

SECTION 5

Davenport HP machine Troubleshooting

Introduction

The machine control constantly monitors the entire system for any problems. If a problem is detected with a drive, motion is stopped immediately, and a message is displayed to the operator. The problem may be with the Main Spindle, Cam axis, Servo Threading axis, or Servo Pickoff axis drive, and the operator message will reflect which drive the problem is associated with. By accessing the drive alarm screen, the exact drive fault can be viewed.

The control also has many built in messages which can be displayed on the mmi when various events occur. Some messages are just operator prompts, and some are displayed to annunciate a critical fault that may keep the machine from running unless it is resolved. All messages in the machine control are described in the array on the following pages. If a message is displayed, and its meaning is not known, refer to the following pages to find out what the message means and possible solutions to clear the message.

Davenport Machine Engineering is constantly enhancing the capabilities of the ***Davenport HP*** machine. As updates are made to the control on a continual basis, new features and messages/faults are created. If your control is updated via a Compact Flash Card sent by Davenport Engineering, all new features will be incorporated in the software. Should you receive a message that is not listed in the following pages, you can contact Davenport Engineering to get clarifications to the message and directions to clear the message or fault.

Davenport HP machine Troubleshooting Guide

Message	Cause	Remedy
Front station emergency stop	The emergency stop pushbutton located at the top of the front of the machine is pushed in.	Pull emergency stop pushbutton out.
Rear station emergency stop	The emergency stop pushbutton located at the top of the rear of the machine is pushed in.	Pull emergency stop pushbutton out.
MMI station emergency stop	The emergency stop pushbutton located on the MMI pendant is pushed in.	Pull emergency stop pushbutton out.
Lube level low	The level of lube oil in the lubrication reservoir is low.	Fill the lubrication reservoir with lube oil.
Lube pressure low	Lube pressure is not sufficient to trigger the lube pressure switch.	Re-start the lube pump, observe the pressure gages, and look for possible lube system leaks. If the lube pump has not been operated for a while, it may take several on/off cycles to build up pressure.
Coolant level low	The coolant level in the pan has reached an unacceptable low level for operating the machine.	Fill the coolant reservoir with the proper coolant.
Coolant contactor did not energize	A feedback signal from the contactor auxiliary contact was not returned to the Controller	Check coolant contactor and auxiliary contact. Check wiring in circuit for loose connections.

Mist collector overload tripped	The Controller has sensed that the mist collector motor overload has tripped.	Check mist collector circuit for proper wiring. Reset overload and check current draw of the motor. Check mist collector for proper operation.
Can not change modes when in cycle	An attempt was made to change machine mode while the machine was still in cycle.	Wait until the machine is stopped before changing mode. Changing between Auto and Stock Depletion mode is the only allowable mode change while the machine is running
Can not compile when in cycle	An attempt was made to compile the job setup while the machine was in cycle.	Stop the machine before attempting to compile the job setup.
Coolant Pressure Low	The Coolant Pressure Sensor did not achieve the minimum pressure required by the machine.	Check the Coolant Intake Screen and clean as necessary. Check the Coolant Pump output pressure gauge and adjust pressure relief as necessary.
Cam axis drive fault	A fault was detected with the cam axis drive.	Access the cam axis alarm screen on the MMI to determine which drive fault has occurred. See the drive fault troubleshooting section of this manual.
Must be in auto to select mode	Stock depletion mode was selected from a mode other than auto mode.	Stock depletion mode can only be selected from auto mode. The machine does not need to be stopped.
Job compile successful, OK to run	The open job setup was successfully saved and loaded to the control.	This is a normal message that appears every time a job setup has been successfully loaded.
Job was saved successfully	The open job setup was successfully saved, but not loaded to the control.	This is a normal message that appears every time a job setup is successfully saved.

Stock depleted, load, press start	The stock has been depleted in the work spindle.	Load stock into the work spindle and press cycle start to resume operation.
Parts to cut preset reached	The machine has produced the number of parts called out in the job setup.	If more parts are desired reset the parts remaining counter and resume operation.
End #1-End #5B tool life warning	The tool in the displayed end station is about to reach its usable tool life.	Inspect the tool in the displayed station, change it if necessary, reset the tool life counter associated with the station, and resume operation.
End #1-End #5B tool life counted out	The tool in the displayed end station has reached its usable tool life.	Inspect the tool in the displayed station, change it if necessary, reset the tool life counter associated with the station, and resume operation.
Side #1-Side #5 tool life warning	The tool in the displayed side station is about to reach its usable tool life.	Inspect the tool in the displayed station, change it if necessary, reset the tool life counter associated with the station, and resume operation.
Side #1-Side #5 tool life counted out	The tool in the displayed side station has reached its usable tool life.	Inspect the tool in the displayed station, change it if necessary, reset the tool life counter associated with the station, and resume operation.
Maintenance timer timed out	The machine has been in operation for the number of hours allowed in the machine parameter maintenance timer preset.	Perform any routine maintenance, reset the maintenance timer and resume operation.
Cut-off failure, cycle stopped	The control has detected a part that has not been cut off.	Check the cut off tool. Check for the proper setting of "cut-off check pos." in the job setup. Check cut-off failure switch for proper operation.

Cycle has ended	The machine cycle has ended.	This is a normal message displayed every time the machine is stopped by the control, or the operator. Remedy any displayed faults first, if present, and resume operation.
Short part count exceeds preset	The part length sensor has detected a number of short parts that exceeds the allowable set up on the part detector setup page.	Reset the short parts detected counter and determine why the machine is producing short parts.
Long part count exceeds preset	The part length sensor has detected a number of long parts that exceeds the allowable set up on the part detector setup page.	Reset the long parts detected counter and determine why the machine is producing long parts.
Broken tool detected	The optional broken tool detector has sensed a broken tool. This may be because it is not adjusted properly.	Check for a broken tool. Check for proper adjustment on the sensor.
Lube must be on to jog or cycle	The lube motor is not running while attempting to jog or run the machine.	The lube pump must be running before any motion is allowed. Start the lube pump by pressing the appropriate soft key.
Spindle collet latch did not raise	The control did not receive feedback from the latch raised proximity switch, confirming that the latch is raised.	Check for proper air pressure and proximity switch adjustment. Check for any obstructions around the latch mechanism.
Spindle collet latch did not lower	The control did not receive feedback from the latch lowered proximity switch, confirming that the latch is lowered.	Check for proper air pressure and proximity switch adjustment. Check for any obstructions around the latch mechanism.
All spindles empty, cycle ended	This is a normal displayed message after stock depletion mode has finished running the machine out of bar stock.	Reload stock into the machine. Press "Cycle Start" to resume operation.

Main spindle drive fault	A fault has been detected on the main spindle drive.	Access the main spindle alarm screen on the MMI to determine which drive fault has occurred.
Coolant motor overload tripped	This is usually caused by excessive current being drawn by the motor.	Check motor current. Check motor wiring. Reset overload.
Compile summary then start cycle	A valid job setup has not been loaded into the control.	Compile the job setup.
Loader & Stock Depletion Options Both ON	The Cucchi Loader option and Stock Depletion Option are both on.	Both options cannot be installed on the machine at the same time. Remove the option that is not necessary in the options menu.
Stock reel door open	The control has sensed that the stock reel door switch has been de-activated.	Close the stock reel door. Check for proper adjustment of the switch. Check switch wiring.
Cycle end push-button was pressed	This is a normal displayed message after the cycle end pushbutton has been pressed while in cycle.	Reset the message.
Lube conservation timer timed out	The lube motor will only run for 10 minutes after motion has stopped. This is done to conserve power and lube oil.	Restart the lube pump before running the machine.
Spindle Offset Not Successful... Retry	The Backwork spindle sync was not completed properly.	Redo the procedure to synchronize the spindle to the work spindles.

Job compile was invalid	One or more of the values in the job setup could not be accepted by the control.	Check the job setup for valid data. Cycle power to the machine and try compiling again.
Attachment motor overload tripped	This is usually caused by excessive current being drawn by the motor(s).	Check motor current. Check motor wiring. Reset overload.
Attachment motor contactor failure	The Controller did not receive feedback from the attachment motor contactor auxiliary contact.	If the contactor is pulling in, check the auxiliary contacts. Check the circuit wiring.
Cycle time deviation exceeded	Actual cycle time has deviated beyond allowable limit setup on the "cycle time monitor" page.	Revise the job summary to obtain the desired cycle time. Reset the cycle timers on the "cycle time monitor" page.
Allowable Down Time Exceeded	The machine has exceeded the allowable down time set up on the "cycle time monitor" page.	Reset the cycle timers on the "cycle time monitor" page.
Mach-Setter Key Must Be In Setter	The operator is attempting to access a part of the control, which has been locked out from normal machining mode operation.	If you have access to the "Setter" key, switch to the "Setter" position, otherwise contact qualified personnel for this function.
Guard Door Safety Relay Failure	The guard door safety relay failed to energize, but all doors are sensed as closed.	Recheck all doors to confirm they are closed. If all doors are closed, there may be a failure on a door switch or relay.
Cycle Paused, Press Cycle Start To Resume	This is an operator prompt signifying the "Cycle Pause" function key was pressed, and cycle was paused at the parameter-defined position.	Press the "Cycle Start" button to resume automatic cycle, or "Cycle End" button to end cycle.

Master control relay failed	The Master Control Relay (MCR) has not properly actuated.	Check the e-stop string for proper operation. Check circuit wiring. Replace MCR.
Front guard doors are open	The front guard doors of the machine are open, or the safety switch is not functioning properly.	Close the front guard doors, ensure the safety switch is actuated. Make sure the safety switch is functioning and properly aligned. Check circuit wiring and cable connection.
Rear guard doors are open	The rear guard doors of the machine are open, or the safety switches are not functioning properly.	Close the rear guard doors, ensure the safety switches are actuated. Make sure the safety switches are functioning and properly aligned. Check circuit wiring and cable connections.
End guard doors are open	The end guard doors of the machine are open, or the safety switch is not functioning properly.	Close the end guard doors, ensure the safety switch is actuated. Make sure the safety switch is functioning and properly aligned. Check circuit wiring and cable connection.
Close all guards to start cycle	One or more guard doors are open. All guard doors must be closed to start cycle in the "Mach" mode.	Close the guard doors. Check for proper alignment between the switches and the keys. Make sure the switches are properly connected to the cables.
Only one set of guards can be open	More than one set of guard doors is open. No motion is allowed in any mode if more than one set of guard doors is open.	Close the guard doors. Check for proper alignment between the switches and the keys. Make sure the switches are properly connected to the cables.
Spindle Stopping Brake Failure	The Spindle Stopping Brake Cylinder did not extend or retract when activated.	Check throw of Spindle Stopping Brake and check inputs to confirm proper feedback.
Cycle aborted, guard was opened	A guard door was opened during machine operation.	Close all guard doors, reset messages, and resume cycle.

User interrupt, check user inputs	The machine is equipped with three user interrupts. If any of these interrupts are low, no motion will be allowed.	Check user interrupt circuits to ensure 24 VDC on user inputs.
Stock deplete mode not available	Stock depletion mode soft key was pressed and the option is not available for the current machine configuration.	The mode is not available. Consult Davenport for necessary equipment to activate this option if desired.
Can't Edit Parameters While in Cycle	Can not edit Machine Parameters while the machine is running. The Machine must be stopped prior to editing the parameters.	Stop the machine then edit the parameters.
Loader Not in Automatic	The Loader is not in Automatic	The Loader must be in Automatic and enabled to run the machine.
Loader Mode Select Fault	The Loader mode does not match the required mode for the operation selected.	Select the proper mode on the Loader and Machine.
Loader in emergency stop state	One or more e-stops on the loader have been pressed.	Release the loader e-stops. Check for proper operation of the loader e-stop string.
Loader not enabled or not in auto	The loader has not been initialized or it is in manual mode.	Initialize the loader and place it in auto mode before starting machine cycle.
Can not tap & turn in same Threading profile	Both tap and turn functions have been selected on the first and/or second threading profiles.	Select a maximum of one function for each threading profile.

Profile 2 error, tap in > tap out	The tap in position is greater than the tap out position for the second threading profile.	Modify the setup to make the tap in position less than the tap out position for the second threading profile.
Profile 1 error, tap in > tap out	The tap in position is greater than the tap out position for the first threading profile.	Modify the setup to make the tap in position less than the tap out position for the first threading profile.
Profile error, turn 1 > tap 2 in	The first profile turn position is greater than the second profile tap in position.	Modify the setup to make the first profile turn position less than the second profile tap in position.
Profile error, tap 1 out > turn 2	The first profile tap out position is greater than the second profile turn position.	Modify the setup to make the first profile tap out position less than the second profile turn position.
Profile error, turn 1 > turn 2	The first profile turn position must be less than the second profile turn position.	Modify the setup to make the first profile turn position less than the second profile turn position.
Profile error, tap 1 out > tap 2 in	The first profile tap out position is greater than the second profile tap in position.	Modify the setup to make the first profile tap out position less than the second profile tap in position.
Missing spindle speed in profile 1	The spindle speed has not been entered into the first threading profile.	Enter a valid spindle speed.
Missing spindle speed in profile 2	The spindle speed has not been entered into the second threading profile.	Enter a valid spindle speed.

1st profile not specified	The second threading profile is specified without the first threading profile being specified.	If only one threading profile is desired, the first threading profile must be used.
No Backwork profile active - can't jog	The job setup is not configured to run the Backwork spindle.	Turn the Backwork profile on in the job setup. Compile the job setup.
Backwork Spindle Drive Fault	The Backwork Spindle has detected a drive fault.	Check the fault in alarm monitor and make corrections as necessary.
No thread profile active - can't jog	The job setup is not configured to run the threading spindle.	Turn the threading profile on in the job setup. Compile the job setup.
FB Update Fault	Function Block Update to the drive did not occur as scheduled.	A value in the Job Recipe or Machine Parameters was out of specification. Check all values, save, compile, and error should reset.
Threading spindle drive fault	A fault was detected with the threading spindle drive.	Access the threading axis alarm screen on the MMI to determine which drive fault has occurred.
Can't Tap & Turn In Same Backwork Profile	Both tap and turn functions have been selected on the first and/or second threading profiles.	Select a maximum of one function for each threading profile.
Backwork Profile 2 error, tap in > tap out	The tap in position is greater than the tap out position for the second threading profile.	Modify the setup to make the tap in position less than the tap out position for the second threading profile.

Backwork Profile 1 error, tap in > tap out	The tap in position is greater than the tap out position for the first threading profile.	Modify the setup to make the tap in position less than the tap out position for the first threading profile.
Backwork Profile error, turn 1 > tap 2 in	The first profile turn position is greater than the second profile tap in position.	Modify the setup to make the first profile turn position less than the second profile tap in position.
Backwork Profile error, tap 1 out > turn 2	The first profile tap out position is greater than the second profile turn position.	Modify the setup to make the first profile tap out position less than the second profile turn position.
Backwork Profile error, turn 1 > turn 2	The first profile turn position must be less than the second profile turn position.	Modify the setup to make the first profile turn position less than the second profile turn position.
Backwork Profile error, tap 1 out > tap 2 in	The first profile tap out position is greater than the second profile tap in position.	Modify the setup to make the first profile tap out position less than the second profile tap in position.
Missing Spindle Speed, Backwork Profile 1	The spindle speed has not been entered into the first threading profile.	Enter a valid spindle speed.
Missing Spindle Speed, Backwork Profile 2	The spindle speed has not been entered into the second threading profile.	Enter a valid spindle speed.
1st Backwork Profile Not Specified	The second threading profile is specified without the first threading profile being specified.	If only one threading profile is desired, the first threading profile must be used.

Part Ejected < Eject Shift, Backwork Error	The recipe states the part ejected position is less than the eject shift position.	Part ejected must be greater than shift position. Change job recipe and recompile.
Backwork Deadstop Did Not Retract	The backwork Deadstop was instructed to retract and did not.	Check the functionality of the Deadstop Pin using the jog mode, and check the job parameters to make sure the pin positions match the mechanical settings.
HP Head Low Lube Level	The High Precision Head Lube Reservoir is low on lube fluid	Refill the lube reservoir with the proper lube material for the High Precision Head.
HP Head Low Lube Pressure	The High Precision Head Lube System Detected a low lube pressure on the injectors.	Reset the fault and re-initialize the lube system. If the same fault occurs, check to make sure air pressure is adequate, the proper lube is in the lube tank, and the HP Lube Duration is set for more than 10 seconds.
HP Head Low Air Pressure	The High Precision Head Air pressure sensor is not being made.	Check to make sure the Air Pressure for the High Precision Head is greater than 75PSI.
Can Node XXX Inactive	The Can Node (I/O Block) has lost communications or power.	Check to make sure the communications cable (Purple Cable) is properly connected to each node.
Approaching Warranty Maintenance Period	General alarm when the machine is approaching the end of the warranty period.	The alarm will be active until the machine reaches the end of the warranty period. This is to display a message to management that the machine should be checked completely.
Job Profile Sequence Fault	The sequence entered in the Threading Setup has been entered in error.	Review the job setup and correct the profile sequence as per the allowable sequences listed in section 3 of the manual.

Orient and Index Job Setup Fault	The job setup for the Orientation and Index of the threading spindle is not correct.	Review the job setup and correct the profiles.