### 3.1.2.174  APSH-207 Invalid Ref Pos Specified

**Cause:** The reference position specified to get_home.

**Remedy:** Verify the specified Reference position exists.

### 3.1.2.175  APSH-208 Failed to check %s

**Cause:** This error is related to production setup check screen. This item should not be checked on the present configuration.

**Remedy:** Press F6,REDO and cycle power to update items.

### 3.1.2.176  APSH-209 Fault Disabled: single cycle.

**Cause:** This is a warning message to log that the user chose to disable fault checking for one cycle.

**Remedy:** None.

### 3.1.2.177  APSH-210 Fault Disabled: multiple cycles.

**Cause:** This is a warning message to log that the user chose to disable fault checking for multiple cycles.

**Remedy:** None.

## 3.1.3  ARC Alarm Code

### 3.1.3.1  ARC-001 Illegal arc equipment config

**Cause:** An attempt was made to add or use more equipment than permitted.

**Remedy:** Check if weld controler is functioning correctly, or powered on.

### 3.1.3.2  ARC-002 Illegal arc schedule number (%s^4,%d^5)

**Cause:** An arc instruction contained an illegal schedule number.

**Remedy:** Check if weld controler is functioning correctly, or powered on.


### 3.1.3.3  ARC-003 No gas flow (%s^4,%d^5)

**Cause:** No gas flow was detected during an arc start.

**Remedy:** Check if weld controler is functioning correctly, or powered on.


### 3.1.3.4  ARC-004 Gas flow after weld (%s^4,%d^5)

**Cause:** The gas fault input was not ON after the gas output was set to OFF.

**Remedy:** Check if weld controler is functioning correctly, or powered on.


### 3.1.3.5  ARC-005 Gas fault (%s^4,%d^5)

**Cause:** A gas fault input was detected during welding.

**Remedy:** Check if weld controler is functioning correctly, or powered on.


### 3.1.3.6  ARC-006 Wire fault (%s^4,%d^5)

**Cause:** A wire fault input was detected during welding.

**Remedy:** Check if weld controler is functioning correctly, or powered on.


### 3.1.3.7  ARC-007 Water fault (%s^4,%d^5)

**Cause:** A water fault input was detected during welding.

**Remedy:** Check if weld controler is functioning correctly, or powered on.


### 3.1.3.8  ARC-008 Power supply fault (%s^4,%d^5)

**Cause:** A power fault input was detected during welding.

**Remedy:** Check if weld controler is functioning correctly, or powered on.

### 3.1.3.9 ARC-010 Wire stick detected (%s^4,%d^5)

**Cause:** A wire stick has occured.

**Remedy:** Check if weld controler is functioning correctly, or powered on.

### 3.1.3.10 ARC-011 Wire stick, not reset (%s^4,%d^5)

**Cause:** A wirestick was detected and wirestick reset was not performed. Wirestick reset may be disabled. Wirestick reset is not done during TIG welding or if welding is stopped by turning weld enable off.

**Remedy:** Check if weld controler is functioning correctly, or powered on.

### 3.1.3.11 ARC-012 Wire stick reset(s) failed (%s^4,%d^5)

**Cause:** A wirestick was detected and the automatic wirestick reset failed to break the wirestick.

**Remedy:** Check if weld controler is functioning correctly, or powered on.

### 3.1.3.12 ARC-013 Arc Start failed (%s^4,%d^5)

**Cause:** The arc detect input did not stabilize during an arc start.

**Remedy:** Check if weld controler is functioning correctly, or powered on.

### 3.1.3.13 ARC-014 Teach pendant is disabled

**Cause:** The weld enable or a wire inch hardkey was pressed with the teach pendant enable switch OFF.

**Remedy:** Check if weld controler is functioning correctly, or powered on.

### 3.1.3.14 ARC-015 Press shift with this key

**Cause:** The weld enable or a wire inch hardkey was pressed without holding the shift key.

**Remedy:** Check if weld controler is functioning correctly, or powered on.

### 3.1.3.15 ARC-016 Weld by Shift FWD is disabled

**Cause:** A program executing from the teach pendant attempted an Arc Start with welding from the teach pendant disabled.

**Remedy:** Check if weld controler is functioning correctly, or powered on.

### 3.1.3.16 ARC-017 Arc Start was disabled (%s^4,%d^5)

**Cause:** An Arc Start instruction was executed with welding disabled.

**Remedy:** Check if weld controler is functioning correctly, or powered on.

### 3.1.3.17 ARC-018 Lost arc detect (%s^4,%d^5)

**Cause:** The arc detect signal was lost during a weld.

**Remedy:** Check if weld controler is functioning correctly, or powered on.

### 3.1.3.18 ARC-019 Can't read arc detect input (%s^4,%d^5)

**Cause:** The arc detect input could not be read.

**Remedy:** Check if weld controler is functioning correctly, or powered on.

### 3.1.3.19 ARC-020 No plan data area available

**Cause:** Insufficient memory exists to plan an arc instruction.

**Remedy:** Check if weld controler is functioning correctly, or powered on.

### 3.1.3.20 ARC-021 Program aborted while welding (%s^4,%d^5)

**Cause:** A program was aborted while welding.

**Remedy:** Check if weld controler is functioning correctly, or powered on.

### 3.1.3.21 ARC-022 Weld AO scaling limit used (%s^4,%d^5)

**Cause:** The programmed analog output is beyond the equipment limits.

**Remedy:** Check if weld controler is functioning correctly, or powered on.

### 3.1.3.22 ARC-023 Illegal arc schedule type (%s^4,%d^5)

**Cause:** The arc instruction register is not an integer type.

**Remedy:** Check if weld controler is functioning correctly, or powered on.

### 3.1.3.23 ARC-024 Invalid equipment range

**Cause:** The equipment min to max range is too small.

**Remedy:** Enter new min or max values for the equipment.

### 3.1.3.24 ARC-025 Invalid A/D or D/A range

**Cause:** The binary range data for the A/D or D/A is too small.

**Remedy:** Modify the correct system variable fields within $AWEPRR.

### 3.1.3.25 ARC-026 Cannot scale AIO while welding

**Cause:** An analog scaling limit was modified while welding. The scaling was not changed.

**Remedy:** Turn off the controller and turn it on again.

### 3.1.3.26 ARC-027 Arc log failed: Device full

**Cause:** Free space on Memory Device is insufficient, so cannot save the log file for Arc Weld Log function.

**Remedy:** Arrange the contents of Memory Device and get enough free space on Memory device for Arc Weld Log function.

### 3.1.3.27 ARC-028 %d arc log files auto delete

**Cause:** Free space on Memory Device is insufficient, so auto deletion of log files is performed.

**Remedy:** Arrange the contents of Memory Device and get enough free space on Memory device for Arc Weld Log function.

### 3.1.3.28 ARC-029 Illegal num of weld I/O(%s)

**Cause:** The number of weld I/O is illegal; more than maxmum, less than minimum or uninitialized, so cannot weld.

**Remedy:** Set up weld I/O again at controlled start.

### 3.1.3.29 ARC-030 Wire stick is still detected (%s^4,%d^5)

**Cause:** A wire stick is still detected after a system RESET.

**Remedy:** Secure the robot and equipment. Cut the wire.

### 3.1.3.30 ARC-031 No motion while welding (%s^4,%d^5)

**Cause:** Motion has stopped longer than $arc_los_tim while welding.

**Remedy:** If no motion is needed during welding, increase the arc loss time in the Weld Equipment SETUP screen or disable arc loss detection in the Weld System SETUP screen.

### 3.1.3.31 ARC-032 Weld stopped by single step (%s^4,%d^5)

**Cause:** Welding was stopped by entering single step mode after welding began.

**Remedy:** To continue welding you must exit single step mode.

### 3.1.3.32 ARC-033 Override must be 100%% to weld (%s^4,%d^5)

**Cause:** The speed override is less than 100%.

**Remedy:** Set the speed override to 100% to weld or disable welding to continue at a low speed.

### 3.1.3.33 ARC-034 Task does not control welding (%s^4,%d^5)

**Cause:** A task which does not have weld control attempted to execute an Arc Start or an Arc End instruction. Only one task is permitted to have weld control.

**Remedy:** Allow the task which has weld control to end or abort before attempting to weld with another task.

### 3.1.3.34 ARC-035 Equipment number isn't set (%s^4,%d^5)

**Cause:** The arc instruction does not have the equipment number

**Remedy:** Please set the equipment number to the program attribute data or the arc instruction

### 3.1.3.35 ARC-036 Such equipment mask isn't supported (%s^4,%d^5)

**Cause:** An attempt was made to add or use more equipment than permitted.

**Remedy:** Please set the equipment number to the program attribute data or the arc instruction

### 3.1.3.36 ARC-037 Another equipment is inching now

**Cause:** Another equipment is wire inching now.

**Remedy:** Please stop wire inching for another equipment by releasing the shift key or user key

### 3.1.3.37 ARC-038 Already held another equipment (%s^4,%d^5)

**Cause:** This program( task ) has already held the another equipment A task can only use a equipment.

**Remedy:** Please control the equipment by the another task

### 3.1.3.38 ARC-039 %s^1 AO[%d^2] is not scaled (%s^4,%d^5)

**Cause:** The named weld analog output signal is not scaled properly.

**Remedy:** Adjust the weld analog output scaling in the Weld I/O screen using the CONFIG function key.

### 3.1.3.39  ARC-040 EQ%d^1 Missing I/O: %s^2

**Cause:** The named weld I/O signal is not detected or configured properly.

**Remedy:** Verify the I/O hardware is connected and the signal is assigned a port number in the Weld I/O screen. Use the CONFIG function key if the signal is unassigned.

### 3.1.3.40  ARC-041 Weld EQ needs DeviceNet option

**Cause:** The weld equipment has been configured to use DeviceNet by setting the fields $VENDOR_ID, $DEV_TYPE, and $PROD_CODE in the system variable $AWEPRR to non-zero values. However, the DeviceNet option is not installed.

**Remedy:** Add the DeviceNet option or choose a weld equipment model which does not require DeviceNet. If the weld equipment model is correct and does not require DeviceNet then set the $AWEPRR fields mentioned above to zero and cycle power.

### 3.1.3.41  ARC-042 Weld EQ needs Expl Msg option

**Cause:** The weld equipment has been configured to use DeviceNet by setting the fields $VENDOR_ID, $DEV_TYPE, and $PROD_CODE in the system variable $AWEPRR to non-zero values. However, the Explicit Messaging option is not installed.

**Remedy:** Add the Explicit Messaging option or choose a weld equipment model which does not require DeviceNet. If the weld equipment model is correct and does not require DeviceNet then set the $AWEPRR fields mentioned above to zero and cycle power.

### 3.1.3.42  ARC-043 Weld EQ needs DeviceNet board

**Cause:** The weld equipment has been configured to use DeviceNet by setting the fields $VENDOR_ID, $DEV_TYPE, and $PROD_CODE in the system variable $AWEPRR to non-zero values. However, DeviceNet hardware was not detected.

**Remedy:** Add DeviceNet hardware or choose a weld equipment model which does not require DeviceNet. If the weld equipment model is correct and does not require DeviceNet then set the $AWEPRR fields mentioned above to zero and cycle power.

### 3.1.3.43  ARC-044 Weld EQ needs DeviceNet defn.

**Cause:** The weld equipment has been configured to use DeviceNet by setting the fields $VENDOR_ID, $DEV_TYPE, and $PROD_CODE in the system variable $AWEPRR to non-zero values. A DeviceNet device definition could not be found for that product.

**Remedy:** You can add a DeviceNet definition for this product or if the weld equipment you are using does not support DeviceNet you can set the $AWEPRR fields mentioned above to zero and cycle power.

### 3.1.3.44  ARC-045 Weld EQ Device is OFFLINE

**Cause:** ArcTool attempted to communicate with the Welding Equipment using the DeviceNet network, but could not because the link was not properly established.

**Remedy:** Verify the Weld Equipment is ON. Verify the DeviceNet cable is connected. Check the DeviceNet I/O screen board status and device status.

### 3.1.3.45  ARC-046 Weld EQ communication error

**Cause:** There was a communication error detected between ArcTool and the Weld Equipment.

**Remedy:** Verify the Weld Equipment is ON. Verify the DeviceNet cable is connected. Check the DeviceNet I/O screen board status and device status.

### 3.1.3.46  ARC-047 Not allowed during a weld

**Cause:** An operation was attempted which is not permitted while a weld is executing or paused.

**Remedy:** Try the operation after the program ends or is aborted.

### 3.1.3.47  ARC-048 Auto AI/O setup is unsupported

**Cause:** Auto AI/O setup for the mounted I/O module is not supported. So parameters are not set automatically.

**Remedy:** Verify mounted I/O module and set system variables of $AWEPRR[] in system variable screen manually if need.

### 3.1.3.48  ARC-049 Process %d switch to %d failed

**Cause:** ArcTool failed to switch weld processes.

**Remedy:** The weld power supply may be OFF, unconnected, or data in the second process may be incorrect.

### 3.1.3.49  ARC-050 Process %d NOT found

**Cause:** ArcTool failed to find this process on the weld power supply.

**Remedy:** Enter a different number or use the SEARCH parameters and function key.

### 3.1.3.50  ARC-051 Weld EQ%d ONLINE: %s

**Cause:** ArcTool is communicating with the weld power supply. The version number of the power supply is shown.

**Remedy:** This message is for notification and information. It does not indicate a problem.

### 3.1.3.51  ARC-052 Bad %s %s Prc %d

**Cause:** The indicated parameter is out of range.

**Remedy:** Enter a number within range.

### 3.1.3.52  ARC-053 No ramp at process switch (%s^4,%d^5)

**Cause:** Ramping is not allowed when switching weld processes.

**Remedy:** Complete the process switch first, then ramp with another arc start instruction.

### 3.1.3.53  ARC-054 No motion while arc welding

**Cause:** A weld was automatically shutdown because motion had stopped while welding longer than the time specified in $awsemgoff.$chk_time. This feature is intended to protect the welder from accidentally burning through a part.

**Remedy:** You can increase the $awsemgoff.$chk_time to allow a longer welding time without motion. You can also disable this feature by setting $awsemgoff.$nofltr_off = FALSE. Both changes require you to turn off the controller then turn it on again.

## 3.1.3.54  ARC-055 No sync Eq (%s^4,%d^5)

**Cause:** An Arc Start instruction specified synchronizing with an Equipment that is not also doing an Arc Start.

**Remedy:** Determine why the sync Equipment is not starting, or do not use synchonization.

## 3.1.3.55  ARC-056 Invalid sync (%s^4,%d^5)

**Cause:** An Arc Start instruction specified synchronizing with an Equipment that is not also synchronized.

**Remedy:** Check the synchronization equipment number specified in the Arc instruction or in the specified weld schedule SYNCDT detail menu. Refer to the Arc Start Synchronization section in the ArcTool Setup and Operations Manual.

## 3.1.3.56  ARC-057 Cannot ramp t1=%d > t2=%d

**Cause:** The Arc process ramping cannot execute because the delay (t1) to communicate with the welder is larger than the ramping loop time (t2). This might occur with ramping or HeatWave $awwv_mode 2.

**Remedy:** Increase $aweramp[eq].$time_factor by 1.

## 3.1.3.57  ARC-058 Wire stick is still detected

**Cause:** A wire stick is still detected after a system RESET.

**Remedy:** Secure the robot and equipment. Cut the wire.

## 3.1.3.58  ARC-060 Cmd %s NOT found

**Cause:** The voltage or current command do not exist, so Arc Welding Monitor cannot decide the WARN and STOP Limit range.

**Remedy:** If you want to use Arc Welding Monitor without voltage and current command, please set ABS(V,A) to Monitoring Method and input the absolute values to WARN and STOP Limit ranges in Arc Welding Monitor screen. If you do not want to monitor feedback values, please set DISABLED to Arc Welding Monitor.

### 3.1.3.59 ARC-072 Illegal AMR packet

**Cause:** Internal error.

**Remedy:** Sometimes this error requires cycling the controller power.

### 3.1.3.60 ARC-084 Application process is changed during welding

**Cause:** Application is changed during welding.

**Remedy:** Please change the program.

### 3.1.3.61 ARC-085 Incomplete of conversion factor setup

**Cause:** Imcomplete the analog signal conversion factor.

**Remedy:** Please set it.

### 3.1.3.62 ARC-086 Invalid of binary data in conversion factor

**Cause:** The binary data($AWEPRR.$io_min/max_bin) is invalid. The difference is zero.

**Remedy:** Please set correct value.

### 3.1.3.63 ARC-087 Invalid conversion factor data

**Cause:** The conversion factor data is invalid. It must be filled more than 2 tables at least. But the value of the second table is zero.

**Remedy:** Please set conversion factor more than 2 tables

### 3.1.3.64 ARC-088 Over selected AO factor No.

**Cause:** The selected number of AO conversion factor data is over the number of the actual data array

**Remedy:** Please select the correct number of AO conversion factor data

### 3.1.3.65 ARC-090 Weld disable by reason[%d]

**Cause:** In this situation, the welding is disalbled by the following reason 1: In Single step mode 2: In Machine lock mode 3: In Dry run mode 4: No I/O board exist 5: No I/O assignment for welding 6: In Flush AMR status 7: In Application disabled mode 8: In Arc disabled status 9: In Skip welding status 10: In disable status mode by AWDBG

**Remedy:** Please remove the specified reason to perform the welding.

### 3.1.3.66 ARC-091 Arc End cannot ramp to position (%s^4,%d^5)

**Cause:** An Arc End weld schedule specified a time of 99.0 seconds. This time value is sometimes used with Arc Starts to indicate ramping during an entire motion. This type of ramping is not available for an Arc End. A time of 99.0 seconds for an Arc End craterfill time is very long and is not recommended. If a long time is needed then 98.0 seconds will work without this error.

**Remedy:** Use a different weld schedule for the Arc End or change the time value to a smaller value.

### 3.1.3.67 ARC-100 SVT: Unsupported Wire material

**Cause:** The selected wire material is not supported for Servo Torch.

**Remedy:** Please select the correct wire materal.

### 3.1.3.68 ARC-101 SVT: Unsupported Wire size

**Cause:** The selected wire size is not supported for Servo Torch.

**Remedy:** Please select the correct wire size.

### 3.1.3.69 ARC-102 SVT: Unsupported speed unit

**Cause:** The selected unit of inching speed is not supported for Servo Torch.

**Remedy:** Please select the correct unit of inching speed

### 3.1.3.70 ARC-103 SVT: WFS conversion failed

**Cause:** Failed to convert weld schedule to wire feed speed command for Servo Torch.

**Remedy:** If another alarm is also occured at the same time, please check it and remove the cause of the alarm. If no other alarm is occured, some internal error is occured.

### 3.1.3.71 ARC-104 SVT: Invalid sequence mode

**Cause:** Internal error. Invalid sequence mode command is sent to Servo Torch.

**Remedy:** Internal error. Cycle power to recover.

### 3.1.3.72 ARC-105 Cannot read WSTK input signal

**Cause:** Cannot received WSTK signal from serial communication power supply.

**Remedy:** Confirm which type of weld equip is used. Confirm the connection with serial communication power supply. Confirm the setting of serial port.

### 3.1.3.73 ARC-106 Config of Roboweld is invalid

**Cause:** Configuration of Roboweld was invalid. So data for Robowelds were set inappropriately.

**Remedy:** Remove all Robowelds by selecting other equip in weld equip select screen. Then select and setup Roboweld again, if you want to use Roboweld.

### 3.1.3.74 ARC-107 Roboweld internal Error(%d)

**Cause:** RoboWeld internal error.

**Remedy:** Cycle power to recover.

### 3.1.3.75 ARC-108 Wire touching before TRS seq

**Cause:** Wire touching before Touch Retract Start sequence starts.

**Remedy:** Check the wire touches to the work at the arc start position.

### 3.1.3.76 ARC-109 Arc Lost: Voltage < %d V

**Cause:** Feedback voltage fell down to displayed value over Arc Loss Error Time. Therefore, robot judges that arc is lost.

**Remedy:** Remove the cause of lower voltage. If the weld has no problem, the voltage threshold for arc loss detect may be high. Then, set $AWEUPR.$ARC_LOSS_V to lower value.

### 3.1.3.77 ARC-110 Arc Lost: Current < %d A

**Cause:** Feedback current fell down to displayed value over Arc Loss Error Time. Therefore, robot judges that arc is lost.

**Remedy:** Remove the cause of lower current. If the weld has no problem, the voltage threshold for arc loss detect may be high. Then, set $AWEUPR.$ARC_LOSS_A to lower value.

### 3.1.3.78 ARC-111 Assignment of SVT I/O invalid

**Cause:** ServoTorch I/O assignment is invalid. This assignment is automatically executed after cycle power.

**Remedy:** Please confirm the assignment of signals for arc welding.If you find a wrong assignment, please correct it. After that, please cycle power.

### 3.1.3.79 ARC-120 Enable/Disable Sim mode failed

**Cause:** The necessary signals for Simulation mode cannot be detected.

**Remedy:** Verify that AI/O and WDI/O signals are assigned appropriately.

### 3.1.3.80 ARC-121 Weld not performed(Sim mode)

**Cause:** Simulation mode is enabled. Actual welding is not performed.

**Remedy:** None.

### 3.1.3.81 ARC-122 Cannot SIM/UNSIM(%s,Id:%d)

**Cause:** I/O signals were not set to sim/unsim appropriately when Simulation mode was enabled/disabled.

**Remedy:** Verify that the AI/O and WDI/O signals are assigned appropriately.

### 3.1.3.82 ARC-123 Memory size is too small

**Cause:** The memory size is too small to get the memory area for the necessary data.

**Remedy:** Change the memory module into the one which has appropriate size, and perform an INIT start.

### 3.1.3.83 ARC-124 EQ%d E:%d %s

**Cause:** The weld equipment has reported an error.

**Remedy:** Refer to the weld equipment manual for more information.

### 3.1.3.84 ARC-125 Cannot start stitch in a weld

**Cause:** An Arc Stitch instruction was executed while welding. Stitch welds begin with an Arc Stitch and end with an Arc End. Arc Stitch cannot execute between Arc Start and Arc End.

**Remedy:** Edit the program so the Arc Stitch instruction is not between an Arc Start and Arc End.

### 3.1.3.85 ARC-126 Bad stitch weld or pitch length

**Cause:** An Arc Stitch instruction could not execute because the stitch weld length or the pitch length were invalid or the stitch weld length was larger than the pitch length.

**Remedy:** Modify the stitch weld length or pitch length. $aweupr[eq].$st_weld_len or $aweupr[eq].$st_ptch_len

### 3.1.3.86  ARC-127 Cannot change stitch schedules

**Cause:** An Arc Stitch instruction could not execute because a stitch weld was already executing. Stitch welds cannot include weld schedule changes.

**Remedy:** Edit the program so the Arc Stitch instruction does not follow an Arc Stitch.

### 3.1.3.87  ARC-128 J motion during stitch weld

**Cause:** Joint motions are not permitted in a Stitch Weld.

**Remedy:** Edit the motion type.

### 3.1.3.88  ARC-130 Term-type is corrected

**Cause:** Term-type is changed to FINE automatically

**Remedy:** Please choose FINE term-type when an arc end instruction is added.

### 3.1.3.89  ARC-131 Weld procedure %d NOT found

**Cause:** The weld procedure number entered in a Weld Start or a Weld End instruction is not found on the controller.

**Remedy:** Enter the number of an existing weld procedure or create or load the missing weld procedure.

### 3.1.3.90  ARC-132 Weld schedule %d NOT found

**Cause:** The weld schedule number entered in a Weld Start or a Weld End instruction is not found on the controller.

**Remedy:** Enter the number of an existing weld schedule or increase the number of weld schedules in the weld procedure.

### 3.1.3.91 ARC-133 Adjusted time_factor %d to %d

**Cause:** This error is reported after ARC-57 Cannot ramp t1 > t2. ARC-133 indicates the variable $aweramp[1].$time_factor was automatically increased to remedy a ramp timing problem. The weld can often be resumed immediately with this new setting.

**Remedy:** Resume the program. If the ARC-57 error occurs without an ARC-133 error the $awscfg.$loop_time may need to be increased. This must be done during a controlled start.

### 3.1.3.92 ARC-134 EQ%d E:%d %s

**Cause:** This error is related to Production Monitor operation.

**Remedy:** Refer to the manual for details on the specific error reported.

### 3.1.3.93 ARC-135 %s^7

**Cause:** This error is related to Production Monitor macro operation.

**Remedy:** Refer to the manual for details on the specific error reported.

### 3.1.3.94 ARC-136 Cannot pulse t1=%d > t2=%d

**Cause:** execute because the delay (t1) to communicate with the welder is larger than the pulsing loop time (t2). This may occur with Low-Frquency pulse welding.

**Remedy:** Resume the program. If the ARC-136 error occurs without an ARC-133 error the $awscfg.$loop_time may need to be increased. This must be done during a controlled start.

### 3.1.3.95 ARC-137 Clamp pulse, %3.1fHz, %3.1f%%

**Cause:** Low-Frequency Pulse Welding is clamped because pulse waveform exceeds the available range.

**Remedy:** Adjust Pulse Frequency or Pulse Duty Cycle for Low-Frequency Pulse Welding again. Decrease Frequency value, or bring Duty Cycle close to 50%.

### 3.1.3.96 ARC-138 Internal error: ID = %d

**Cause:** Intenal error of ArcTool software. Normally this is not occurred.

**Remedy:** Contact tech support for further investigation. Then, don't forget to inform the ID number in the error message.

### 3.1.3.97 ARC-139 Weld ID %d is already used

**Cause:** The specified Weld ID has already been used in the current TP program.

**Remedy:** Enter other Weld ID which has not been used in this TP program.

### 3.1.3.98 ARC-140 MCC I/O parameter wrong(E:%d, %d)

**Cause:** Setup parameter for MMC I/O assignment are wrong.

**Remedy:** Check the parameters

### 3.1.3.99 ARC-141 MCC stick detected(E:%d)

**Cause:** The MCC was stuck but has been turned ON.

**Remedy:** Check the MCC .

### 3.1.3.100 ARC-142 MCC monitor abnormal(E:%d)

**Cause:** MCC is OFF even though the MCC request is ON.

**Remedy:** Check the MCC and signal line for MCC.

### 3.1.3.101 ARC-143 Power supply/feeder com alarm(E:%d)

**Cause:** In the power supply, the communication between the operation board and the control board was disconnected.

**Remedy:**

1. Check the fuses [For feeder: 3A(FU2)/8A(FU3)]. If the fuses were blown, please perform the following remedy. Change the encoder cable and fuses Change the encoder board in the wire feeder, and change fuses.

2. Change the Gabana board.

3. Change operation board in the welding power supply.

### 3.1.3.102 ARC-144 PS internal com-error(E:%d)

**Cause:** In Power supply, the communication alarm between GABANA CPU and Main CPU occured.

**Remedy:** Cycle power of the power supply by pressing E-STOP then pressing RESET.

### 3.1.3.103 ARC-145 PS internal abnormal com-data(E:%d)

**Cause:** In the Power supply, the communication data between GABANA CPU and Main CPU was abnormal.

**Remedy:** Cycle power of the power supply by pressing E-STOP then RESET.

### 3.1.3.104 ARC-146 Can't use Pulse in CO2(E:%d)

**Cause:** In CO2 setup, you cannot use Pulse mode.

**Remedy:** Set pulse mode to disabled in the weld schedule detail menu. If you use the direct command AS instruction, AS[20V, 200A], the pulse mode is always ON. So use the AS instruction with the weld schedule number.

### 3.1.3.105 ARC-147 Can't use Pulse in this setup(E:%d)

**Cause:** In CO2 setup, you cannot use Pulse mode.

**Remedy:** Set pulse mode to disabled in the weld schedule detail menu. If you use the direct command AS instruction, AS[20V, 200A], the pulse mode is always ON. So use the AS instruction with the weld schedule number.

### 3.1.3.106 ARC-148 Can't use Pulse in CO2

**Cause:** In CO2 setup, you cannot use Pulse mode.

**Remedy:** Set pulse mode to disabled in the weld schedule DETAIL menu. If you use the direct command AS instruction, AS[20V, 200A], the pulse mode is always ON. Therefore, use the AS instruction with the weld schedule number.

### 3.1.3.107  ARC-149 Can't use Pulse in this setup

**Cause:** In CO2 setup, you cannot use Pulse mode.

**Remedy:** Set pulse mode to disabled in the weld schedule detail menu. If you use the direct command AS instruction, AS[20V, 200A], the pulse mode is always ON. So use the AS instruction with the weld schedule number.

### 3.1.3.108  ARC-150 Invalid op. in weld(0x%X)(E:%d)

**Cause:** Detect invalid signal operation in welding.

**Remedy:** Reset and try again after Arc OFF.

### 3.1.3.109  ARC-151 Invalid wire size(E:%d)

**Cause:** Detect invalid wire size.

**Remedy:** Set proper wire size.

### 3.1.3.110  ARC-152 Invalid weld process(E:%d)

**Cause:** Detect invalid welding process.

**Remedy:** Set proper welding process.

### 3.1.3.111  ARC-153 Invalid wire material(E:%d)

**Cause:** Detect invalid wire material.

**Remedy:** Set proper wire material.

### 3.1.3.112  ARC-154 Invalid Arc Loss Time(E:%d)

**Cause:** Arc loss time is invalid range.

**Remedy:** Set proper arc loss time.

### 3.1.3.113  ARC-155 Comm.  Timeout(E:%d)

**Cause:** Communication with RoboWeld power source is timeout.

**Remedy:** Confirm port setup and connection cable.

### 3.1.3.114  ARC-156 RoboWeld Error(0x%X, %d)

**Cause:** RoboWeld internal error.

**Remedy:** Please call FANUC service.

### 3.1.3.115  ARC-157 Receive error(0x%X)(E:%d)

**Cause:** Receive invalid data from Power Source.

**Remedy:** Confirm noise environment and cable.

### 3.1.3.116  ARC-158 1st currency (E:%d)

**Cause:** Detect 1st currency abnormal.

**Remedy:** Check currency.

### 3.1.3.117  ARC-159 2nd currency (E:%d)

**Cause:** Detect 2nd currency abnormal.

**Remedy:** Check currency.

### 3.1.3.118 ARC-160 Temperature alaram(E:%d)

**Cause:** Detect temperature abnormal.

**Remedy:** Check overload.

### 3.1.3.119 ARC-161 High voltage(E:%d)

**Cause:** Detect high voltage.

**Remedy:** Check voltage.

### 3.1.3.120 ARC-162 Low voltage(E:%d)

**Cause:** Detect low voltage.

**Remedy:** Check voltage.

### 3.1.3.121 ARC-163 Start signal error(E:%d)

**Cause:** Detect start signal abnormal.

**Remedy:** Check start signal.

### 3.1.3.122 ARC-164 Power source error(E:%d)

**Cause:** Detect 3-phase power source abnormal.

**Remedy:** Check 3-phase power source.

### 3.1.3.123 ARC-165 EQ is detached(E:%d)

**Cause:** RoboWeld is detached.

**Remedy:** Confirm port setup.

### 3.1.3.124  ARC-166 Comm. stopped in weld(E:%d)

**Cause:** Communication with RoboWeld power source stopped in welding.

**Remedy:** Confirm another error message and port, cable setup.

### 3.1.3.125  ARC-167 I/O asginment overlap(%d)(E:%d)

**Cause:** I/O space for RoboWeld is already in use.

**Remedy:** Confirm another I/O device and $IO_START in $RBWLD.

### 3.1.3.126  ARC-168 I/O error(%d)(%d, E:%d)

**Cause:** I/O initialization error.

**Remedy:** Confirm another I/O device and $IO_START in $RBWLD.

### 3.1.3.127  ARC-169 Invalid wire op.(E:%d)

**Cause:** An invalid wire FWD/BWD operation was detected.

**Remedy:** Confirm the wire control sequence.

### 3.1.3.128  ARC-170 Detect Arc OFF(E:%d)

**Cause:** Detect ARC off.

**Remedy:** Confirm welding device and workpiece status.

### 3.1.3.129  ARC-171 Unified data RCV error(%d,0x%X)(E:%d)

**Cause:** Failed to receive unified data.

**Remedy:** Confirm port setup, noise environment, cable status.

### 3.1.3.130  ARC-172 Warning, Rcv(0x%X)(E:%d)

**Cause:** Receive invalid command from power source.

**Remedy:** Confirm noise environment, cable setting.

### 3.1.3.131  ARC-173 Warning, Retry(0x%X)(E:%d)

**Cause:** Retry to send the command to power source.

**Remedy:** Confirm noise environment, cable setting.

### 3.1.3.132  ARC-174 Warning, NAK for(0x%X)(E:%d)

**Cause:** Receive NAK from power source.

**Remedy:** Confirm noise environment, cable setting.

### 3.1.3.133  ARC-175 Signal change is ignored(E:%d)

**Cause:** Communication with power source is stopped.

**Remedy:** Confirm welding setup, cable connection, then reset.

### 3.1.3.134  ARC-176 No sysvar $RBWLD for E:%d

**Cause:** Sysvar $RBWLD is not setup for new EQ number.

**Remedy:** Confirm $RBWLD and $RBWLD_CFG setup.

### 3.1.3.135  ARC-177 RoboWeld(E:%d) reset complete

**Cause:** RoboWeld reset sequence is complete.

**Remedy:** Arc welding is now available.

### 3.1.3.136 ARC-179 Power supply com alarm(E:%d)

**Cause:** This alarm occurs when communication between the welding equipment control board and the robot controller stops.

**Remedy:**

1. If this alarm occurred with ARC-143, please perform the remedy for ARC-143.

2. If this alarm is still occurred after restarting the system, check the wiring between the controller and welding power supply. If problem is not found, check the power supply control board.

### 3.1.3.137 ARC-180 Gabana alarm(E:%d)

**Cause:** Wire feeder motor speed is over the limited speed.

**Remedy:** Check the wire feeder motor. After check try the operation again. If the same alarm occurs, document the events that led to the error and call your FANUC America Corporation technical representative.

### 3.1.3.138 ARC-181 Encoder alarm(E:%d)

**Cause:** Wire feeder motor sensor line was connected off or wire feeder motor did not rotate correctly.

**Remedy:** Check the wire feeder motor sensor line. After check try again. If the same alarm occurs, inform of the service.

### 3.1.3.139 ARC-182 Motor alarm(E:%d)

**Cause:** While the motor should stop, the motor rotation was detected.

**Remedy:** If the motor was rotated actually, the control board in wire feed controller may be broken.

### 3.1.3.140 ARC-188 External emergency input(E:%d)

**Cause:** An ESTOP signal was input from an external source.

**Remedy:** Turn off controller power, remove the cause for the error, reset the ESTOP, then turn on the controller again.

### 3.1.3.141 ARC-189 External input1(E:%d)

**Cause:** An Exernal1 hold signal was input from an external source.

**Remedy:** Turn off controller power, remove the cause for the error, reset the ESTOP, then turn on the controller again.

### 3.1.3.142 ARC-190 External input2(E:%d)

**Cause:** An Exernal1 hold signal was input from an external source.

**Remedy:** Turn off controller power, remove the cause for the error, reset the ESTOP, then turn on the controller again.

### 3.1.3.143 ARC-191 Memory alarm(E:%d)

**Cause:** Power supply control memory error

**Remedy:** Turn off the power then try again. If the same alarm occurs again, inform of the service.

### 3.1.3.144 ARC-192 CPU alarm(E:%d)

**Cause:** A Weld power supply CPU error has occurred.

**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 America Corporation technical representative.

### 3.1.3.145 ARC-193 Arc start alarm(E:%d)

**Cause:** The Torch switch was turned ON but the arc could not started within 4sec.

**Remedy:** By turning off the Torch switch, the alarm will disappear. Confirm that the weld power lines are connected correctly.

### 3.1.3.146 ARC-195 Not support weld type(E:%d)

**Cause:** The specified weld type has not been supported for this power supply.

**Remedy:** Check the setup of process type, wire size, wire material in weld equipment setup screen and pulse mode in weld schedule. Then change them.

### 3.1.3.147 ARC-196 Loading weld type ...(E:%d)

**Cause:** Loading weld type data now. Please wait for a moment.

**Remedy:** None.

### 3.1.3.148 ARC-198 Not support weld type

**Cause:** The specified weld type has not been supported for this power supply.

**Remedy:** Check the setup of process type, wire size, wire material in weld equipment setup screen and pulse mode in weld schedule. Then change them.

### 3.1.3.149 ARC-199 This weld EQ isn't supported(E:%d)

**Cause:** The connected weld equipment is not supported.

**Remedy:** Check the weld equipment.

### 3.1.3.150 ARC-200 Arclink ch%d heartbeat timeout

**Cause:** The welding equipment connected on the Arclink is not responding to queries.

**Remedy:** Check the power and Arclink connections to the welding equipment.

### 3.1.3.151 ARC-201 Arclink ch%d obj #%d no resp

**Cause:** A welding equipment component on the Arclink failed to respond to a request issued by the controller.

**Remedy:** Check the power and Arclink connections between the controller and welding equipment.

### 3.1.3.152  ARC-202 Arclink ch%d obj #%d error resp

**Cause:** A welding equipment component returned an error in response to a request from the controller.

**Remedy:** Turn the controller and welding equipment off then on again.

### 3.1.3.153  ARC-203 Arclink ch%d reset by master

**Cause:** The Arclink network was reset by a request from the welding equipment.

**Remedy:** None. This usually happens as a result of an error detected by the welder.

### 3.1.3.154  ARC-204 Arclink ch%d available

**Cause:** This is an informational message indicating that the Arclink network has been initialized and is ready for normal operation.

**Remedy:** None.

### 3.1.3.155  ARC-205 Arclink ch%d h/s event lost

**Cause:** The high speed event message expected during welding failed to arrive in time.

**Remedy:** The Arclink network is automatically reset. If this error persists, it indicates a problem with the communications network or welding equipment.

### 3.1.3.156  ARC-206 Arclink ch%d too many errors

**Cause:** The Arclink CAN interface is detecting a high rate of errors on the connection to the welder. This is usually caused by electical noise on the Arclink network.

**Remedy:** Check all Arclink connections and wiring to eliminate the electical noise.

### 3.1.3.157  ARC-207 Arclink ch%d no bus power

**Cause:** The Arclink interface on the controller cannot detect any power or other equipment on the network connections. This indicates that there is no Arclink network connected, or that the welding equipment is turned off or has been disconnected.

**Remedy:** Make sure that all Arclink connections are properly made and that the connected welding equipment is also connected and turned on.

### 3.1.3.158  ARC-208 Arclink ch%d no nodes on bus

**Cause:** No other equipment can be detected on the Arclink network.

**Remedy:** Check to make sure that the Arclink network is properly connected and that the attached welding equipment is turned on.

### 3.1.3.159  ARC-209 Arclink ch%d bus errors

**Cause:** The Arclink interface is detecting unexpected errors on the network, indicating possible electrical noise or other interference. If these errors continue, a network failure could occur.

**Remedy:** Check all Arclink connections and wiring to eliminate the source of the noise.

### 3.1.3.160  ARC-210 Arclink ch%d network flooded

**Cause:** The Arclink interface on the controller is unable to communicate due to too many messages flooding the network.

**Remedy:** Reduce the message traffic by running fewer utility program sessions to the same controller.

### 3.1.3.161  ARC-211 Arclink ch%d comm error %d

**Cause:** An unexpected communications error has occurred on the Arclink CAN interface.

**Remedy:** Check all Arclink connections and wiring, then turn off the controller, and restart it.

### 3.1.3.162  ARC-212 Arclink ch%d CAN-Enet conflict

**Cause:** A CANbus card has been detected for an Arclink communications channel that has already been assigned as an Arclink-over-Ethernet channel.

**Remedy:** Assign the Ethernet connection to a different channel to make this channel available for use by the CANbus card.

### 3.1.3.163  ARC-250 Process active ON after weld

**Cause:** After the weld ended the process active input remained ON longer than the specified maximum time.

**Remedy:** Increase the process active timeout on the robot ($aweupr[eq].$max_end_time [seconds]) or decrease the weld end time values on the power supply.

### 3.1.3.164  ARC-251 Arc detect ON after weld

**Cause:** After the weld ended the arc detect input remained ON longer than the specified maximum time.

**Remedy:** Increase the process active timeout on the robot ($aweupr[eq].$max_end_time [seconds]) or decrease the weld end time values on the power supply.

### 3.1.3.165  ARC-252 No CDep %s E%d P%d S%d

**Cause:** Constant Deposition ramping could not be used. This is because the constant deposition option is not loaded or because of using incompatible features such as HeatWave, Low Freq Pulse, TAST/AVC.

**Remedy:** Check that the constant deposition option is loaded. If not, turn off CDep ramp in the weld schedule. Do not use CDep ramping with the incompatible options.

### 3.1.3.166  ARC-300 Argument is not integer

**Cause:** The argument for Adjust Start Height macro is not an integer.

**Remedy:** Use an integer value for the Adjust Start Height macro.

### 3.1.3.167  ARC-301 Invalid EQ number

**Cause:** The specified equipment number for Arc Start Height Adjust is invalid.

**Remedy:** Specify the existed equipment number by Adjust Start Height macro.

### 3.1.3.168 ARC-302 Invalid robot group number

**Cause:** The specified robot group number for Arc Start Height Adjust is invalid.

**Remedy:** Specify the proper robot group number in Arc Start Height Adjust setup screen.

### 3.1.3.169 ARC-303 Invalid I/O assignment

**Cause:** The specified I/O assignment for Arc Start Height Adjust is invalid.

**Remedy:** Specify the proper I/O assignment in Arc Start Height Adjust setup screen.

### 3.1.3.170 ARC-304 Cannot use same PR number

**Cause:** In Arc Start Height Adjust function, You cannot use same PR number for both Touch Command Signal and Touch Detect Signal.

**Remedy:** Use different PR number for Touch Command Signal and Touch Detect Signal.

### 3.1.3.171 ARC-305 Other task adjusts height

**Cause:** Other task has already start Arc Start Height Adjust for the specified equipment.

**Remedy:** Do not perform Arc Start Height Adjust for one equipment at the same timing.

### 3.1.3.172 ARC-306 Start Height Adjust is ignored

**Cause:** Arc Start Height Adjust is ignored because of Single Step, Dry Run. Or because of Weld Disabled when $AWSTHOF.$CHK_WLD_ENB is TRUE. If Lincoln welder is used, ArcLink may be disconnect.

**Remedy:** Release Single Step or Dry Run or set Weld Enabled to perform Arc Start Height Adjust. If you are using Lincoln welder, establish the ArcLink connection. If you do not want to post the warning message, set $AWSTHOF.$POST_WARN to FALSE.

### 3.1.3.173 ARC-307 Contact before search

**Cause:** Contact has already detected before search is started for Arc Start Height Adjust function.