personnel, damage equipment, or lose data. 4. Verify that the battery is securely connected to the Main CPU board before removing the board. Replace the axis control card on the Main CPU board. 5. Replace the MCC contactor. 6. If this does not clear the alarm, verify that all connectors are securely connected.

SRVO-022 SERVO SRDY on (Group:%d Axis:%d)

Cause: SRDY was already on when an attempt was made to turn on the MCC with HRDY. HRDY is the signal sent from the host to the servo system to specify whether to turn the servo amplifier's MCC on or off. SRDY is the signal sent from the servo system to the host to indicate whether a servo amplifier's MCC is on or off.

Remedy: WARNING: Before you continue to the next step, perform a complete controller backup to save all of your programs and settings from memory for this robot. After you complete the next step, restore the saved data to the new Main CPU board if memory has been lost. Otherwise, you could injure personnel, damage equipment, or lose data. 1. Verify that the battery is connected to the Main CPU board before removing the Main CPU board. Replace the axis control card on the Main CPU board. 2. Replace the servo amplifier. 3. If this

does not clear the alarm, verify that all connectors are securely connected.

SRVO-023 SERVO Stop error excess(G:%d A:%d)

Cause: A excessive servo positional error occurred when the motor stopped.

Remedy: 1. Check whether the applied load exceeds the rating. If so, reduce the applied load. If an excessive load is applied, the torque required for acceleration, deceleration, and so forth exceeds the maximum available torque of the motor. Therefore, it might prove impossible to correctly respond to an issued command, resulting in the output of this alarm. 2. Check each interphase voltage of the three-phase voltage (200 VAC) applied to the servo amplifier. If the voltage is found to be 170 VAC or below, check the input power supply voltage. A sub-standard voltage, applied to a servo amplifier, results in a lower-than-normal torque. Therefore, it might prove impossible to correctly respond to an issued command, thus resulting in the output of this alarm. Check phase-to-phase voltage across the three pins of connector CRM38A or CRM38B of the servo amplifier. 3. If the input power supply voltage is found to be 170 VAC or higher, replace the servo amplifier. 4. Check the motor power cables (RM1, RM2, RM3) for damage, to cable or pins, and that the connector is securely connected. WARNING: By completing the next step you will be altering the positional reference for the robot since you are replacing hardware. You must slowly verify all positional data and touch-up any paths or points that have changed. Otherwise, you could injure personnel or damage equipment. 5. Replace the motor, and remaster the robot.

SRVO-024 SERVO Move error excess(G:%d A:%d)

Cause: When the robot moved, the servo positional error exceeded a previously specified value ($PARAM_GROUP.$MOVER_OFFST or $PARAM_GROUP.$TRKERRLIM). For example, this error will occur if the feedrate of the robot differs from that specified.

Remedy: 1. Check whether the applied load exceeds the rating. If so, reduce the applied load. If an excessive load is applied, the torque required for acceleration, deceleration, and so forth exceeds the maximum available torque of the motor. Therefore, it prove impossible to respond to an issued command correctly, causing this alarm to occur. 2. Check each interphase voltage of the three-phase voltage (200 VAC) applied to the servo amplifier. If the voltage is found to be 170 VAC or below, check the input power supply voltage. A sub-standard voltage, applied to a servo amplifier, results in a lower-than-normal torque. Therefore, it might prove impossible to correctly respond to an issued command, thus resulting in the output of this alarm. Check the phase-to-phase voltage across the three pins of connector CRM38A of the servo amplifier. 3. If the input power supply voltage is found to be 170 VAC or higher, replace the servo amplifier. 4. Check the motor power cables (RM1, RM2, RM3) for damage, to cable or pins, and that the connector is securely connected. WARNING: By completing the next step you will be altering the positional reference for the robot since you are replacing hardware. You must slowly verify all positional data and touch-up any paths or points that have changed. Failure to perform this could result in injury to personnel, damage to equipment, or lost data. 5. Replace the motor, and remaster the robot.

SRVO-025 SERVO Motn dt overflow (G:%d A:%d)

Cause: The value entered with a command is too large.

Remedy: Perform a cold start: 1. Turn off the robot. 2. On the teach pendant, press and hold the SHIFT and RESET keys. 3. While still pressing the SHIFT and RESET keys, turn on the robot. If the error is not cleared, document the events that led to the error and call your FANUC Robotics technical representative.

SRVO-026 WARN Motor speed limit(G:%d A:%d)

Cause: An attempt was made to exceed the maximum rated motor speed ($PARAM_GROUP.$MOT_SPD_LIM). The motor speed is clamped to its maximum rated value.

Remedy: This is just a notification. However, you should attempt to eliminate this error and not repeat the circumstances that led up to it.

SRVO-027 WARN Robot not mastered(Group:%d)

Cause: An attempt was made to perform calibration, but mastering has not yet been completed.

Remedy: Perform mastering from the calibration screen [6 SYSTEM CALIBRATION].

SRVO-030 SERVO Brake on hold (Group:%d)

Cause: When the temporary stop alarm function ($SCR.$BRKHOLD_ENB=1) is enabled, this alarm is issued whenever a temporary stop is made. When this function is not to be used, disable the function.

Remedy: Disable [TEMPORARY STOP/SERVO OFF] on the general item setting screen [6 GENERAL SETTING ITEMS].

SRVO-031 SERVO User servo alarm (Group:%d)

Cause: A user servo alarm was issued. This alarm is raised when the system variable $MCR_GRP[i].$SOFT_ALARM is set to TRUE. Only KAREL users can use this variable.

Remedy: This is just a notification. You do not have to do anything for this warning message.

SRVO-033 WARN Robot not calibrated(Grp:%d)

Cause: An attempt was made to set a reference point for simple mastering, but calibration has not yet been completed.

Remedy: Perform calibration by performing the procedure below: 1. Turn on power. 2. Execute [CALIBRATION] from the calibration screen [6 SYSTEM CALIBRATION].

SRVO-034 WARN Ref pos not set (Group:%d)

Cause: An attempt was made to perform simple mastering, but a required reference point has not yet been set

Remedy: Set a reference point for simple mastering from the calibration screen.

SRVO-035 WARN Joint speed limit(G:%d A:%d)

Cause: An attempt was made to exceed the maximum joint speed ($PARAM_GROUP.$JNTVELLIM). The joint speed is clamped to its maximum rated value.

Remedy: Every attempt should be made to eliminate this error.

SRVO-036 SERVO Inpos time over (G:%d A:%d)

Cause: The in-position monitor time ($PARAM_GROUP.$INPOS_TIME) has elapsed, but the in-position state ($PARAM_GROUP.$STOPTOL) h=as not yet been set.

Remedy: 1. Check whether the applied load exceeds the rating. If so, reduce the applied load. If an excessive load is applied, the torque required for acceleration, deceleration, and so forth exceeds the maximum available torque of the motor. Therefore, it might prove impossible to correctly respond to an issued command, resulting in the output of this alarm. 2. Check each interphase voltage of the three-phase voltage (200 VAC) applied to the servo amplifier. If the voltage is found to be 170 VAC or below, check the input power supply voltage. A sub-standard voltage, applied to a servo amplifier, results in a lower-than-normal torque. Therefore, it might prove impossible to correctly respond to an issued command, thus resulting in the output of this alarm. Check phase-to-phase voltage across the three pins of connector CRM38A of the servo amplifier. 3. If the input power supply voltage is found to be 170 VAC or higher, replace the servo amplifier. 4. Check the motor power cables (RM1, RM2, RM3) for damage, to cable or pins, and that the connector is securely connected. WARNING: By completing the next step you will be altering the positional reference for the robot since you are replacing hardware. You must slowly verify all positional data and touch-up any paths or points that have changed. Otherwise, you could injure personnel or damage equipment. 5. Replace the motor, and remaster the robot.

SRVO-037 SERVO IMSTP input (Group:%d)

Cause: The *IMSTP signal, which is a peripheral device I/O signal, is applied.

Remedy: Turn on the *IMSTP signal.

SRVO-038 SERVO Pulse mismatch (G:%d A:%d)

Cause: A pulse count detected when the controller was turned off differs from that detected when the controller was turned on. This alarm is asserted after exchange of the pulse coder or battery for backup of the pulse coder data, or loading backup data to the main board.

Remedy: First perform an APC reset and remaster the robot: 1. Press MENUS. 2. Select SYSTEM. 3. Press F1, [TYPE]. 4. Select MASTER/CAL. 5. Press F3, [RES-PCA]. 6. Press RESET. 7. Perform a Cold start. WARNING: By completing the next step you will be altering the positional reference for the robot since you are replacing hardware. You must slowly verify all positional data and touch-up any paths or points that have changed. Otherwise, you could injure personnel or damage equipment. 8. Remaster the robot if needed. If remastering is

performed, you must verify all of your robot paths to prevent damage to equipment. If the pulse mismatch is not reset: 1. Check the pulse coder cable from the motor. 2. Check the internal cable set next. 3. Check the P1 cable from the robot to the controller, verify that there are no pins damaged at the robot base connection and that there is not damage to the cable. 4. Replace the pulse coder and remaster as stated in the APC RESET procedure above.

SRVO-039 SERVO Motor speed excess(G:%d A:%d)

Cause: CMC cannot work because the calculated motor speed exceeded the specification.

Remedy: Reduce the motion speed or disable CMC.

SRVO-040 WARN Mastered at mark pos(G:%d)

Cause: Zero position master is done with mark position (not with zero position).

Remedy: This message is only for S-420iR. S-420iR has the mark at non-zero position for J2 and J3. So Zero position master is not done with zero pos for S-420iS. Confirm the position of each axis to be at mark position. If the robot is not S-420iR, $scr_grp.$robot_model may be wrong. Set correct $scr_grp.$robot_model.

SRVO-041 SERVO MOFAL alarm (Grp:%d Ax:%d)

Cause: A value specified with a command is too large.

Remedy: Document the events that led to the error and call your FANUC Robotics technical representative.

SRVO-042 SERVO MCAL alarm(Group:%d Axis:%d)

Cause: The servo amplifier magnetic contactor (MCC) is welded closed. This is an S-900-specific alarm.

Remedy: 1. If this alarm occurs with a SRVO-049 OHAL1, turn the power off for 15 seconds. Then turn the power back on. 2. Check the cable between the servo amplifier and the axis control printed circuit board. 3. Replace the servo amplifier. 4. Replace the axis control printed circuit board.

SRVO-043 SERVO DCAL alarm(Group:%d Axis:%d)

Cause: The energy produced by the regenerative discharge is excessive. As a result, all the generated energy cannot be dissipated as heat. When a robot is to be operated, a servo amplifier feeds energy to the robot. Along its vertical axis, however, the robot moves downward using potential energy. If the decrease in the potential energy exceeds the acceleration energy, the servo amplifier receives energy from the motor. This also occurs during deceleration even if the force of gravity has no effect. This energy is called regenerative energy. Normally, the servo amplifier dissipates this regenerative energy by converting it to heat. When the amount of regenerative energy exceeds the amount of energy that can be dissipated as heat, excess energy accumulates in the servo amplifier, thus

triggering this alarm.

Remedy: When the LED indicator of the servo amplifier PSM displays '8' (DCOH alarm) (the DCOH alarm is issued when the thermostat detects overheating of the regenerative resistor): 1. This alarm might be raised when acceleration/deceleration is frequently performed or when a large amount of regenerative energy is generated in the vertical axis. In such cases, the robot should be used under less demanding conditions. 2. Check fuse FU1 on the servo amplifier. 3. Replace the regenerative resistor. 4. Check the cable between the servo amplifier (CRR45A) and the regenerative resistor. Replace it if necessary. 5. If this does not clear the alarm, verify that all connectors are securely connected.

SRVO-044 SERVO HVAL alarm(Group:%d Axis:%d)

Cause: The DC voltage (DC link voltage) of the main circuit power supply is abnormally high. The LED indicator of the servo amplifier PSM displays '7'.

Remedy: 1. Check the three-phase input voltage applied to the servo amplifier. When the voltage is 253 VAC or higher, check the input power supply voltage. If the motor is abruptly accelerated or decelerated while the three-phase input voltage exceeds 253 VAC, this alarm might be issued. 2. Check whether the applied load is within the rated value. If the rated load is exceeded, reduce the applied load. If a load exceeds the rated value, built-up regenerative energy might cause this alarm to be issued even when the three-phase input voltage satisfies the specifications. 3. Check the cables (CN3 and CN4) in the amplifier. Replace them if necessary. 4. Check the cable between the main CPU printed circuit board (JRV1) and the printed circuit board for the emergency stop control (JRV1). 5. Replace the servo amplifier.

SRVO-045 SERVO HCAL alarm(Group:%d Axis:%d)

Cause: An excessively high current flowed through the main circuit of a servo amplifier. The LED indicator on the servo amplifier PSM displays '-'. One of the red LEDs (HC1 to HC6) above the 7-segment LED is lit, indicating the axis for which the HCAL alarm is detected.

Remedy: 1. Relax operating conditions if cooling down clears this problem. 2. Disconnect the motor power line from the terminal block of the servo amplifier, then turn on the power. If this alarm is still issued, replace the servo amplifier. 3. Remove the motor power line from the terminal block of the servo amplifier, then check the insulation between U, V, and W of the motor power line and GND. If a short circuit is found, check the motor, robot connection cable, or robot internal cable. If any abnormality is found, replace the faulty hardware. 4. Remove the motor power line from the terminal block of the servo amplifier, then check the resistance between U and V, V and W, and W and U of the motor power line using a measuring instrument capable of detecting very low resistances. If the measured resistances differ from each other, check the motor, robot connection cable, or robot internal cable. If any abnormality is found, replace the faulty hardware. 5. Replace the servo amplifier. 6. If this does not clear the alarm, verify that all connectors are securely connected.

SRVO-046 SERVO OVC alarm (Group:%d Axis:%d)

Cause: This alarm is issued to protect the motor when there is a danger of thermal destruction when the root-mean-square current value, calculated internally by the servo system, exceeds the maximum permissible value.

Remedy: 1. Check the operating conditions of the robot. If the robot's ratings, such as the rated duty cycle and load, are exceeded, modify the use of the robot such that the rated values are not exceeded. 2. Check each interphase voltage of the three-phase voltage (200 VAC) applied to the servo amplifier connector CRR38A, which is 3-phase, and connector CRR39, which is single-phase. If the applied voltage is found to be 170 VAC or less, check the input power supply voltage. 3. Replace the servo amplifier. 4. If this does not clear the alarm, verify that all connectors are securely connected. 5. Replace the motor.

SRVO-047 SERVO LVAL alarm(Group:%d Axis:%d)

Cause: Despite the external magnetic contactor for a servo amplifier being on, the DC voltage (DC link voltage) of the main circuit power supply or the control power supply voltage (+5 V) is excessively low.

Remedy: When the LED indicator on the servo amplifier displays '6' (this alarm is issued when the control power supply voltage (+5 V) is excessively low): 1. Replace the servo amplifier. 2. Replace the power supply PCB.

SRVO-048 SERVO MOH alarm (Group:%d Axis:%d)

Cause: Never occurs on R-Model J.

Remedy: None applicable.

SRVO-049 SERVO OHAL1 alarm (Grp:%d Ax:%d)

Cause: The servo amplifier's built-in thermostat was actuated. The LED indicator on the servo amplifier PSM displays '3'.

Remedy: 1. Check the operating conditions of the robot. If any of the ratings specified for the robot, such as its rated duty cycle or load, are exceeded, modify the use of the robot so that the ratings are not exceeded. 2. Check whether the fuse (F1, F2) in the servo amplifier has blown. 3. Replace the servo amplifier. 4. If this does not clear the alarm, verify that all connectors are securely connected. 5. Replace the transformer.

SRVO-050 SERVO Collision Detect alarm (G:%d A:%d)

Cause: An excessively large disturbance torque is estimated by the servo software. A collision was detected.

Remedy: 1. Check whether the robot has collided with an object. If so, reset the system, then move the robot away from the location of the collision by jogging. 2. Check that the applied load does not exceed the maximum rating. If the rated load is exceeded, reduce the applied load. If the robot is used with an excessive load applied, the estimated disturbance might become excessively large, resulting in this alarm being output. 3. Check each interphase voltage of the three-phase voltage (200 VAC) applied to the servo amplifier. If the applied voltage is found to be 170 VAC or less, check the input power supply voltage. 4. Replace the servo amplifier.

SRVO-051 SERVO CUER alarm(Group:%d Axis:%d)

Cause: The offset of a current feedback is excessively large.

Remedy: 1. Replace the servo amplifier. 2. If this does not clear the alarm, verify that all connectors are securely connected.

SRVO-053 WARN Disturbance excess(G:%d A:%d)

Cause: Disturbance estimated in the software exceeded the threshold value. There is a possibility that the load held in the wrist exceeded the robot specification.

Remedy: If operation is allowed to continue, a detection error might result. On the status screen containing the disturbance value, specify a new value for the acceptable disturbance limit.

SRVO-054 SYSTEM DSM memory error (DSM:%d)

Cause: The DSP module program memory is defective.

Remedy: WARNING: Before you continue to the next step, perform a complete controller backup to save all your programs and settings from memory for this robot. After you complete the next step, restore the saved data to the new main CPU board if memory has been lost. Otherwise, you could injure personnel, damage equipment, or lose data. Replace the axis control card on the main CPU board.

SRVO-055 SERVO FSSB com error 1 (G:%d A:%d)

Cause: An FSSB communication error from SRVO to SLAVE occurred.

Remedy: Check the FSSB hardware connection.

SRVO-056 SERVO FSSB com error 2 (G:%d A:%d)

Cause: An FSSB communication error from SLAVE to SRVO occurred.

Remedy: Check the FSSB hardware connection.

SRVO-057 SERVO FSSB disconnect (G:%d A:%d)

Cause: N/A

Remedy: N/A

SRVO-058 SYSTEM FSSB 1 init error

Cause: An FSSB 1 communication error occurred during initialization.

Remedy: Check the FSSB 1 hardware connection of fiber cables between the amplifier and

DSP card.

SRVO-059 SYSTEM Servo amp init error

Cause: Servo amplifier initialization failed.

Remedy: Check the servo amplifier or connection of the servo amplifier.

SRVO-060 SYSTEM FSSB 2 init error

Cause: An FSSB 2 communication error occurred during initialization.

Remedy: Check the FSSB 2 hardware connection of fiber cables between the amplifier and DSP card.

SRVO-061 SERVO CKAL alarm(Group:%d Axis:%d)

Cause: The clock for the rotation counter in the pulse coder is abnormal.

Remedy: If this alarm occurs along with a SRVO-068 DTERR, SRVO-069 CRCERR, or SRVO-070 STBERR, disregard this alarm and refer to the other three alarm remedies. Replace the pulse coder or motor and master the robot.

SRVO-062 SERVO BZAL alarm(Group:%d Axis:%d)

Cause: This alarm is issued when the battery for backing up the absolute position data of the pulse coder is not connected. The battery cable inside the robot might have become disconnected.

Remedy: Correct the cause of the alarm, then turn on power again after setting the system variable $MCR.$SPC_RESET to TRUE. Master the robot.

SRVO-063 SERVO RCAL alarm(Group:%d Axis:%d)

Cause: The built-in rotation counter on the pulse coder is abnormal.

Remedy: 1. Eliminate the cause of the alarm. Set the system variable $MCR.$SPC_RESET to TRUE, and turn the power off and then on again. Master the robot. 2. Replace the pulse coder. Master the robot. NOTE: The RCAL alarm might be displayed when any of the SERVO-068 DTERR, SERVO-069 CRCERR, or SERVO-070 STBERR alarms is raised. In this case, however, this alarm can be safely ignored.

SRVO-064 SERVO PHAL alarm(Group:%d Axis:%d)

Cause: This alarm is issued when the phase of a pulse signal generated by the pulse coder is abnormal.

Remedy: Replace the pulse coder. After replacing, master the robot. NOTE: If a DTERR, CRCERR, or STBERR alarm is issued, this alarm might also be output at the same time.

Should this occur, however, this alarm can be safely ignored.

SRVO-065 WARN BLAL alarm(Group:%d Axis:%d)

Cause: The battery voltage for the pulse coder has dropped below the allowable minimum.

Remedy: Replace the battery. When this alarm is issued, immediately replace the battery while the system power is turned on. If the BZAL alarm is issued because the battery is not replaced in time, positional data will be lost, thus making it necessary to master the robot.

SRVO-066 SERVO CSAL alarm(Group:%d Axis:%d)

Cause: The pulse coder ROM checksum data is abnormal.

Remedy: If this alarm occurs along with a SRVO-068 DTERR, SRVO-069 CRCERR, or SRVO-070 STBERR, disregard this alarm and refer to the other three alarm remedies. Replace the pulse coder or motor and master the robot.

SRVO-067 SERVO OHAL2 alarm (Grp:%d Ax:%d)

Cause: The temperature inside the pulse coder has become too high, causing the built-in thermostat to actuate.

Remedy: 1. Check the operating conditions of the robot. If any of the ratings specified for the robot, such as its rated duty cycle or load, are exceeded, modify the use of the robot so that the ratings are not exceeded. 2. If this alarm is issued, even when the power is turned on and the motor has not overheated, replace the motor.

SRVO-068 SERVO DTERR alarm (Grp:%d Ax:%d)

Cause: A request signal was sent to the serial pulse coder, but no serial data was returned.

Remedy: 1. Check the shielding for the pulse coder cables to ground. The ground wire is the yellow and green wire connected to the robot base. 2. Inspect the pulse coder cable set for breaks, internal robot set, and P1 cable running from the robot to the controller. WARNING: By completing the next step you will be altering the positional reference for the robot since you are replacing hardware. You must slowly verify all positional data and touch-up any paths or points that have changed. Otherwise, you could injure personnel or damage equipment. 3. Replace the pulse coder and remaster the robot. 4. Replace the P1 cable. 5. Replace the internal cable set.

SRVO-069 SERVO CRCERR alarm (Grp:%d Ax:%d)

Cause: A serial data change occurred during transfer.

Remedy: 1. Check the shielding for the pulse coder cables to ground. The ground wire is the yellow and green wire connected to the robot base. 2. Inspect the pulse coder cable set for breaks, internal robot set, and P1 cable running from the robot to the controller. WARNING: By completing the next step you will be altering the positional reference for the robot since

you are replacing hardware. You must slowly verify all positional data and touch-up any paths or points that have changed. Otherwise, you could injure personnel or damage equipment. 3. Replace the pulse coder and remaster the robot. 4. Replace the P1 cable. 5. Replace the internal cable set.

SRVO-070 SERVO STBERR alarm (Grp:%d Ax:%d)

Cause: A serial data start bit or stop bit error occurred.

Remedy: 1. Check the shielding for the pulse coder cables to ground. The ground wire is the yellow and green wire connected to the robot base. 2. Inspect the pulse coder cable set for breaks, internal robot set, and P1 cable running from the robot to the controller. WARNING: By completing the next step you will be altering the positional reference for the robot since you are replacing hardware. You must slowly verify all positional data and touch-up any paths or points that have changed. Otherwise, you could injure personnel or damage equipment. 3. Replace the pulse coder and remaster the robot. 4. Replace the P1 cable. 5. Replace the internal cable set.

SRVO-071 SERVO SPHAL alarm (Grp:%d Ax:%d)

Cause: The feedback speed is abnormally high (3750 rpm or greater).

Remedy: 1. This alarm does not indicate the main cause of the problem issued together with the PHAL alarm (SRVO-064). 2. Check whether the load applied to the robot exceeds the maximum rating. If the rated load is exceeded, reduce the applied load. After replacing, master the robot. 3. Replace the pulse coder of the motor.

SRVO-072 SERVO PMAL alarm(Group:%d Axis:%d)

Cause: The pulse coder might be faulty.

Remedy: Replace the pulse coder, then master the robot.

SRVO-073 SERVO CMAL alarm(Group:%d Axis:%d)

Cause: The pulse coder might be faulty, or noise might be causing the pulse coder to malfunction.

Remedy: Perform simple mastering and improve the shielding.

SRVO-074 SERVO LDAL alarm(Group:%d Axis:%d)

Cause: The LED on the pulse coder has become disconnected.

Remedy: Replace the pulse coder, then master the robot.

SRVO-075 WARN Pulse not established(G:%d A:%d)

Cause: The absolute position of the pulse coder has not yet been established.

Remedy: Jog the robot along each axis for which this alarm is issued, until the alarm is not re-issued after being cleared.

SRVO-076 SERVO Tip Stick Detection(G:%d A:%d)

Cause: The servo software detected a disturbance torque that was too high when motion starts, and tripped a Tip stick detection alarm.

Remedy: Reset the robot by using the teach pendant reset and JOG the robot away from any obstruction. If no tip stick detection or collision, the load on the robot may exceed the specification. Check input power to the servo amplifier. It should be greater than 170 VAC phase-to-phase. Also check the voltage between U-V, V-W, and U-W. Each should measure the same (~210VAC).

SRVO-077 SERVO Dynamic brake alarm(G:%d A:%d)

Cause: The line tracking pulse count overflowed.

Remedy: Contact your FANUC Robotics technical representative.

SRVO-081 WARN EROFL alarm (Track enc:%d)

Cause: The line tracking pulse count overflowed.

Remedy: Contact your FANUC Robotics technical representative.

SRVO-082 WARN DAL alarm(Track encoder:%d)

Cause: The line tracking pulse coder is disconnected.

Remedy: 1. Check the pulse coder cable. 2. Replace the pulse coder.

SRVO-083 WARN CKAL alarm (Track enc:%d)

Cause: The clock for the rotation counter in the line tracking pulse coder is abnormal.

Remedy: Refer to the SRVO-061 remedy.

SRVO-084 WARN BZAL alarm (Track enc:%d)

Cause: This alarm is issued when the battery for backing up the absolute position data for the pulse coder is not connected.

Remedy: Refer to the description for the SRVO-062 BZAL alarm.

SRVO-085 WARN RCAL alarm (Track enc:%d)

Cause: The built-in rotation counter on the line tracking pulse coder is abnormal.

Remedy: Refer to SRVO-063.

SRVO-086 WARN PHAL alarm (Track enc:%d)

Cause: This alarm is issued when the phase of a pulse signal generated by the pulse coder is abnormal.

Remedy: Refer to the description for the SRVO-064 PHAL alarm.

SRVO-087 WARN BLAL alarm (Track enc:%d)

Cause: This alarm is issued when the battery voltage for backing up the absolute position data of the pulse coder has dropped.

Remedy: Refer to the description of the SRVO-065 BLAL alarm.

SRVO-088 WARN CSAL alarm (Track enc:%d)

Cause: The line tracking pulse coder ROM checksum data is abnormal.

Remedy: Refer to SRVO-066 remedy.

SRVO-089 WARN OHAL2 alarm (Track enc:%d)

Cause: The motor has overheated.

Remedy: Refer to the description of the SRVO-067 OHAL2 alarm.

SRVO-090 WARN DTERR alarm (Track enc:%d)

Cause: An error occurred during the communication between the pulse coder and the main CPU printed circuit board.

Remedy: Refer to the description of the SRVO-068 DTERR alarm.

SRVO-091 WARN CRCERR alarm (Track enc:%d)

Cause: An error occurred during the communication between the pulse coder and the main CPU printed circuit board.

Remedy: Refer to the description of the SRVO-069 CRCERR alarm.

SRVO-092 WARN STBERR alarm (Track enc:%d)

Cause: An error occurred during the communication between the pulse coder and the main CPU printed circuit board.

Remedy: Refer to the description of the SRVO-070 STBERR alarm.

SRVO-093 WARN SPHAL alarm (Track enc:%d)

Cause: This alarm is issued when the positional data sent from the pulse coder is considerably greater than the previous data.

Remedy: Refer to the description of the SRVO-071 SPHAL alarm.

SRVO-094 WARN PMAL alarm (Track enc:%d)

Cause: The pulse coder might be faulty.

Remedy: Refer to description of the SRVO-072 PMAL alarm.

SRVO-095 WARN CMAL alarm (Track enc:%d)

Cause: The pulse coder might be faulty. Or, noise might have caused the pulse coder to malfunction.

Remedy: Refer to the description of the SRVO-073 CMAL alarm.

SRVO-096 WARN LDAL alarm (Track enc:%d)

Cause: The LED on the pulse coder has become disconnected.

Remedy: Refer to description of the SRVO-074 LDAL alarm.

SRVO-097 WARN Pulse not established(Enc:%d)

Cause: The absolute position of the pulse coder has not yet been established.

Remedy: Refer to description of the SRVO-075 Pulse not established alarm.

SRVO-101 SERVO Robot overtravel(Robot:%d)

Cause: A robot overtravel limit switch has been pressed.

Remedy: Refer to SRVO-005.

SRVO-102 SERVO Hand broken (Robot:%d)

Cause: The hand broken (*HBK) robot input is asserted.

Remedy: Refer to SRVO-006.

SRVO-103 SERVO Air pressure alarm(Rbt:%d)

Cause: The pneumatic pressure (PPABN) robot input is asserted.

Remedy: Refer to SRVO-009.

SRVO-105 SERVO Door open or E.Stop

Cause: The controller door has been opened, emergency stop signals have been detected for a short time, or a hardware connection has been mis-wired.

Remedy: Close controller door and press RESET. If the reset is not effective, correct the hardware connection.

SRVO-106 SERVO Door open/E.Stop(Robot:%d)

Cause: The controller door has been opened, emergency stop signals have been detected for a short time, or a hardware connection has been mis-wired.

Remedy: Close controller door and press RESET. If the reset is not effective, correct the hardware connection.

SRVO-107 SERVO Ext brake abnormal(Rbt:%d)

Cause: The FET current for brake of an extended axis (brake number 2 or greater) exceeded the specification.

Remedy: Check the brake for zero or abnormally low impedance. Then check the brake cable. Then check 200VAC. Then check the servo amplifier or emergency stop control PCB if brake ports are used.

SRVO-108 SERVO Press RESET to enable robot

Cause: When the Enable/Disable switch is changed to enable, a reset is necessary for execution.

Remedy: Press the RESET key to enable the robot.

SRVO-111 SERVO Softfloat time out(G:%d)

Cause: Follow-up time is over. when softfloat is OFF.

Remedy: Make $SFLT_FUPTIM larger.

SRVO-112 PAUSE Softfloat time out(G:%d)

Cause: Follow-up time is over. when softfloat is OFF.

Remedy: Make $SFLT_FUPTIM larger.

SRVO-113 SERVO Cart. error excess(G:%d %s)

Cause: While Cartesian Softfloat is being executed, the position error on the rectangular coordinates becomes greater than the tolerance that is set by the user.

Remedy: Find and remove the cause of the position error becoming greater. Or, make the tolerance larger, turn off and then turn on the controller. The tolerance is the value of the following system variables. X direction [mm] : $PARAM_GROUP[].$CB_IX Y direction [mm] : $PARAM_GROUP[].$CB_IY Z direction [mm] : $PARAM_GROUP[].$CB_IZ

SRVO-121 SERVO Excessive acc/dec time(G:%d)

Cause: Acceleration time is much longer.

Remedy: Contact your FANUC Robotics technical representative.

SRVO-122 SERVO Bad last ang(internal)(G:%d)

Cause: The last angle update request does not match the current angle.

Remedy: Contact your FANUC Robotics technical representative.

SRVO-125 WARN Quick stop speed over (G:%d)

Cause: Motion speed is too high to perform quick stop.

Remedy: Reduce the motion speed.

SRVO-126 SERVO Quick stop error (G:%d)

Cause: The program was over in the process of a quick stop.

Remedy: Press RESET.

SRVO-130 SERVO OHAL1(PSM) alarm (G:%d A:%d)

Cause: The servo amplifier (PMS) overheated.

Remedy: Refer to the maintenance manual.

SRVO-131 SERVO LVAL(PSM) alarm(G:%d A:%d)

Cause: The DC voltage on the main power circuit of the servo amplifier is lower than the specification, even though MCC is on.

Remedy: Refer to the maintenance manual.

SRVO-132 SERVO HCAL(PSM) alarm(G:%d A:%d)

Cause: The current in the main power circuit of the servo amplifier exceeded specification.

Remedy: Refer to the maintenance manual.

SRVO-133 SERVO FSAL(PSM) alarm (G:%d A:%d)

Cause: The cooling fan for the control circuit stopped.

Remedy: Refer to the maintenance manual.

SRVO-134 SERVO DCLVAL(PSM) alarm (G:%d A:%d)

Cause: The back-up charge circuit for the amplifier has trouble.

Remedy: Check the cables and connections between the amplifier (CN1) and the MCC. Check the fuse (F1,F3) in the transformer. If using a B-cabinet, replace the EMG control printed circuit board. Replace the amplifier.

SRVO-135 SERVO FSAL alarm (G:%d A:%d)

Cause: The cooling fan for control circuit stopped.

Remedy: Check or replace the fan.

SRVO-136 SERVO DCLVAL alarm (G:%d A:%d)

Cause: The back-up charge circuit for the amplifier has trouble.

Remedy: Check the cables and connections between the amplifier (CN1) and the MCC. Check the fuse (F1,F3) in the transformer. If using a B-cabinet, replace the EMG control printed circuit board. Replace the amplifier.

SRVO-137 SERVO DAL alarm (G:%d A:%d)

Cause: DAL alarm of an amplifier.

Remedy: Refer to the maintenance manual.

SRVO-138 SERVO SDAL alarm (G:%d A:%d)

Cause: The feedback data from pulse coder was abnormal by:

1. Noize on the pulse coder.

2. The interpolation circuits of the pulse coder are broken.

Remedy:

1. If the alarm disappeared by power off/on, please make sure the cable shields are properly grounded.

2. If this problem occurs repeatedly, replace the pulse coder and master the robot.

SRVO-141 SERVO OHAL1(CNV) alarm (G:%d A:%d)

Cause: A servomotor's built-in thermostat was actuated.

Remedy: Refer to SRVO-049.

SRVO-142 SERVO OHAL1(INV) alarm (G:%d A:%d)

Cause: The servo amplifier overheated.

Remedy: If the robot is overloaded or the duty cycle exceeds specification, this alarm occurs. Check the regenerative discharge transistor. Check the thermostat on the servo amplifier after the servo amplifier has cooled. It should not be open. If the problem persists, replace the servo amplifier. Check the controller cabinet fans for blocked filters; clean them if necessary.

SRVO-143 SERVO PSFLAL(CNV) alarm (G:%d A:%d)

Cause: Input power applied to the amplifier has been lost.

Remedy: Check the connections and cables of the input power.

SRVO-144 SERVO LVAL(INV) alarm (G:%d A:%d)

Cause: The DC voltage of the main circuit power supply is excessively low.

Remedy: Refer to SRVO-047.

SRVO-145 SERVO LVAL(CNV-DC) alarm(G:%d A:%d)

Cause: This alarm indicates a problem with the back-up charge circuit for the amplifier.

Remedy: Refer to SRVO-147.

SRVO-146 SERVO LVAL(INV-DC) alarm(G:%d A:%d)

Cause: The DC voltage of the main circuit power supply is too low.

Remedy: Check each interphase voltage of the three-phase voltage (200 VAC) applied to the servo amplifier. If the applied voltage is found to be 170 VAC or less, check the input power supply voltage. Replace the servo amplifier.

SRVO-147 SERVO LVAL(DCLK) alarm (G:%d A:%d)

Cause: This alarm indicates a problem with the back-up charge circuit for the amplifier.

Remedy: 1. Check the cable between the servo amplifier (CN1) and the MCC. Replace it if necessary. 2. For a model using the B cabinet, check whether the transformer fuses (F1 and F3) have blown. 3. Replace the printed circuit board for emergency stop control. 4. Replace the servo amplifier.

SRVO-148 SERVO HCAL(CNV) alarm (G:%d A:%d)

Cause: The current in the main power circuit of the servo amplifier exceeded specification.

Remedy: Disconnect the motor power wires from the servo amplifier and turn on power. If an HCAL occurs, replace the transistor module or servo amplifier. Measure the resistance between GND and U, V, W individually on the cable terminals. If shorted, determine if the cable or motor is bad. Check the resistance between U-V, V-W, and W-U using a measuring instrument sensitive enough to detect small resistances at the cable terminations. If the resistances are the same, replace the servo amplifier. If the resistances are different, determine if the cable or motor is bad. If the problem persists, replace the SIF module on the axis control for the defective axis.

SRVO-149 SERVO HCAL(INV) alarm (G:%d A:%d)

Cause: An excessively high current flowed through the main circuit of a servo amplifier.

Remedy: Refer to SRVO-045.

SRVO-150 SERVO FSAL(CNV) alarm (G:%d A:%d)

Cause: The cooling fan for the control circuit stopped.

Remedy: Check the fan. Replace it if necessary.

SRVO-151 SERVO FSAL(INV) alarm (G:%d A:%d)

Cause: The cooling fan for the control circuit stopped.

Remedy: Check or replace the fan.

SRVO-152 SERVO IPMAL(INV) alarm (G:%d A:%d)

Cause: The IPM module has trouble.

Remedy: 1. The IPM might be overheated. Reset the emergency stop after approximately ten minutes. Disconnect the power lines from the terminals on the amplifier, and check the insulation of PE from U, V, and W. 2. If there are short circuits, disconnect the motor connector power lines and check the insulation of PE from U, V, and W. 1) Replace the motor if U, V, and W short-circuit with PE. 2) Replace the power lines if U, V, and W do not short-circuit with PE. 3. Noise on the actual current (IR, IS) running in the amplifier module might cause this alarm. Remove this noise such as with taking ground of sealed earth. 4. Replace the amplifier.

SRVO-153 SERVO CHGAL(CNV) alarm (G:%d A:%d)

Cause: Charging of the main circuit could not finish within the specified time.

Remedy: The DC link might cause a short-circuit. Check the connections. Also, electric resistance to restrict charge current might be defective. Replace the wiring board.

SRVO-154 SERVO HVAL(CNV-DC) alarm (G:%d A:%d)

Cause: The DC voltage of the main circuit power supply is abnormally high.

Remedy: Refer to SRVO-044.

SRVO-155 SERVO DCAL(CNV) alarm (G:%d A:%d)

Cause: The energy produced by regenerative discharge is excessive.

Remedy: Refer to SRVO-043.

SRVO-156 SERVO IPMAL alarm (G:%d A:%d)

Cause: The IPM module has trouble.

Remedy: Replace the IPM module. Refer to the maintenance manual for details.

SRVO-157 SERVO CHGAL alarm (G:%d A:%d)

Cause: Charging of the main circuit could not finish within the specified time.

Remedy: The DC link might cause a short-circuit. Check the connections. Electric resistance to restrict charge current might be defective. Replace the wiring board. Refer to the maintenance manual for details.

SRVO-160 SERVO Panel/External E-stop

Cause: The emergency stop button on the operator panel was pressed, or the external emergency stop function was activated. EMGIN1 and EMGINC are not strapped to each other. Or, EMGIN2 and EMGINC are not strapped to each other.

Remedy: Release the emergency stop button. If the external emergency stop function has been activated, remove the cause. If no cause can be found, and no jumper is installed between EMGIN1 and EMGINC or between EMGIN2 and EMGINC on the terminal block of the emergency stop control printed circuit board, but cables are connected to the terminals, check the cables.

SRVO-161 SERVO Fence open or Deadman SW

Cause: The teach pendant deadman switch is released or the fence circuit is open.

Remedy: Press teach pendant deadman switch or determine the cause of the fence and then press RESET.

SRVO-162 SERVO Deadman/Fence or Panel/External E-stop

Cause: The deadman switch is released, the fence circuit is open, the operator panel ESTOP button is pressed, or the external ESTOP signal is received.

Remedy: Remove the cause then press RESET.

SRVO-163 SYSTEM DSM hardware mismatch

Cause: Different DSM (Digital Servo Module) are mounted on the controller

Remedy: Change the DSM hardware to be same.

SRVO-164 SYSTEM DSM/Servo param mismatch

Cause: The DSM (Digital Servo Module) type is mismatched to the servo parameter version.

Remedy: Change the current DSP-IV module to DSP_V or initialize the robot library again to load the correct servo parameter file.

SRVO-171 WARN MotorSpd lim/DVC(G:%d A:%d)

Cause: The motor cannot rotate as fast as the calculated speed required for the current motion.

Remedy: This is just a notification. You do not have to do anything for this warning message.

SRVO-172 WARN MotorSpd lim/DVC0(G:%d A:%d)

Cause: The motor cannot rotate as fast as the calculated speed required for the current motion.

Remedy: This is just a notification. You do not have to do anything for this warning message.

SRVO-173 WARN MotorSpd lim/DVC1(G:%d A:%d)

Cause: The motor cannot rotate as fast as the calculated speed required for the current motion.

Remedy: This is just a notification. You do not have to do anything for this warning message.

SRVO-174 WARN MotorAcc lim/DVC(G:%d A:%d)

Cause: The motor cannot accelerate as much as the calculated acceleration required for the current motion.

Remedy: This is just a notification. You do not have to do anything for this warning message.

SRVO-176 SERVO CJ/Illegal Mode %d,%d

Cause: The wrong CJ mode was used.

Remedy: Internal motion error. Contact your FANUC Robotics technical representative immediately.

SRVO-177 WARN CJ error %d,%d,%d,%d

Cause: N/A

Remedy: N/A

SRVO-178 SYSTEM CJ error %d,%d,%d,%d

Cause: N/A

Remedy: N/A

SRVO-179 WARN Motor torque limit(G:%d A:%d)

Cause: The robot was going to move while identifying the payload.

Remedy: Press RESET. Be careful not to move the robot while identifying the payload.

SRVO-181 SERVO Mcmd input while estimating(G:%d)

Cause: The robot was going to move while identifying the payload.

Remedy: Press RESET. Be careful not to move the robot while identifying the payload.

SRVO-182 PAUSE Needed init. has not been done

Cause: Internal system error. The initialization of the system variable or the internal work memory has not been done.

Remedy: Perform Power OFF/ON: 1. Turn off the robot. 2. Turn on the robot. If the error is not cleared, document the events that led to the error and call your FANUC Robotics technical representative.

SRVO-183 PAUSE ROBOT isn't ready

Cause: Servo ready is off.

Remedy: Remove the cause of Servo ready not being on. Then, press RESET.

SRVO-184 PAUSE Other task is processing

Cause: The data region this command is going to use is already locked by an other task.

Remedy: Wait the other task finishing the process. And, retry.

SRVO-185 PAUSE Data is for other group

Cause: The data this command is going to use is another group's data.

Remedy: Get the data of the group that this command is to use. And, retry.

SRVO-186 PAUSE Needed Data has not been got

Cause: There is no data that this command will use, or, the data in the buffer is not the data of the needed mode.

Remedy: Get the needed data. And, retry.

SRVO-187 PAUSE Need specfing Mass

Cause: The mass parameter is needed in order to estimate the current payload's parameters.

Remedy: Specify the mass parameter when estimating the current payload's parameters.

SRVO-191 SYSTEM Illegal Joint Speed (G:%d A:%d)

Cause: The motion command exceeded specification.

Remedy: Internal motion error. Contact your FANUC Robotics technical representative immediately.

SRVO-192 SERVO Fence open/SVON input

Cause: The fence circuit is open or the SVON input circuit is open.

Remedy: Close the fence circuit or SVON input circuit, and then press RESET.

SRVO-193 SERVO SVON input

Cause: The SVON input circuit is open.

Remedy: Close SVON input circuit, and then press RESET. Refer to the maintenance manual for details.

SRVO-194 SERVO Servo disconnect

Cause: Servo is disconnected.

Remedy: Connect servo, and then press RESET. Refer to the maintenance manual for details.

SRVO-195 SERVO NTED/Servo disconnect

Cause: The Non Teacher Enabling Device is released or servo is disconnected.

Remedy: Press the Non Teacher Enabling Device or connect servo, and then press RESET. Refer to the maintenance manual for details.

SRVO-196 SYSTEM Fence open/SVON input (SVON abnormal)

Cause: The fence circuit is open or the SVON input circuit is open and mis-wiring on the SVON is detected.

Remedy: Power off. Correct the wiring on SVON. Close the fence circuit or SVON input circuit, and then press RESET.

SRVO-197 SYSTEM SVON input (SVON abnormal)

Cause: The SVON input circuit is open and mis-wiring on SVON is detected.

Remedy: Power off. Correct the wiring on SVON. Close the SVON input circuit, and then press RESET.

SRVO-199 PAUSE Control Stop

Cause: Control Stop is detected.

Remedy: After this alarm, a fence open or SVON input alarm is detected. See the remedy of the next alarm.

SRVO-200 WARN Control box fan abnormal

Cause: The control box fan motor has failed.

Remedy: Check and/or replace the fan. Refer to the maintenance manual for details.

SRVO-201 SERVO Panel E-stop or SVEMG abnormal

Cause: The operator panel emergency stop push button is pressed and miswiring on SVEMG is detected. Or the operator panel emergency stop push button is pressed slowly so that SVEMG signal is delayed.

Remedy: Check the wiring of SVEMG. If the wiring of SVEMG is not connected, correct the wiring of SVEMG. If the wiring has no problem, twist the operator panel emergency stop push button clockwise to release. Press RESET. Refer to the maintenance manual for details.

SRVO-202 SERVO TP E-stop or SVEMG abnormal

Cause: The teach pendant emergency stop push button is pressed and miswiring on SVEMG is detected.

Remedy: Check the wiring of SVEMG. If the wiring of SVEMG is not connected, correct the wiring of SVEMG. If the wiring has no problem, twist the teach pendant emergency stop push button clockwise to release. Press RESET. Refer to the maintenance manual for details.

SRVO-203 SYSTEM SVON input(SVEMG abnormal)

Cause: N/A

Remedy: N/A

SRVO-204 SYSTEM External(SVEMG abnormal) E-stop

Cause: The external emergency stop push button is pressed and mis-wiring on SVEMG is detected.

Remedy: Power off. Correct the wiring on SVEMG. If using external emergency stop, clear the source of the fault, and press RESET. Refer to the maintenance manual for details.

SRVO-205 SYSTEM Fence open(SVEMG abnormal)

Cause: The fence circuit is open and mis-wiring on SVEMG is detected.

Remedy: Power off. Correct the wiring on SVEMG. Close the fence circuit and then press RESET. Refer to the maintenance manual for details.

SRVO-206 SYSTEM Deadman switch (SVEMG abnormal)

Cause: The teach pendant deadman switch is released while the teach pendant is enabled. And miswiring on SVEMG is detected.

Remedy: Power off. Correct the wiring on SVEMG Power on. Press the teach pendant deadman switch. Press RESET. Refer to the maintenance manual for details.

SRVO-207 SERVO TP switch abnormal or Door open

Cause: The SVEMG signal is detected while the fence is opened and the teach pendant is enabled and the Deadman switch is not released. Or, the controller door is opened while the fence is opened and the teach pendant is enabled and the Deadman switch is not released

Remedy: Close the controller door. If door is not opened, correct the wiring on SVEMG. Or correct the enable switch and deadman switch on the teach pendant. Press RESET. Refer to the maintenance manual for details.

SRVO-208 SERVO Extended axis brake abnormal

Cause: The FET current for the brake of an extended axis (brake number 2 or greater) exceeded the specification.

Remedy: Check the brake for zero or abnormally low impedance. Then check the brake cable. Then check 200VAC. Then check servo amplifier or emergency stop control PCB if brake ports are used. Refer to the maintenance manual for details.

SRVO-209 SERVO Robot-2 SVEMG abnormal

Cause: Mis-wiring of the SVEMG signal on Robot 2 is detected.

Remedy: Power off. Correct the wiring of SVEMG on the controller of the second robot. Close the fence circuit and then press RESET.

SRVO-210 SERVO EX_robot SVEMG abnormal

Cause: Mis-wiring of SVEMG signal on Extended robot is detected.

Remedy: Power off. Correct the wiring on SVEMG on controller of Extended robot. Close fence circuit and then press reset.

SRVO-211 SERVO TP OFF in T1,T2

Cause: Teach Pendant is disabled when mode switch is T1 or T2 and Robot1 and Robot2 are disconnected Or mis-wiring of hardware connection

Remedy: Change the TP Enable/Disable switch to ON And press RESET If the reset is not effective, correct hardware connection

SRVO-212 SERVO Trans over heat

Cause: The fuse on Panel PCB is blown

Remedy: Replace fuse on 6 Panel PCB

SRVO-213 SERVO Fuse blown (PanelPCB)

Cause: The fuse on 6 axis amplifier is blown

Remedy: Replace fuse on 6 axis amplifier

SRVO-214 SERVO Fuse blown (Amp)

Cause: The fuse on Aux axis amplifier is blown

Remedy: Replace fuse on Aux axis amplifier

SRVO-215 SERVO Fuse blown (Aux axis)

Cause: Total current of is over the limit. Because robot motion is too aggressive

Remedy: Change program speed to be slow

SRVO-216 SERVO OVC(total) (%d)

Cause: There is a lack of DSP chip for the axis, which is set in the $AXISORDER system variable.

Remedy: Check whether the number of the DSP is enough on the DSP board related to the axis number of $SCR_GRP[].$AXISORDER[]. Change the DSP board that has enough DSP.

Or change the setting of $AXISORDER.

SRVO-221 SERVO Lack of DSP (G:%d A:%d)

Cause: N/A

Remedy: N/A

SRVO-222 SERVO Lack of Amp (Amp:%d)

Cause: A single chain 1 (+24V) failure occurred.

Remedy: Repair the circuit of the chain 1 (+24V) on the hardware. Set CHAIN FAILURE detection to TRUE on the SYSTEM/CONFIG screen. Press RESET on the teach pendant.

SRVO-230 SERVO Chain 1 (+24v) abnormal

Cause: A single chain 1 (+24V) failure occurred.

Remedy: Repair the circuit of the chain 1 (+24V) on the hardware. Set CHAIN FAILURE detection to TRUE on the SYSTEM/CONFIG screen. Press RESET on the teach pendant.

SRVO-231 SERVO Chain 2 (0v) abnormal

Cause: A single chain 2 (0V) failure occurred.

Remedy: Repair the circuit of the chain 2 (0V) on the hardware. Set CHAIN FAILURE detection to TRUE on the SYSTEM/CONFIG screen. Push RESET on the teach pendant.

SRVO-232 SERVO NTED input

Cause: A Non Teacher Enabling Device is released

Remedy: Press the Non Teacher Enabling Device and then press RESET.

SRVO-233 SERVO TP OFF in T1,T2/Door open

Cause: The teach pendant is disabled when the mode switch is in T1 or T2. Or, the controller door is opened. Or, there is a mis-wiring of a hardware connection.

Remedy: Set the TP Enable/Disable switch to ON, close the controller door, and press RESET. If the reset is not effective, correct the hardware connection.

SRVO-234 WARN Deadman switch released

Cause: The teach pendant deadman switch is released.

Remedy: This is just a notification.

SRVO-235 SERVO Short term Chain abnormal

Cause: A chain failure alarm is detected in short term.

Remedy: If this error occurs with a deadman switch release alarm, release the deadman switch again and press the deadman switch. Or, if this error occurs with another safety signal error, reproduce the same safety error and press RESET. If SRVO-230 or SRVO-231 occur, refer the to cause and remedy of these errors.

SRVO-236 WARN Chain failure is repaired

Cause: A chain failure has been repaired.

Remedy: The status of the chain failure has changed to normal when the system checked the chain failure again. Press RESET.

SRVO-237 WARN Cannot reset chain failure

Cause: Reset chain failure detection cannot be executed.

Remedy: Repair the circuit of the chain 1 (+24V) on the hardware. Press the emergency stop on the teach pendant and twist the teach pendant emergency stop push button clockwise to release. Press RESET.

SRVO-238 SERVO Chain 1 (SVON) abnormal

Cause: A single chain 1 (+24V) failure occurred when the SVON (Servo ON/OFF switch) input was asserted.

Remedy: Repair the circuit of chain 1 (+24V) on the SVON hardware. Set CHAIN FAILURE detection to TRUE on the SYSTEM/CONFIG screen. Press RESET on the teach pendant.

SRVO-239 SERVO Chain 2 (SVON) abnormal

Cause: A single chain 2 (0V) failure occurred when a SVON (Servo ON/OFF switch) input was asserted.

Remedy: Repair the circuit of the chain 2 (0V) on SVON the hardware. Set CHAIN FAILURE detection to TRUE on the SYSTEM/CONFIG screen. Press RESET on the teach pendant.

SRVO-240 SERVO Chain 1 (FENCE) abnormal

Cause: A single chain 1 (+24V) failure occurred when the FENCE circuit was opened.

Remedy: Repair the circuit of the chain 1 (+24V) on FENCE the hardware. Set CHAIN FAILURE detection to TRUE on the SYSTEM/CONFIG screen. Press RESET on the teach pendant.

SRVO-241 SERVO Chain 2 (FENCE) abnormal

Cause: A single chain 2 (0V) failure occurred when FENCE circuit was opened.

Remedy: Repair the circuit of the chain 2 (0V) on the FENCE hardware. Set CHAIN FAILURE detection to TRUE on the SYSTEM/CONFIG screen. Press RESET on the teach pendant.

SRVO-242 SERVO Chain 1 (EXEMG) abnormal

Cause: A single chain 1 (+24V) failure occurred when External Emergency stop input was asserted.

Remedy: Repair the circuit of the chain 1 (+24V) on the External Emergency stop hardware. Set CHAIN FAILURE detection to TRUE on SYSTEM/CONFIG the screen. Press RESET on the teach pendant.

SRVO-243 SERVO Chain 2 (EXEMG) abnormal

Cause: A single chain 2 (0V) failure occurred when External Emergency stop input was asserted.

Remedy: Repair the circuit of the chain 2 (0V) on the External Emergency stop hardware. Set CHAIN FAILURE detection to TRUE on the SYSTEM/CONFIG screen. Press RESET on the teach pendant.

SRVO-244 SERVO Chain 1 abnormal(Rbt:%d)

Cause: A single chain 1 (+24V) failure occurred.

Remedy: Repair the circuit of the chain 1 (+24V) on the hardware. Set CHAIN FAILURE detection to TRUE on the SYSTEM/CONFIG screen. Press RESET on the teach pendant.

SRVO-245 SERVO Chain 2 abnormal(Rbt:%d)

Cause: A single chain 2 (0V) failure occurred.

Remedy: Repair the circuit of the chain 2 (0V) on the hardware. Set CHAIN FAILURE detection to TRUE on the SYSTEM/CONFIG screen. Press RESET on the teach pendant.

SRVO-246 SERVO Chain 1 abnormal(EX_robot)

Cause: N/A

Remedy: N/A

SRVO-247 SERVO Chain 2 abnormal(EX_robot)

Cause: N/A

Remedy: N/A

SRVO-250 SERVO SVEMG/MAINON1 abnormal

Cause: Status of MAINON1 signal is still OFF even if SVEMG is ON It is abnormal of E.STOP circuit

Remedy: Repair the circuit of E.Stop hardware Power off/on again

SRVO-260 SERVO Chain 1 (NTED) abnormal

Cause: Single chain 2 (0V) failure occured when Non Teacher Enabling Device is released

Remedy: Repair the circuit of the chain 2 (0V) on Non Teacher Enabling Device hardware. Set CHAIN FAILURE detection to TRUE on SYSTEM/CONFIG screen And push reset button on Teach pendant

SRVO-261 SERVO Chain 2 (NTED) abnormal

Cause: Single chain 1 (+24V) failure occured when servo disconnected signal is asserted

Remedy: Repair the circuit of the chain 1 (+24V) on Servo disconnect signal circuit. Set CHAIN FAILURE detection to TRUE on SYSTEM/CONFIG screen And push reset button on Teach pendant

SRVO-262 SERVO Chain 1 (SVDISC) abnormal

Cause: Single chain 2 (0V) failure occured when servo disconnected signal is asserted

Remedy: Repair the circuit of the chain 2 (0V) on Servo disconnect signal circuit. Set CHAIN FAILURE detection to TRUE on SYSTEM/CONFIG screen And push reset button on Teach pendant

SRVO-263 SERVO Chain 2 (SVDISC) abnormal

Cause: Weld occures on E.STOP unit

Remedy: Repair the circuit of MON3 on E.STOP unit

SRVO-264 SYSTEM E.STOP circuit abnormal 1

Cause: MON3 status is ON when servo is ready The status of MON3 is abnormal

Remedy: Repair the circuit of MON3 on E.STOP unit

SRVO-265 SERVO E.STOP circuit abnormal 2

Cause: FENCE1 status is still ON when FENCE signal is asserted

Remedy: Repair the circuit of FENCE1

SRVO-266 SERVO FENCE1 status abnormal

Cause: FENCE2 status is still ON when FENCE signal is asserted

Remedy: Repair the circuit of FENCE2

SRVO-267 SERVO FENCE2 status abnormal

Cause: SVOFF1 status is still ON when SVOFF signal is asserted

Remedy: Repair the circuit of SVOFF1

SRVO-268 SERVO SVOFF1 status abnormal

Cause: SVOFF2 status is still ON when SVOFF signal is asserted

Remedy: Repair the circuit of SVOFF2

SRVO-269 SERVO SVOFF2 status abnormal

Cause: EXEMG1 status is still ON when EXEMG signal is asserted

Remedy: Repair the circuit of EXEMG1

SRVO-270 SERVO EXEMG1 status abnormal

Cause: EXEMG2 status is still ON when EXEMG signal is asserted

Remedy: Repair the circuit of EXEMG2

SRVO-271 SERVO EXEMG2 status abnormal

Cause: SVDISC1 status is still ON when SVDISC signal is asserted

Remedy: Repair the circuit of SVDISC1

SRVO-272 SERVO SVDISC1 status abnormal

Cause: SVDISC2 status is still ON when SVDISC signal is asserted

Remedy: Repair the circuit of SVDISC2

SRVO-273 SERVO SVDISC2 status abnormal

Cause: NTED1 status is still ON when NTED signal is asserted

Remedy: Repair the circuit of NTED1

SRVO-274 SERVO NTED1 status abnormal

Cause: NTED2 status is still ON when NTED signal is asserted

Remedy: Repair the circuit of NTED2

SRVO-275 SERVO NTED2 status abnormal

Cause: T2 mode is not permited to move robot

Remedy: Change mode switch to T1 ot AUTO

SRVO-276 SERVO Disable on T2 mode

Cause: The operator panel emergency stop push button is pressed and miswiring on SVEMG is detected.

Remedy: Check the wiring of SVEMG. If the wiring of SVEMG is not connected, correct the wiring of SVEMG. If the wiring has no problem, twist the operator panel emergency stop push button clockwise to release. Press RESET. Refer to the maintenance manual for details.

SRVO-277 SYSTEM Panel E-stop(SVEMG abnormal)

Cause: The teach pendant emergency stop push button is pressed and miswiring on SVEMG is detected.

Remedy: Check the wiring of SVEMG. If the wiring of SVEMG is not connected, correct the wiring of SVEMG. If the wiring has no problem, twist the teach pendant emergency stop push button clockwise to release. Press RESET. Refer to the maintenance manual for details.

SRVO-278 SYSTEM TP E-stop(SVEMG abnormal)

Cause: Status of MON1,MON2,MON3 signals are abnormal on COLD START Value shows MON1,MON2,MON3 signal status Bit 0 : MON1 ON ,Bit 1: MON2 ON,Bit 3: MON3 ON

Remedy: Repair the circuit of MON1,MON2,MON3 on E.STOP unit

SRVO-279 SYSTEM Circuit abnormal 3 (%d)

Cause: SVOFF (Servo OFF signal) input asserted.

Remedy: Determine the cause to input SVOFF and repair.

SRVO-280 SERVO SVOFF input

Cause: SVOFF input circuit is detected and mis-wiring on SVEMG is detected.

Remedy: Power off. Correct the wiring on SVEMG Close SVOFF input circuit, and then press reset.

SRVO-281 SYSTEM SVOFF input(SVEMG abnormal)

Cause: Single chain 1 (+24V) failure occured when SVOFF input (Servo OFF signal) is asserted.

Remedy: Repair the circuit of chain 1 (+24V) on SVOFF hardware Set CHAIN FAILURE detection to TRUE on SYSTEM/CONFIG screen And push reset button on Teach pendant

SRVO-282 SERVO Chain 1 (SVOFF) abnormal

Cause: Single chain 2 (0V) failure occured when SVOFF input (Servo OFF signal) is asserted.

Remedy: Repair the circuit of the chain 2 (0V) on SVOFF hardware Set CHAIN FAILURE detection to TRUE on SYSTEM/CONFIG screen And push reset button on Teach pendant

SRVO-283 SERVO Chain 2 (SVOFF) abnormal

Cause: DC link high current alarm occured on the amp

SRVO-290 SERVO DClink HC alarm(G:%d A:%d)

Cause: IPM over heat alarm occured

SRVO-291 SERVO IPM over heat (G:%d A:%d)

Cause: External FAN alarm occured on the amp

SRVO-292 SERVO EXT.FAN alarm (G:%d A:%d)

Cause: DC link high current alarm occured on the PSM Input power is abnormal or PSM unit is broken

Remedy: Check input power to PSM Check the voltage between U-V,V-W,and U-W. Change PSM unit

SRVO-293 SERVO DClink(PSM) HCAL(G:%d A:%d)

Cause: External FAN is abnormal on alpha PSM or alpha PSMR

Remedy: Exchange external FAN

SRVO-294 SERVO EXT.FAN(PSM) alarm(G:%d A:%d)

Cause: SVM communication error occurs Cable between PSM and SVM is disconnected SVM is abnormal. Or PSM is abnormal

Remedy: Change cable between PSM and SVM Change SVM. Or change PSM

SRVO-295 SERVO SVM COM alarm(G:%d A:%d)

Cause: Discharge power of PSM dischege is abnormal Motion is too agressive. Fan, which is cooling for PSMR, is abnormal

Remedy: Change program speed to be lower Or check whether Fan for PSMR is working If the fan is out of order, exchange the fan

SRVO-296 SERVO PSM DISCHG alm(G:%d A:%d)

Cause: PSM control power is low voltage Cable between PSM and SVM is disconnected PSM is abnormal. Or SVM is abnormal

Remedy: Change cable between PSM and SVM Change PSM. Or change SVM

SRVO-297 SERVO PSM LowVolt alm(G:%d A:%d)

Cause: Calculated velocity value is abnormal on Servo

Remedy: Check status of pulse coders and motors Power off and on to reset

SRVO-298 SYSTEM SRVO velocity alm(G:%d A:%d)

Cause: A safety hand broken is detected when setting of HBK is disabled. The most likely cause is the HBK signal of a robot connection cable being from 24V to the 0 V level.

Remedy: Press reset key to clear alarm. Verify whether robot has hand broken equipment or not. If it doesn't have, HBK signal status is changed

SRVO-300 SERVO Hand broken/HBK disabled

Cause: A safety hand broken is detected when setting of HBK is disabled. The most likely cause is the HBK signal of a robot connection cable being from 24V to the 0 V level.

Remedy: Press reset key to clear alarm. Verify whether robot has hand broken equipment or not. If it doesn't have, HBK signal status is changed

SRVO-301 SERVO Hand broken/HBK dsbl(Rbt:%d)

Cause: A signal of safety hand broken is not detected when setting of HBK is disabled. Setting of Hand broken is not correct

Remedy: Change Hand broken to Enable. Press reset key to clear alarm.

SRVO-302 SERVO Set Hand broken to ENABLE

Cause: A signal of safety hand broken is not detected when setting of HBK is disabled. Setting of Hand broken is not correct

Remedy: Change Hand broken to Enable. Press reset key to clear alarm.

SRVO-303 SERVO Set HBK to ENABLE(Rbt:%d)

Cause: Arm Bending Control (ABC) compensation value is too big.

Remedy: Internal motion error. Contact your FANUC Robotics technical representative immediately.

SRVO-310 SERVO ABC Unexpected Motion(G:%d)

Cause: Isolated offset destination

Remedy: Must have at least two points

3.18.8. SSPC Alarm Code

SSPC-001 SEV_WARN Waiting until space gets clear

Cause: Special checking space is not clear. Remedy: Wait for the special checking space to clear.

Remedy: N/A

SSPC-002 SEV_STOP Occer dead lock condition

Cause: The priority of space is invalid

Remedy: Set the priority valid

SSPC-003 SEV_STOP AccuPath not allowed

Cause: Space Check function is not compatible with AccuPath. AccuPath is not allowed.

Remedy: Not use AccuPath or disable space check function

SSPC-004 SEV_STOP CTV option not allowed

Cause: Space Check function is not compatible with Continuous Turn CTV option. The CTV motion option is not allowed.

Remedy: Remove CTV option or disable space check function

SSPC-011 SEV_SYSTEM APDT error %x

Cause: N/A

Remedy: N/A

SSPC-012 SEV_SERVO Invalid element (%s:%d %d)

Cause: N/A

Remedy: N/A

SSPC-013 SEV_SERVO Invalid hand num (G:%d UT:%d)

Cause: N/A

Remedy: N/A

SSPC-014 SEV_SERVO Common frame setting (G:%d)

Cause: N/A

Remedy: N/A

SSPC-015 SEV_SERVO Not calibrated (G:%d)

Cause: N/A

Remedy: N/A

SSPC-016 SEV_SERVO Invalid comb type (C:%d %s)

Cause: N/A

Remedy: N/A

SSPC-017 SEV_SERVO Invalid comb index (C:%d %s)

Cause: N/A

Remedy: N/A

SSPC-018 SEV_SERVO APDT is not supported (G:%d)

Cause: N/A

Remedy: N/A

SSPC-019 SEV_SERVO (G:%d) is close to target

Cause: N/A

Remedy: N/A

SSPC-020 SEV_SERVO Invalid fixture obj (F:%d)

Cause: N/A

Remedy: N/A

SSPC-021 SEV_SERVO Too many settings

Cause: N/A

Remedy: N/A

SSPC-101 SEV_SERVO (G:%d) is close to target

Cause: Interaction is detected.

Remedy: You can reset the alarm with SHIFT+RESET and can jog the robot to the out of the interacted area. This key operation disable the interaction check temporarily while the SHIFT key is being pressed.

SSPC-102 SEV_STOP (G:%d) is close to target(qstop)

Cause: Interaction is detected.

Remedy: You can reset the alarm with SHIFT+RESET and can jog the robot to the out of the interacted area. This key operation disable the interaction check temporarily while the SHIFT key is being pressed.

SSPC-103 SEV_STOP (G:%d) is near to target

Cause: Interaction is detected.

Remedy: You can reset the alarm with SHIFT+RESET and can jog the robot to the out of the interacted area. This key operation disable the interaction check temporarily while the SHIFT key is being pressed.

SSPC-104 SEV_SYSTEM APDT error %x

Cause: Internal error.

Remedy: Please call customer service. And report %x.

SSPC-105 SEV_SERVO Too many settings

Cause: APDT setting is too many.

Remedy: Reduce the number of interaction element or combination setting.

SSPC-106 SEV_SERVO Failed to get dist (%d,C:%d)

Cause: Faied to get distance

Remedy: Reduce the number of interaction element or combination setting.

SSPC-111 SEV_SERVO Invalid comb type (ST,C:%d,%s)

Cause: The model type in combination setting screen is invalid.

Remedy: Confirm the model type in the combination setting.

SSPC-112 SEV_SERVO Invalid comb index(ST,C:%d,%s)

Cause: The index number in combination setting screen is invalid.

Remedy: Confirm the index number in the combination setting.

SSPC-113 SEV_SERVO APDT isn't supported (ST,G:%d)

Cause: The group number specified in combination setting is invalid.

Remedy: Confirm the index number in the combination setting.

SSPC-114 SEV_SERVO Not calibrated (ST,G:%d)

Cause: The group is not calibrated.

Remedy: Perform the calibration for the group.

SSPC-115 SEV_SERVO Invalid utool number (ST,G:%d)

Cause: Invalid tool number

Remedy: Confirm current tool number

SSPC-116 SEV_SERVO Invalid hand num(ST,G:%d,UT:%d)

Cause: The hand number related to the current tool number is invalid.

Remedy: Confirm the hand number.

SSPC-117 SEV_SERVO Common frame setting (ST,G:%d)

Cause: There is no calibration data for the group.

Remedy: Perform the calibration between the group and the base frame gorup.

SSPC-118 SEV_SERVO Invalid element (ST,%s:%d,%d)

Cause: There is an invalid model elemnt.

Remedy: Check the link type and link number of the model element.

SSPC-119 SEV_SERVO Can't get elem pos(ST,G:%d,%d)

Cause: Failed to get element position

Remedy: Check the link type and link number of the model element.

SSPC-120 SEV_SERVO Invalid fixture obj (ST,F:%d)

Cause: The taught group number of the fixture elements is invalid.

Remedy: Confirm the taught gourp number of the fixture elements.

SSPC-131 SEV_STOP Invalid comb type (WT,C:%d,%s)

Cause: The model type in combination setting screen is invalid.

Remedy: Confirm the model type in the combination setting.

SSPC-132 SEV_STOP Invalid comb index(WT,C:%d,%s)

Cause: The index number in combination setting screen is invalid.

Remedy: Confirm the index number in the combination setting.

SSPC-133 SEV_STOP APDT isn't supported (WT,G:%d)

Cause: The group number specified in combination setting is invalid.

Remedy: Confirm the index number in the combination setting.

SSPC-134 SEV_STOP Not calibrated (WT,G:%d)

Cause: The group is not calibrated.

Remedy: Perform the calibration for the group.

SSPC-135 SEV_STOP Invalid utool number (WT,G:%d)

Cause: Invalid tool number

Remedy: Confirm current tool number

SSPC-136 SEV_STOP Invalid hand num(WT,G:%d,UT:%d)

Cause: The hand number related to the current tool number is invalid.

Remedy: Confirm the hand number.

SSPC-137 SEV_STOP Common frame setting (WT,G:%d)

Cause: There is no calibration data for the group.

Remedy: Perform the calibration between the group and the base frame gorup.

SSPC-138 SEV_STOP Invalid element (WT,%s:%d,%d)

Cause: There is an invalid model elemnt.

Remedy: Check the link type and link number of the model element.

SSPC-139 SEV_STOP Can't get elem pos(WT,G:%d,%d)

Cause: Failed to get element position

Remedy: Check the link type and link number of the model element.

SSPC-140 SEV_STOP Invalid fixture obj (WT,F:%d)

Cause: The taught group number of the fixture elements is invalid.

Remedy: Confirm the taught gourp number of the fixture elements.

SSPC-151 SEV_WARN App_STOP (ST,C:%d) is disabled

Cause: This combination is originally disabled on setup screen.

Remedy: If you want to use this one,enable this combination on setup screen.

SSPC-152 SEV_WARN App_STOP (ST,C:%d) is disabled

Cause: This combination is originally disabled on setup screen.

Remedy: Enable this combination on setup screen.

SSPC-153 SEV_STOP (WT,C:%d) is enabled by other

Cause: This combination is already enabled by another program.

Remedy: Disable this combination first.

SSPC-154 SEV_STOP (ST,C:%d) is disabled by other

Cause: another program disabled this condition.

Remedy: Enable this combination by the program that use this one.

SSPC-155 SEV_STOP Invalid host name (ST,C:%d)

Cause: Specified condition has invalid host name.

Remedy: Input correct host name.

SSPC-156 SEV_STOP Invalid host name (WT,C:%d)

Cause: Specified condition has invalid host name.

Remedy: Input correct host name.

SSPC-157 SEV_STOP Intrupt signal (WT,C:%d)

Cause: Approach wait intruput signal is turned to ON

Remedy: Please turn off intruput signal.

SSPC-158 SEV_STOP App_WAIT timeout (WT,C:%d)

Cause: Approach wait limit has passed.

Remedy: Restart again if opponent is far away enough.

SSPC-159 SEV_STOP App_WAIT can't be used(WT,G:%d)

Cause: Approach wait cannot be used with: Tracking motion of slave of simultaneous robot link Continuous turn function.

Remedy: Don't use approach wait with these types of motion.

SSPC-160 SEV_WARN App_STOP is TMP_DISed(ST,C:%d)

Cause: IASTOP[*] = TMP_DIS is executed.

Remedy: If you want to enable this combination, please enable it.

SSPC-161 SEV_WARN App_STOP is enabled (ST,C:%d)

Cause: Resume from different line when a program is paused.

Remedy: If you want to disable this combination, enable it by IASTOP instruction.

SSPC-162 SEV_WARN App_WAIT is enabled (WT,C:%d)

Cause: IAWAIT[*] = ENABLE is executed.

Remedy: If you don't want to use this condition, please disable it.

SSPC-163 SEV_WARN App_WAIT is disabled (WT,C:%d)

Cause: Resume from different line when a program is paused.

Remedy: If you want to use this condition, enable it by IAWAIT instruction.

SSPC-164 SEV_WARN (%s,%d) TMP_disabled (ST,C:%d)

Cause: Resume from different line when a program is paused.

Remedy: If you want to use this condition, enable it by IAWAIT instruction.

SSPC-165 SEV_WARN (%s,%d) enabled (ST,C:%d)

Cause: Resume from different line when a program is paused.

Remedy: If you want to use this condition, enable it by IAWAIT instruction.

SSPC-166 SEV_WARN (%s,%d) enabled (WT,C:%d)

Cause: Resume from different line when a program is paused.

Remedy: If you want to use this condition, enable it by IAWAIT instruction.

SSPC-167 SEV_WARN (%s,%d) disabled (WT,C:%d)

Cause: Resume from different line when a program is paused.

Remedy: If you want to use this condition, enable it by IAWAIT instruction.

SSPC-168 SEV_STOP (%s,%d) invalid group number

Cause: The rate value specified to Approach_RATE[] instruction is invalid. It must be the value from 0% to 100%

Remedy: Specify the correct rate value.

SSPC-169 SEV_STOP (%s,%d) invalid rate value

Cause: Comm init error

Remedy: Confirm hostname, IP address

SSPC-181 SEV_WARN Comm init error %d %s

Cause: Comm init error

Remedy: Confirm hostname, IP address

SSPC-182 SEV_SERVO Invalid hostname (%s)

Cause: Invalid hostname

Remedy: Confirm hostname, IP address

SSPC-183 SEV_SERVO Invalid address (%s)

Cause: Invalid IP address

Remedy: Confirm hostname and IP address

SSPC-184 SEV_SERVO Number of host exceed limit

Cause: Specified host is too many

Remedy: Reduce target host

SSPC-185 SEV_SERVO Number of element exceed limit

Cause: Enabled element is too many

Remedy: Reduce enabled element

SSPC-186 SEV_SERVO Invalid element (%s,%d,%d)

Cause: Invalid element

Remedy: Confirm element contents

SSPC-187 SEV_WARN Receive invalid data %d %s

Cause: Receive invalid data

Remedy: Confirm target host's setup

SSPC-188 SEV_SERVO Invalid data for send %d

Cause: Invalid data exists to send

Remedy: Confirm own element setup

SSPC-189 SEV_SERVO Timeout element (%s,%d,%d)

Cause: Target element is too old information

Remedy: Confirm target host is working

SSPC-190 SEV_STOP No communication (%s)

Cause: Target is OFF or comm stopped

Remedy: Check target host and communication line

SSPC-191 SEV_SERVO Target elem not exist(ST,C:%d,%s)

Cause: Specified element does not exist

Remedy: Confirm own setup and target setup

SSPC-192 SEV_STOP Target elem not exist(PA,C:%d,%s)

Cause: Specified element does not exist

Remedy: Confirm own setup and target setup

SSPC-193 SEV_WARN IAL detect overload (%d)

Cause: APDT task is overload

Remedy: Increase ITP

SSPC-201 SEV_WARN Interference Detected(G:%d)

Cause: N/A

Remedy: N/A

SSPC-202 SEV_STOP Obstacle Detected(G:%d)

Cause: Collision Detected for the group

Remedy: Abort the program and jog away

SSPC-203 SEV_SERVO Check combination type mismatch

Cause: Check combination type mismatch

Remedy: Change check combination type

SSPC-204 SEV_SERVO Two points not form a line

Cause: Two points not form a line Remed: Move the two points apart

Remedy: N/A

SSPC-205 SEV_SERVO Three points not form a plane

Cause: Three points not form a plane Remed: Move the three points apart

Remedy: N/A

SSPC-206 SEV_SERVO Four points not form a box

Cause: Four points not form a box Remed: Move the four points apart

Remedy: N/A

SSPC-207 SEV_SERVO Check combination not supported

Cause: Check combination not supported Remed: Check the check combinations

Remedy: N/A

SSPC-208 SEV_WARN Unit vector formation error

Cause: Unit vector formation error Remed: Internal error

Remedy: N/A

SSPC-209 SEV_SERVO Robot in too far(G:%d)

Cause: Robot goes into obstacle for more than 3 ITPs before resulting the priority issue Remed: Internal error

Remedy: N/A

SSPC-210 SEV_SERVO Comb check I/O Setting invalid

Cause: Collision Detected for the group

Remedy: Abort the program and jog away

3.18.9. SVGN Alarm Code

SVGN-001 STOP Serious Internal error

Cause: Internal Servo Gun error

Remedy: Record error and report to hotline.

SVGN-002 STOP No sysvar pointer

Cause: This is an internal system error.

Remedy: Record error and report to hotline.

SVGN-003 STOP No global variables

Cause: This is an internal system error.

Remedy: Record error and report to hotline.

SVGN-004 STOP Unable to Allocate Memory

Cause: A failure occured while allocating memory.

Remedy: Check amount of memory being used by the system. Perform a cold start on the controller. Record error and report to hotline.

SVGN-005 STOP Wrong TPP inst. format

Cause: This SPOT instruction format is not correct. This SPOT instruction is not available.

Remedy: Reteach this instruction with current configulation.

SVGN-006 STOP Another TASK used this equip.

Cause: Another TPP specified this equipment and now executing or paused.

Remedy: Force abort another TPP.

SVGN-007 STOP Pre execution failed

Cause: Pre-execution has some trouble and system pauses the program execution for safety.

Remedy: Press RESET to clear the error and continue the program. If this error continues to occur, perform a cold start by turning off the robot, then while pressing SHIFT and RESET on the teach pendant, turn the robot back on. If the error is not cleared, document the events that led to the error and call your FANUC Robotics technical representative.

SVGN-008 STOP Syntax error

Cause: Instruction syntax error. This instruction is for air gun spot.

Remedy: Reteach the instruction. Reteach servo gun SPOT instruction.

SVGN-009 STOP Motion Group config. mismatch

Cause: Different motion group assigned motion group to robot TCP side tip and motion group in this program.

Remedy: Check the motion group of this program or robot group motion of servo gun configulation.

SVGN-010 STOP Invalid SG group config.

Cause: Invalid servo gun group number.

Remedy: Check the servo gun group motion of servo gun configulation.

SVGN-011 STOP Can not execute instruction(s).

Cause: Incremental, offset or tool offset instructions can not execute with servo gun SPOT

instruction at the same program line.

Remedy: Reteach this SPOT instruction to another line stand alone.

SVGN-012 STOP Invalid value for index

Cause: The index value is invalid. The register index value is invalid.

Remedy: Check the index value.

SVGN-013 STOP Pressure exceeds limit

Cause: Specified pressure is too high.

Remedy: Lower pressure.

SVGN-014 STOP Associate TID not found

Cause: This is an internal system error.

Remedy: Record error and report to hotline.

SVGN-015 STOP Setup Configulation error

Cause: Some servo gun configulation data are invalid.

Remedy: Check servo gun configulation data.

SVGN-016 STOP Specified pressure too low

Cause: Specified pressure value is too low. Pressure coefficient-B value is bigger than specified pressure value.

Remedy: Higher pressure. Lower Pressure coefficient-B.

SVGN-017 STOP Invalid pressure coefficient

Cause: Invalid pressure coefficient-A value.

Remedy: Change pressure coefficient-A value from 0.1 up to 100.

SVGN-018 STOP Illegal torque limit value

Cause: Illegal torque limit value is specified.

Remedy: Check the max motor torque in servo gun setup menu. Check the specified pressure and pressure coefficientA,B.

SVGN-019 WARN Pressure shortage

Cause: Acutal pressure is shortage.

Remedy: Check the status of tip contack.

SVGN-020 STOP Pressure shortage

Cause: Acutal pressure is shortage.

Remedy: Check the status of tip contack.

SVGN-021 STOP Uninitialized BU condition

Cause: Servo gun condition BU is not initialized.

Remedy: Add a servo gun condition instruction.

SVGN-022 STOP Uninitialized Pres. condition

Cause: Pressure condition is not initialized. Pressure condition value is invalid.

Remedy: Add a servo gun condition instruction.

SVGN-023 STOP Incomplete Pressure calibration

Cause: Incomplete pressure calibration.

Remedy: Please calibrate pressure in Pressure Calibration menu.

SVGN-024 STOP Incomplete Wear Down calibration

Cause: Incomplete Wear Down calibration.

Remedy: Please calibrate in Wear Down Calibration menu.

SVGN-025 STOP Illegal BU condition number

Cause: Invalid BU condition number is specified.

Remedy: Specify existing BU condition number.

SVGN-026 STOP Illegal P condition number

Cause: Invalid P condition number is specified.

Remedy: Specify existing P condition number.

SVGN-027 STOP Untaught element encountered

Cause: This instruction is not taught completly.

Remedy: Teach this instruction.

SVGN-028 STOP Pos. type is JOINT

Cause: Position type is JOINT.

Remedy: Change position type to XYZWPR.

SVGN-029 STOP Over max motor torque value

Cause: The convert value from specified pressure value to torque limit value exceeds the max torque value.

Remedy: Check the specied pressure value. Check the max torque value.

SVGN-030 STOP Tip Stick detection

Cause: Tip stick detection DI is ON

Remedy: Check the specied pressure value. Check the max torque value.

SVGN-031 STOP Tear Off is executing

Cause: When tear off function is executing, program cannot be started.

Remedy: Restart program after tear off function finished.

SVGN-032 STOP Tip increased error(Gun)

Cause: The tip wear down value of gun side exceeds the increased error.

Remedy: Some chips may stick to the gun side tip. Please check the tip.

SVGN-033 STOP Tip increased error(Robot)

Cause: The tip wear down value of robot side exceeds the increased error.

Remedy: Some chips may stick to the robot side tip. Please check the tip.

SVGN-034 STOP Pressure value over

Cause: Acutal pressure is over.

Remedy: Check the status of tip contack.

SVGN-035 STOP Pressure enable time out

Cause: Pressure enable signal has not input after time out.

Remedy: Check the reason of pressure enable signal off. Or Fix the value of time out ($SPOTEQSETUP[1].$PEN_TMOUT).

SVGN-036 STOP Comp confirmation time out

Cause: Comp confiramation signal has not input after time out.

Remedy: Check the reason of comp confirmation signal off. Or Fix the value of time out ($SPOTEQSETUP[1].$NSE_TMOUT).

SVGN-037 STOP Illegal pressure enable signal

Cause: Pressure enable signal number is illegal.

Remedy: Setup pressure enable signal in SPOT I/O.

SVGN-038 STOP Illegal comp confirmation signal

Cause: Comp confirmation signal number is illegal.

Remedy: Setup comp confirmation signal in SPOT I/O.

SVGN-039 WARN Thickness out of tolerance

Cause: N/A

Remedy: N/A

SVGN-040 STOP Thickness out of tolerance

Cause: N/A

Remedy: N/A

SVGN-041 WARN No more available memory(PERM)

Cause: The number of $SGGUN is less than the total axis number of servo gun group.

Remedy: Please increase $SGSYSCFG.$M_GUN_NUM to be larger than the total axis number of servo gun group.

SVGN-051 WARN Backup stroke is not selected.

Cause: Backup stroke index for manual operation is not selected.

Remedy: Set the stroke in the backup stroke setup screen. And set TRUE to the item of MANUAL

SVGN-052 WARN Motion group mismatch.

Cause: The motion group number of the user program for manual pressure or manaul backup is not matched to the Servo Gun group.

Remedy: Change the motion group number of the program to match the Servo Gun

SVGN-053 WARN Backup stroke is not set.

Cause: Specified backup stroke index is not set the valid stroke value.

Remedy: Set the valid backup stroke to the specified backup stroke index.

SVGN-054 STOP $EQNUM is invalid number.

Cause: $EQNUM is not use in the system.

Remedy: Set the valid equipment number to $EQNUM.

SVGN-055 STOP $EQNUM is not Servo Gun.

Cause: The equipment specified by $EQNUM is not assigned to the Servo Gun

Remedy: Set the equipment number which is assigned to Servo Gun to $EQNUM.

SVGN-056 STOP $GUNNUN is invalid number.

Cause: Specified number is not valid for $GUNNUM.

Remedy: $GUNNUM can be set only 1 or 2 which is corresponding to GUN1 or GUN2

SVGN-057 STOP Tip Wear Down Cal. is IMCOMP.

Cause: The Tip Wear Down Calibration is not completed.

Remedy: Please perform the Tip Wear Down Calibraiton.

SVGN-058 STOP UT or UF is different.

Cause: The tool frame number or user frame number is different from the standard position.

Remedy: Change the frame number to same number of standard position.

SVGN-059 STOP Cannot read specified PR[].

Cause: System cannot read the position register which is specified by $PRINDEX.

Remedy: Check the number of $PRINDEX.

SVGN-060 WARN Pressure program is not set.

Cause: The pressure program name is not set correctly.

Remedy: Set correct program name in manual operation setup screen.

SVGN-061 WARN Backup program is not set.

Cause: The backup program name is not set correctly.

Remedy: Set correct program name in manual operation setup screen.

SVGN-062 WARN Pressure data is not selected.

Cause: Pressure data index for manual operation is not selected.

Remedy: Set the pressure data in the pressure data setup screen. And set TRUE to the item of MANUAL

SVGN-063 WARN Pressure data is not set.

Cause: Specified pressure data index is not set the valid pressure data.

Remedy: Set the valid pressure data to the specified pressure data index.

SVGN-070 PAUSE Gun Change is DISABLED.

Cause: This equipment is set to Air Gun. Or the gun change setup is disabled.

Remedy: Set the equipment type to Servo Gun in initial setup screen, and Enable Gun change.

SVGN-071 PAUSE Machine lock is ENABLE.

Cause: Machine lock for robot axes is enabled at gun attach instruction.

Remedy: Release machine lock.

SVGN-072 PAUSE Illegal assignment of gun axis.

Cause: Gun number assignment are wrong .

Remedy: Confirm Gun number assignment.

SVGN-073 PAUSE Gun not detatched (AXISORDER).

Cause: Gun is not detached. Some AXISORDER are not 0.

Remedy: GUN ATTACH instruction can be executed only when no gun is attached.

SVGN-074 PAUSE Gun not detatched.

Cause: Gun is not detached. Gun attach input signal is OFF.

Remedy: GUN ATTACH instruction can be executed only when no gun is attached.

SVGN-075 PAUSE Gun not attached.

Cause: Gun is not attached. Gun attach input signal is ON.

Remedy: GUN DETACH instruction can be executed only when a gun is attached.

SVGN-076 PAUSE Another process is executing.

Cause: Another program is executing GUN ATTACH or GUN DETACH instruction. $CHG_PHASE is not 0 at executing the instruction.

Remedy: Wait until another program end GUN ATTACH/DETACH instruction.

SVGN-077 PAUSE Gun identify signal is OFF.

Cause: Gun identify signal is OFF.

Remedy: Confirm the setting for Gun identify signal.

SVGN-078 PAUSE Gun set signal is OFF.

Cause: Gun set signal is OFF.

Remedy: Confirm the setting for Gun set signal.

SVGN-079 PAUSE Gun change canceled.

Cause: GUN ATTACH or GUN DETACH instruction is canceled while executing the instruction.

Remedy: Do COLD START the system.

SVGN-080 PAUSE Gun change timeout.

Cause: GUN ATTACH or GUN DETACH instruction become timeout while executing the instruction.

Remedy: Do COLD START the system.

SVGN-081 SYSTEM Gun mastering data is lost.

Cause: Mastering data of the gun is lost by a pause while mastering.

Remedy: Do COLD START the system. Then master the gun by manual operation.

SVGN-082 PAUSE Gun mastering is failed.

Cause: Gun mastering is failed by a pause while mastering.

Remedy: Continue to retry mastering.

SVGN-083 PAUSE GUN ATTACH is failed.

Cause: GUN ATTACH instruction failed. Please see cause code.

Remedy: Please see cause code.

SVGN-084 PAUSE GUN DETACH is failed.

Cause: GUN DETACH instruction failed. Please see cause code.

Remedy: Please see cause code.

SVGN-085 PAUSE Robot not mastered(Gun axis).

Cause: The mastering of servo gun axis has not been performed yet. System variable $master_done set FALSE.

Remedy: Please perform the mastering of the servo gun axis.

SVGN-086 PAUSE Robot not calibrated(Gun axis).

Cause: The calibration of servo gun axis has not been performed yet. System variable $calibrate set FALSE.

Remedy: Please calibrate the servo gun axis.

SVGN-087 PAUSE Ref pos not set(Gun axis).

Cause: Reference position has not been set when quick mastering.

Remedy: Quick mastering may not be possible. Fixture or zero master.

SVGN-088 PAUSE Another gun is attached.

Cause: The another gun which is different from the gun number specified by GUN DETACH instruction is attached.

Remedy: Verify the gun number of GUN DETACH instruciton.

SVGN-089 PAUSE Calibrate motion is failed.

Cause: While the calibrate motion, the detect condition was not triggered.

Remedy: Verify the detect condition in the gun change setup screen.

SVGN-090 PAUSE PR[] index is not set.

Cause: The PR[] index for the calibrate motion is not set.

Remedy: Please set PR[] index for the calibrate motion in the gun change setup screen.

SVGN-091 PAUSE Touch torque is not set.

Cause: The Touch torque for the calibrate motion is not set.

Remedy: Please set Touch torque for the calibrate motion in the gun change setup screen.

SVGN-092 PAUSE Detect signal is not set.

Cause: The Detect signal for the calibrate motion is not set.

Remedy: Please set Detect signal for the calibrate motion in the gun change setup screen.

SVGN-093 PAUSE Gun does not stop.

Cause: At the Gun Zero Master[] instruction, Servo gun axis does not stop.

Remedy: After servo gun axis stops, execute the Gun Zero Master[] instruction.

SVGN-094 PAUSE GUN EXCHANGE failed

Cause: At the Gun exhange[] instruction, the new gun could not be activated.

Remedy: Make sure that the each servogun has valid axisorder

SVGN-095 PAUSE Gun type is not opposable.

Cause: Opposable gun type is required for target gun.

Remedy: Set gun type as opposable, if appropriate.

3.18.10. SYST Alarm Code

SYST-001 PAUSE HOLD button is being pressed

Cause: You attempted an operation while the hold button (input) is pressed.

Remedy: Clear the hold button (input), and try the same operation.

SYST-002 PAUSE HOLD is locked by program

Cause: Meaning: The condition that the robot is being held is locked by the program, and it

could not be cleared. Cause: If a HOLD statement is executed in a Karel program, the held condition can only be cleared by the same program using the UNHOLD statement/action, or by aborting the program. If a motion is attempted in such condition, this error message is displayed.

Remedy: Wait until the UNHOLD statement is executed by the karel program, or abort the karel program.

SYST-003 WARN TP is enabled

Cause: The attempted operation could not be done because the teach pendant is enabled.

Remedy: Disable the teach pendant, and try the same operation again.

SYST-004 WARN SOP is enabled

Cause: The attempted operation could not be done because the System Operator Panel is enabled.

Remedy: Turn the REMOTE switch on the SOP to REMOTE side, and try the same operation again.

SYST-005 WARN UOP is the master device

Cause: The attempted operation could not be done because the User Operator Panel is enabled.

Remedy: Turn the REMOTE switch to local (if the operation is attempted from the SOP), or set the $RMT_MASTER system variable correctly. Refer to the SYSTEM R-J2 Software Reference Manual, Chapter 2 "System Variables", for more information on system variables.

SYST-006 WARN KCL is the master device

Cause: The attempted operation could not be done because KCL is the master device.

Remedy: Turn the REMOTE switch to local (if the operation is attempted from the SOP), or set the $RMT_MASTER system variable correctly. Refer to the SYSTEM RJ-2 Software Reference Manual, Chapter 2 "System Variables", for more information on system variables.

SYST-007 WARN NETWORK is the master device

Cause: The attempted operation could not be done because the NETWORK command processor is the master device.

Remedy: Turn the REMOTE switch to local (if the operation is attempted from the SOP), or set the $RMT_MASTER system variable correctly. Refer to the SYSTEM R-J2 Software Reference Manual, Chapter 2 "System Variables", for more information on system variables.

SYST-008 WARN Nothing is the master device

Cause: The system variable $RMT_MASTER is set to disable all devices. Therefore, no remote device can issue motion.

Remedy: Turn the REMOTE switch to local (if the operation is attempted from the SOP), or set the $RMT_MASTER system variable correctly. Refer to the SYSTEM R-J2 Software Reference Manual, Chapter 2 "System Variables", for more information on system variables.

SYST-009 WARN Safety Fence open

Cause: The attempted operation could not be done because the safety fence is open.

Remedy: Close the safety fence, and try the same operation again.

SYST-010 WARN Max num task reached

Cause: The number of task has reached the maximum.

Remedy: Abort one of the running task.

SYST-011 WARN Failed to run task

Cause: The system has failed to run the program.

Remedy: Refer to the error cause code. Use MENU to display the Alarm Log screen.

SYST-012 WARN Not in remote

Cause: Remote condition is not satisfied.

Remedy: Turn the remote switch on.

SYST-013 WARN Invalid program number

Cause: The specified PNS number is not in the range of 1 to 9999.

Remedy: Specify correct program number.

SYST-014 WARN Program select failed

Cause: PNS operation has failed by some reason.

Remedy: Refer to the error cause code. Use MENU to display the Alarm Log screen.

SYST-015 WARN Robot Service Request failed

Cause: RSR operation has failed by some reason.

Remedy: Refer to the error cause code. Use MENU to display the Alarm Log screen.

SYST-016 WARN ENBL signal is off

Cause: ENBL signal in UOP is off

Remedy: Set ENBL signal ON

SYST-017 WARN Single step operation effective

Cause: Single step operation is effective

Remedy: Disable single step switch

SYST-018 WARN Continuing from different line

Cause: Attempt to continue program from different line from paused line

Remedy: Respond YES or NO in the prompt box on at the teach pendant

SYST-019 WARN Program not selected

Cause: Program has not been selected

Remedy: Select a program from the program select menu on the teach pendant, or using PNS

SYST-020 WARN Program not verified by PNS

Cause: Program specified by PNS is different from current selected program. This error occurs in R-J Mate only

Remedy: Select a correct program from the program select menu on the teach pendant

SYST-021 WARN System not ready, press reset

Cause: An error has been detected by the system

Remedy: Press RESET to clear error condition

SYST-022 WARN PNS not zero, cannot continue

Cause: Paused program cannot be continued if PNS input ports are not zero This error occurs in R-J Mate only

Remedy: Set all PNS input ports to OFF

SYST-023 SYSTEM Teach Pendant communication error

Cause: A communication cable is broken.

Remedy: Check the teach pendant cable. Replace the cable if necessary.

SYST-024 WARN PNSTROBE is OFF. Cannot start exec

Cause: Because PNSTROBE is off, prod_start could not be processed

Remedy: Set PNSTROBE input to ON

SYST-025 WARN Teach Pendant is different type

Cause: The type of teach pendant being connected, is different from the one that was disconnected.

Remedy: Connect the same type of teach pendant as disconnected.

SYST-026 WARN System normal power up

Cause: System has executed normal power startup

Remedy: This is just a notification. You do not have to do anything for this warning message.

SYST-027 PAUSE HOT start failed (Error:%d)

Cause: HOT start has failed for one of the following reasons: 1. Power failed during system start up. 2. Flash ROM module was changed. 3. A run-time error occurred. 4. System internal error 1. 5. System internal error 2.

Remedy: COLD start is selected automatically.

SYST-028 WARN (%s) Program timed out

Cause: $PWR_HOT,$PWR_SEMI program has been aborted by the system due to time out (40sec)

Remedy: Decrease program size so that it can be executed within the time out limit

SYST-029 PAUSE Robot was connected (Group:%d)

Cause: The connect/isolate key was turn to the connect side

Remedy: This is just a notification. You do not have to do anything for this warning message.

SYST-030 PAUSE Robot was isolated (Group:%d)

Cause: The connect/isolate key was turn to the isolate side

Remedy: This is just a notification. You do not have to do anything for this warning message.

SYST-031 SYSTEM F-ROM parity

Cause: An error has occurred accessing F-ROM

Remedy: Perform a cold start: 1. Turn off the robot. 2. On the teach pendant, press and hold the SHIFT and RESET keys. 3. While still pressing the SHIFT and RESET keys, turn on the robot. If the error is not cleared, document the events that led to the error and call your FANUC Robotics technical representative.

SYST-032 WARN ENBL signal from UOP is lost

Cause: ENBL input signal from UOP is lost

Remedy: Determine and correct the cause of loss of this signal.

SYST-033 WARN SFSPD signal from UOP is lost

Cause: SFSPD input signal from UOP is lost

Remedy: Determine and correct the cause of loss of this signal.

SYST-034 WARN HOLD signal from SOP/UOP is lost

Cause: HOLD input signal from SOP/UOP is lost

Remedy: Determine and correct the cause of loss of this signal.

SYST-035 WARN Low or No Battery Power in PSU.

Cause: Battery in PSU board is low in power.

Remedy: Replace the Old Battery with a new battery of same kind.

SYST-036 WARN Semi power failure recovery

Cause: System did semi-hot start

Remedy: This is just a notification. You do not have to do anything for this warning message.

SYST-037 ABORT Key switch broken

Cause: Improper input from Key switch

Remedy: Please fix the CE Sign key switch

SYST-038 PAUSE Operation mode T1 Selected

Cause: Operation mode T1 Selected

Remedy: This is just a notification. You do not have to do anything for this warning message.

SYST-039 PAUSE Operation mode T2 Selected

Cause: Operation mode T2 Selected

Remedy: This is just a notification. You do not have to do anything for this warning message.

SYST-040 PAUSE Operation mode AUTO Selected

Cause: Operation mode AUTO Selected

Remedy: This is just a notification. You do not have to do anything for this warning message.

SYST-041 PAUSE Ovrd Select could not ENABLED

Cause: DI index is invalid

Remedy: Please set valid DI index

SYST-042 PAUSE DEADMAN defeated

Cause: The mode switch was changed from T1 or T2 mode to AUTO mode and the DEADMAN was already pressed. The DEADMAN must be released when switching to AUTO mode

Remedy: Release the DEADMAN and press RESET.

SYST-043 PAUSE TP disabled in T1/T2 mode

Cause: The mode selector is in T1 or T2 and the TP ON/OFF switch is in the OFF position

Remedy: Turn the TP ON/OFF switch to ON. Press RESET.

SYST-044 SYSTEM (Abnormal) TP disabled in T1/T2 mode

Cause: The mode selector is in T1 or T2 and the TP ON/OFF switch is in the OFF position and SVON is ON. This is an abnormal condition.

Remedy: Call your FANUC Robotics technical representative.

SYST-045 PAUSE TP enabled in AUTO mode

Cause: The mode selector is in AUTO and the TP ON/OFF switch is in the ON position

Remedy: Turn the TP ON/OFF switch to OFF. Press RESET.

SYST-046 SYSTEM Control Reliable/CE Mark config mismatch

Cause: Either 1.Control Reliable or CE Mark hardware exists but the CR or CE Mark option has not been loaded,or 2.The Control Reliable/CE Mark option has been loaded but the

hardware is not available.

Remedy: If the Control Reliable/CE Mark option has not been loaded, load the Control Reliable/ CE Mark option. If it has been loaded then this is a system without the Control Reliable/ CE Mark hardware and the system must be totally reloaded WITHOUT the Control Reliable/CE Mark option.

SYST-047 WARN Continuing from distant position

Cause: Attempt to continue program from distant position from stopped position.

Remedy: Respond ABORT or CONTINUE in the prompt box on at the teach pendant

SYST-048 ABORT NECALC couldn't get work memory

Cause: OS couldn't give NECALC soft part enough memory

Remedy: Please increase Controller's memory

SYST-049 ABORT SFCALC couldn't get work memory

Cause: OS couldn't give SFCALC soft part enough memory

Remedy: Please increase Controller's memory

SYST-050 WARN Invalid time in trigger request

Cause: Invalid time used in TG request

Remedy: Time must be less than 6,000,000 us

SYST-051 PAUSE SYTG overrun: %d %d %x %d %d

Cause: Excessive time iin trigger routines First number indicates event routine (1) or scan routine (2). Second number indicates individual overrrun (1) or excessive cumative CPU use (2). Third number: event number(hexadecimal) or scan routine address Fourth number: limit (microseconds or 100ths of one pct) Fifth number: time used (microseconds or 100ths of one pct)

Remedy: Event or scan routine need to be made more efficient, scan rate reduced, or system variable values increased to permit more CPU usage.

SYST-052 WARN Trigger slot already used: %d

Cause: Specified entry already used

Remedy: Use cancel request to delete old entry

SYST-053 WARN Invalid fast_DIN no: %d

Cause: Specified Fast-DIN number is invalid

Remedy: Use Valid Fast-DIN

SYST-054 WARN Event-ID already used: %d

Cause: Specified event ID already in use

Remedy: Use unique event ID or cencel previous request

SYST-055 WARN Event-ID not found: %d

Cause: Specified event ID is not presently in use

Remedy: Check event ID

SYST-056 WARN Scan routine list full

Cause: A call to syscnrtn was made when the scan list was full. A maximum of 10 scan routines, including the standard table scanning routine, may be active at one time.

Remedy: Either cancel scan routines that are no longer needed or combine scan routines

SYST-057 WARN Illegal interval

Cause: The interval parameter in a call to syscnrtn was greater than 1000000 (1 second).

Remedy: Use a value in the range 1-1000000

SYST-058 WARN Duplicate scan routine

Cause: syscnrtn was called specifying a routine and data_p that is already being scanned

Remedy: Don't request the same rtn/data_p twice

SYST-059 WARN Scan routine not active

Cause: syclclsc was called with a routine and data_p that that does not match any active scans

Remedy: Don't cancel a non-existent scan

SYST-060 WARN Duplicate cond/act table

Cause: syaddtbl called with pointer to table that is already in the scan list

Remedy: Add table only once

SYST-061 WARN Scan table list full

Cause: syaddtbl called when all 10 condition/action table slots are already in use

Remedy: Cancel tables that are no longer needed or combine tables.

SYST-062 WARN Scan table not active

Cause: sycncltb called with cond/act table that is not active.

Remedy: Check for duplicate sycncltb call or wrong table pointer

SYST-063 WARN Scan time record seq error

Cause: System error: consecutive time interval start calls

Remedy: Contact Fanuc Robotcs wth information on events leading up to error

SYST-064 WARN Bad scan table data

Cause: System error: Invalid data in scan table The following can result in this error: Too many cond/action sets (max = 10) Invalid condition code Invalid action code Too many actions (max = 3)

Remedy: Contact Fanuc Robotcs wth information on events leading up to error

SYST-065 ABORT SFCALC overrun

Cause: SFCALC task can't get enough MPU power.

Remedy: Please reduce some software options or disable some motion groups which had been enabled.

SYST-066 PAUSE Teach Pendant communication error

Cause: Communication with the advanced Teach Pendant was interrupted.

Remedy: Too much communication may have caused the interrupt. Check the teach pendant cable. Replace the cable if necessary.

SYST-067 SYSTEM Panel HSSB disconnect

Cause: Panel HSSB communication is disconnected.

Remedy: Check panel HSSB hardware connection.

SYST-069 WARN Program number out of range

Cause: The selected style number is zero or greater than the size of the style table.

Remedy: Select a valid style number, or adjust the size of the table.

SYST-070 WARN No program name in table

Cause: There is no program name in the style table.

Remedy: Put a valid program name in the proper place in the style table.

SYST-071 WARN Program not found

Cause: The selected style program does not exist on the controller.

Remedy: Create a program for the style, or put a valid program name in the style table.

SYST-072 WARN Program not enabled

Cause: The selected style program is not enabled.

Remedy: Set the VALID field to YES in the style table.

SYST-073 WARN Manual selection mismatch

Cause: The style input does not match the manually selected style.

Remedy: The PLC must send a style code that matches the manual selection.

SYST-074 WARN Karel shell failed

Cause: Communications with the Karel shell extension failed.

Remedy: Cold start the controller.

SYST-075 WARN Shell init failure

Cause: The shell was unable to start due to resource allocation failures.

Remedy: Cold start the controller.

SYST-076 WARN Shell condition setup failure

Cause: The shell could not set up its required condition handlers.

Remedy: Cold start the controller.

SYST-077 WARN Entered INTERLOCK mode

Cause: The controller is interlocked with the PLC

Remedy: This is an informational message. There is no error.

SYST-078 WARN Entered ISOLATE mode

Cause: The controller is isolated from PLC control.

Remedy: This is an informational message. There is no error

SYST-079 WARN Startup check failed

Cause: One or more of the pre-startup system checks failed.

Remedy: Look for a previous message that indicates exactly which check failed and take corrective action.

SYST-080 WARN Fault must be reset

Cause: The system is in a faulted state.

Remedy: Reset the fault before trying the operation again.

SYST-081 WARN Not at home position

Cause: The program can not start because the robot is not at the defined home position.

Remedy: Move the robot to the home position.

SYST-082 WARN Not within resume tolerance

Cause: The program can not be resumed because the robot has been moved from the position on the path where it stopped.

Remedy: Jog the robot back to the correct position.

SYST-083 WARN I/O is simulated

Cause: One or more I/O points are simulated.

Remedy: Unsimulate all I/O before trying to start the program.

SYST-084 WARN I/O forced unsimulated

Cause: The system has forced all I/O to be unsimulated.

Remedy: This is an informational message.

SYST-085 WARN Gen override not 100%

Cause: The general speed override is not 100%

Remedy: Set the override to 100%.

SYST-086 WARN Gen override forced to 100%

Cause: The system has forced the general speed override to 100%

Remedy: This is an informational message.

SYST-087 WARN Prog override not 100%

Cause: The program override is not 100%.

Remedy: Set the override to 100%.

SYST-088 WARN Prog override forced to 100%

Cause: The system has forced the program speed override to 100%.

Remedy: This is an informational message.

SYST-089 WARN Machine lock on

Cause: The machine lock is on, motion can not occur.

Remedy: Turn off the machine lock.

SYST-090 WARN Machine lock forced off

Cause: The system has forced machine lock to the off state.

Remedy: This is an informational message.

SYST-091 WARN Single step active

Cause: The program is in single-step mode.

Remedy: Take the system out of single-step mode.

SYST-092 WARN Single step forced off

Cause: The system has forced single-stepping to be off.

Remedy: This is an informational message.

SYST-093 WARN Process not ready

Cause: The program can not start because the process is not ready.

Remedy: Make the process equipment ready for running a program.

SYST-094 WARN Process forced ready

Cause: The system has forced the process equipment to the ready state.

Remedy: This is an informational message.

SYST-095 ABORT Remote diagnose internal error

Cause: Internal Error in Remote Diagnose function.

Remedy: Internal error

SYST-096 ABORT Designated task is not valid

Cause: Internal Error in Remote Diagnose function.

Remedy: Internal error

SYST-097 WARN Fail to initialize Modem

Cause: Internal Error in Remote Diagnose function.

Remedy: Internal error

SYST-098 WARN Card Modem is removed

Cause: Internal Error in Remote Diagnose function.

Remedy: Internal error

SYST-099 WARN Card Modem is not responded

Cause: Internal Error in Remote Diagnose function.

Remedy: Internal error

SYST-100 WARN DSR in Modem OFF

Cause: Internal Error in Remote Diagnose function.

Remedy: Internal error

SYST-101 WARN Connection is stopped

Cause: Internal Error in Remote Diagnose function.

Remedy: Internal error

SYST-102 ABORT HDI not recorded

Cause: Internal Error in Remote Diagnose function.

Remedy: Internal error

SYST-103 WARN Not-home ignored

Cause: User bypassed not-home condition at program startup.

Remedy: None needed - warning only.

SYST-104 WARN Resume tolerance ignored

Cause: User bypassed TCP position tolerance at program resume.

Remedy: None needed - warning only.

SYST-105 WARN Simulated I/O ignored

Cause: User bypassed I/O simulated at program startup.

Remedy: None needed - warning only.

SYST-106 WARN Gen override ignored

Cause: User bypassed general override < 100% at program startup.

Remedy: None needed - warning only.

SYST-107 WARN Prog override ignored

Cause: User bypassed program override < 100% at program startup.

Remedy: None needed - warning only.

SYST-108 WARN Machine lock ignored

Cause: User bypassed machine lock at program startup.

Remedy: None needed - warning only.

SYST-109 WARN Single step ignored

Cause: User bypassed single-step condition at program startup.

Remedy: None needed - warning only.

SYST-110 WARN Process ready ignored

Cause: User bypassed process not ready at program startup.

Remedy: None needed - warning only.

SYST-111 WARN No home pos defined

Cause: No home position defined for motion group 1.

Remedy: Enable at least one reference position for group 1 as a home position, or disable the home position startup check.

SYST-112 WARN No production start input defined

Cause: The production start input, which is required with the current program selection options, has not been defined.

Remedy: Set up a production start input in the Cell Input I/O menu and restart the robot.

SYST-113 WARN No style input group defined

Cause: The style number input group, which is required with the current program selection options, has not been defined.

Remedy: Set up a style number input group in the Cell Input I/O and Group I/O menus and restart the robot.

SYST-114 WARN No RSR input defined

Cause: One or more RSR inputs, which are required with the current program selection options, have not been defined.

Remedy: Set up the RSR inputs in the Cell Input I/O menu and restart the robot.

SYST-115 WARN No PNS select input defined

Cause: One or more PNS selection inputs, which are required with the current program selection options, have not been defined.

Remedy: Set up the PNS selection inputs in the Cell Input I/O and Group I/O menus and restart the robot.

SYST-116 WARN No RSR echo output defined

Cause: One or more RSR echo outputs, which are required with the current program selection options, have not been defined.

Remedy: Set up the RSR echo outputs in the Cell Output I/O menu and restart the robot.

SYST-117 WARN No PNS echo output defined

Cause: The PNS echo outputs, which are required with the current program selection options, have not been defined.

Remedy: Set up the PNS echo outputs in the Cell Output I/O and Group I/O menus and restart the robot.

SYST-118 WARN No PNS strobe input defined

Cause: The PNS strobe input, which is required with the current program selection options, has not been defined.

Remedy: Set up a PNS strobe input in the Cell Input I/O menu and restart the robot.

SYST-119 WARN No echo strobe output defined

Cause: The acknowledgement strobe output, which is required with the current program selection options, has not been defined.

Remedy: Set up an acknowledgement strobe output in the Cell Output I/O menu and restart the robot.

SYST-120 WARN No style option input defined

Cause: One or more style option inputs, which are required with the current program selection options, have not been defined.

Remedy: Set up the style option inputs in the Cell Input I/O menu and restart the robot.

SYST-121 WARN No decision input group defined

Cause: The decision code input group, which is required with the current program selection options, has not been defined.

Remedy: Set up a decision code input group in the Cell Input I/O and Group I/O menus and restart the robot.

SYST-122 WARN No style output group defined

Cause: The echo/manual style output group, which is required with the current program selection options, has not been defined.

Remedy: Set up a style output group in the Cell Output I/O and Group I/O menus and restart the robot.

SYST-123 WARN No option output defined

Cause: One or more style option outputs, which are required with the current program selection options, have not been defined.

Remedy: Set up the style option outputs in the Cell Output I/O menu and restart the robot.

SYST-124 WARN No decision output group defined

Cause: The decision code output group, which is required with the current program selection options, has not been defined.

Remedy: Set up a decision code output group in the Cell Output I/O and Group I/O menus and restart the robot.

SYST-125 WARN No in-cycle output defined

Cause: The in-cycle output, which is required with the current program selection options, has not been defined.

Remedy: Set up an in-cycle output in the Cell Output I/O menu and restart the robot.

SYST-126 WARN No task-OK output defined

Cause: The task_OK output, which is required with the current program selection options, has not been defined.

Remedy: Set up a task-OK output in the Cell Output I/O menu and restart the robot.

SYST-127 WARN No isolate output defined

Cause: The isolate mode output, which is required with the current program selection options, has not been defined.

Remedy: Set up an isolate mode output in the Cell Output I/O menu and restart the robot.

SYST-128 WARN No interlock output defined

Cause: The interlock mode output, which is required with the current program selection options, has not been defined.

Remedy: Set up an interlock mode output in the Cell Output I/O menu and restart the robot.

SYST-129 WARN No manual style output defined

Cause: The manual style request output, which is required with the current program selection options, has not been defined.

Remedy: Set up a manual style request output in the Cell Output I/O menu and restart the robot.

SYST-130 WARN Program still running

Cause: The shell is already running an active program.

Remedy: Finish or abort the current program before requesting a new program selection.

SYST-131 WARN Invalid manual style request

Cause: The manual style request cannot be done. There is also a secondary error posted that gives the reason.

Remedy: Examine the secondary error message.

SYST-132 WARN Manual request timed out

Cause: The specified manual style was not requested by the PLC within the allowable time period.

Remedy: Determine why the PLC did not respond to the request, or increase the timeout value.

SYST-133 WARN System trigger request early

Cause: A request for a system trigger function (scan routine, etc) was made before the tables for these are initialized.

Remedy: Defer any of these requests until late in the cold-start process

SYST-134 WARN Max. freq. exceeded ch.: %d

Cause: A frequency input connected to one of the HDI inputs momentarily or for an extended time had a frequency exceeding the setting for the maximum. The channel or input number is indicated in the alarm text.

Remedy: Reduce or eliminate the noise on the signal with additional grounding or shielding. If the frequency dip switch setting on the HDI Pulse Module is for the low range (640 Hz) and normal input frequencies will be above this, change the settings. Change the dip switch setting to the high range (1000 Hz) and the system variable $FQINT_SETUP [n].$FREQ_MAX_AL to 1020. If the frequency dip switch setting on the HDI Pulse Module is for the high range (1000 Hz) and normal input frequencies will always be below the low range change the setting to the low range. If the device providing the frequency (a flow meter for example) is providing frequencies above 1000 Hz, either change settings on the meter or change the type of meter so that the frequency provided is reduced. To disable this alarm, change the setting of the system variable $FQINT_SETUP[n].$FREQ_MAX_AL to 1200 if using the HDI Pulse Module or to 0 otherwise.

SYST-135 WARN Invalid Clock, Please Reset

Cause: The system clock has an invalid time. The clock may not have been set.

Remedy: Reset the system Clock using the SYSTEM Clock TP page

SYST-136 WARN System Time was reset

Cause: The system clock was reset by an Operator.

Remedy: Check the system Clock using the SYSTEM Clock TP page

SYST-137 WARN Device not found

Cause: The requested device is not installed on the motherboard.

Remedy: Request only valid devices.

SYST-138 WARN Motherboard not installed

Cause: The specified motherboard is not installed.

Remedy: Specify only installed motherboards.

SYST-139 WARN Invalid motherboard request

Cause: The specified motherboard index is not a valid value.

Remedy: This is a programming error. Specify only index 0 or 1

SYST-140 WARN Invalid IRQ specified

Cause: An invalid interrupt number was specified by the device driver.

Remedy: Specify an IRQ from 3 through 7 only.

SYST-141 WARN BMON was updated

Cause: BMON was automatically updated because of a newer version.

Remedy: Check BMON version.

SYST-142 WARN ABS time in sytmrev in past

Cause: The time specified for a timed event has already passed The event will trigger immediately

Remedy: Specify a later time for the event

SYST-143 WARN pkt_data_size too big

Cause: pkt_data_size parameter in syinpev_gen call is too big.

Remedy: Use size < = MAX_PKT_DATA in sytglib.h

SYST-144 WARN Bad DO specfied by %s

Cause: Invalid or unassigned DOUT number specified in the indicated system variable.

Remedy: Set the sysem variable to zero (no port used) or to a valid port number and ensure that the indicated DOUT is assigned.

SYST-145 WARN DO specfied by %s OFFLINE

Cause: DOUT specified in the indicated system variable is Off-line.

Remedy: Set the device to which the DOUT is assigned On-line.

SYST-146 WARN n_pkts invalid

Cause: n_pkts_parameter in syinpev_gen call is invalid.

Remedy: Use value in the range of 1 to 20, or zero if evnt_rtn_2 not used

SYST-148 PAUSE Dynamic Brake is Disabled

Cause: Dynamic Brake is disabled by dynamic brake release request signal (DI [$DYN_BRK.$DI_IDX]).

Remedy: If you would like to turn on servo, please turn off dynamic brake release request signal.

SYST-149 WARN Dynamic Brake is Enabled

Cause: Dynamic Brake is enabled because dynamic brake release request is turned off.

Remedy: It is message only.

SYST-150 WARN Cursor is not on line 1

Cause: The program is started except from the 1st line.

Remedy: Respond YES or NO in the prompt box on at the teach pendant

SYST-151 WARN Start again (%s, %d)

Cause: After the program is started except from the 1st line, respond YES in the prompt box on at the teach pendant.

Remedy: Start the same program again.

SYST-152 WARN Cannot force DO's in AUTO mode

Cause: Attempt to force output signal while controller is in AUTO mode

Remedy: Exit AUTO mode before doing this operation

SYST-153 WARN Cannot SIM/UNSIM DO's in AUTO mode

Cause: Attempt to force output signal while controller is in AUTO mode

Remedy: Exit AUTO mode before doing this operation

SYST-154 WARN No start in ISOLATE/BYPASS mode

Cause: Production start received when controller is in ISOLATE or BYPASS mode

Remedy: Put controller into AUTO or INTERLOCK mode before doing this operation

SYST-155 SYSTEM ABC overrun

Cause: This PCB is not used on this controller.

Remedy: Mount the correct PCB.

SYST-156 SYSTEM Unknown hard ware

Cause: CE/RIA software does not exist in this controller.

Remedy: Install CE/RIA option to this controller.

SYST-157 SYSTEM CE/RIA software does not exist

Cause: The mode selector is in T2. Robot cannot move in T2 mode.

Remedy: Change the mode switch to T1 or AUTO mode.

SYST-158 PAUSE Robot cannot move in T2 mode

Cause: GO dedicated for the Error Output feature is not configured

Remedy: Configure GO dediocated for the Error Output feature.

SYST-159 WARN GO %d for Error Output not configured

Cause: Value to be outputted to GO with Error Output feature is out of limit for this group output.

Remedy: Configure GO using more digital outputs.

SYST-161 WARN Cannot start Remote diagnostic

Cause: Remote diagnostics are not started because the servo status is on.

Remedy: Turn off the servo then retry the remote diagnostics.

SYST-162 PAUSE Servo On during Remote diagnostic

Cause: The servo is turned on during remote diagnostics.

Remedy: Turn off the servo before attempting remote diagnostics.

SYST-163 WARN Cannot operate IO during Remote diagnostic

Cause: An attempt was made to operate I/O during remote diagnostics.

Remedy: Do not operate I/O during remote diagnostics.

SYST-164 WARN Teach Pendant communication error

Cause: Communication with the teach pendant was interrupted.

Remedy: Too much communication may have caused the interrupt. Check that the teach pendant cable is working properly. Replace the cable if necessary.

SYST-165 PAUSE TP intermittent communication error

Cause: Intermittent errors happened on the communication with the teach pendant.

Remedy: Check to determine if there is any source of electrical noise. Check that the teach pendant is working properly. Replace the teach pendant if necessary.

SYST-166 WARN TP intermittent communication error

Cause: Intermittent errors happened during the communication with the teach pendant.

Remedy: Check that the teach pendant cable is working properly. Replace the cable if necessary. Check to determine if there is any source of electrical noise. Check that the teach pendant is working properly and replace the teach pendant if necessary.