

**Canister Preconditioning System
Software Release Notes**

SOFTWARE RELEASE DATES

2009 January 20

1. Application renamed to CPS_r5 (new default root folder = c:\cps_r5)
2. Optional environment variable *WHEREISCPS* can be used to specify a path other than c:\cps_r5 as the CPS root folder at runtime.(ex: set WHEREISCPS = d:\cps_r5)
3. DB file *cpsmodel_rev05.mdb* replaces *cpsmodel_rev03.mdb* (DbfRevLvl 5).
4. DB file *cpsmaster_rev05.mdb* replaces *cpsmaster_rev03.mdb* (DbfRevLvl 5).
5. DB file *cpsuser_rev05.mdb* replaces *cpsuser_rev03.mdb* (DbfRevLvl 5).
6. Replaced canrcp.@@@ with *cpsrecipes.mdb* db file (table = MasterCanisters)(CfgRevLvl 5).
7. Added Copy and Paste options to the Canister Definition Screen.
8. Replaced recipes.@@@ with *cpsrecipes.mdb* db file (table = MasterRecipes)(CfgLevel5).
9. For CfgRevLvl < 5, copy Canisters & Recipes from @@@ files to cpsrecipes db.
10. New Settings for Interval Timers on SysDef Screen (only viewable when logged on as *aps*):
 - a. Scan IO 77 ms
 - b. Scan Scales 15 ms
 - c. Alarm/OOT Logic 250 ms
 - d. DataLogger 20 ms
 - e. Controllers Logic 150 ms
 - f. Station Logic 50 ms
 - g. Timer 10 ms
11. Calibration.xls file moved from the cps_r5 folder to the cps_r5\calibrate folder.
12. Added Screen to search (& sort & select) recipes.
13. Added Screen to search (& sort & select) canisters.
14. Added New db file cpsSysDef.mdb in a new sysdbf folder.
15. Moved cpsMaster & cpsUser db files to the new sysdbf folder.
16. IOCfg.@@@ is no longer in use; new tables in cpsSysDef are used.
17. Added sorting to Job List.
18. Added data recording during Leak Check; data shown on Detail report.
19. Renamed ErrorLog to EventLog.
20. Logon screen is shown at startup if no AutoLogon.
21. At Job start, station gets private copy of Configuration Data (also save config values to dbf).
22. When generating reports, the config values saved in the job db file are used.
23. Renamed Network options to Backup options.
24. Added Report Filename to Job List and Header data tables.
25. Added Generate Reports, Display Reports & Copy Job Files to Joblist screen.
26. Added Leak Check data watching to the DataWatcher screen.
27. Added Pause after Leak Check
28. Startup Messages now show on the About screen
29. Added Menus and Toolbars to the MainMenu screen
30. Added Menus and Toolbars to the Joblist screen
31. Added optional (config) Operator entered Report Filename
32. Common statusbars & message panels implemented
33. Added Local PAS Control of Temp & Moisture
34. Redesigned Config screen using tabs
35. Added ORVR2 station type (2 MFC's per Load Gas)
36. Calibration is set to Read-Only when screen is first loaded
37. AutoPrint functionality restored; also Report printing from the JobList screen
38. Added dynamic ToolTips to all elements of the system status bar
39. Purge MFC gets SP after the respective PIAB sol turns on
40. Added separate OOT settings for each ORVR2 MFC
41. Expanded PurgeAir Monitor Screen (only available when logged on as *aps*)

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RELEASE 2009.01.2020 January 2009

update a released

- Corrected "Object Required" error on startup

update b released

- Corrected LeakCheck Pressure Col. Header on Watch & Review screens
- Corrected error in reading of TC inputs (note: EUmin/max should be 0/100)
- Added delay between load valves & load mfc's
- Statistics now updated only when data is logged
- Removed USINGREMOTEVALVES and the StnValveControl screen
- Added noise to simulated values
- Added Purge-By-Time and Purge-Aux-Can-Only options
- Added Live Fuel ADF Tank simulation
- Restored CopyFiles & PrintFiles screens and menu choices
- Corrected error logging of LeakCheck data
- Added zLog - PurgeLog including **cpsZlog_rev05.mdb** db file
- Added Operator Manual button to navigation toolbar
- Added FirstAid-File-Save-for-APS to menus
- Added Concordance Display to Station Detail screen (APS only)

update c released

- Corrected PAS check error (not checking Temp & Moist when not purging)
- Corrected "back door" access to setup at startup
- Corrected LowButane Overflow error
- LowButane Warning Status Change & Save Of Settings logged in Elog
- Bypass-Program-Error-Msgs choice on sysdef now operational
 - Error messages with OK button only are not displayed.
 - Error messages with more than one button are displayed.
 - If too many error messages are generated too quickly then all error messages are displayed.

update d released

- Added Butane Density multipliers for each Butane MFC (sysdef)
- Corrected Open-Station-Detail-screen-from-MainMenu-StnPanel error
- Corrected Missing-Last-Line-of-Detail-Report-Load-Detail-Data error
- Corrected Purge Time units in Recipe section of reports
- Target(& Actual) for PurgeByVolume is now in Canister Volumes, not Liters
- Added check for spurious scale weight readings
- Added revision sublevel to db filenames (**db files renamed from rev05 to rev0500**)
- Added debug logging to zLog of scale readings (**CpsZlog_rev0501.mdb**)
- Added Load Settle Time to Recipes (**CpsRecipes_rev0501.mdb**)
- Added logging of data for running stations not in Load, Purge or Leakcheck
- Added XY Charting of Net Grams of Butane on Station Detail screen
- Allow decimal minutes for Recipe Pause after Leak\Purge\Load & Load Settle Time
- Only do OOT check for No Flow during Load when MFC & valves are on
- Added Estimated Job Duration to the Station Detail screen

update e released

- Corrected error when closing Cal & Calcheck screens
- Moved Load Settle Time to Config (**CpsModel_rev0502.mdb**)
- Added Purge Settle Time to Config
- Only do OOT check for Purge SP = 0 during PurgePurging
- Corrected Load Statistics; Only calculate load stats during LoadLoading
- Corrected Purge Statistics; Only calculate purge stats during PurgePurging
- Tweaked Estimated Job Duration calculation
- Corrected XYchart error when a station that is not the displayed station finishes
- Changed XYchart "Primary Scale" pen color to Blue
- XYchart now cleared on Job Start
- Corrected XY Graph no-update-error when opening StnDetail from other screens
- Corrected Purge Total line on Summary Reports (Purge-By-Vol only)

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- Corrected No-Canister-&-Recipe-Buttons on Stn Detail when AutoLogon not used
 - APS, aps & ApsUser have Access to SysDef; Access is deleted for other Usernames
- update f released
- Added check of Purge Rate when a Recipe is saved to a station
 - Initialize station Pri & Aux scale readings (strings) to "0.00"
 - Added Job Sequence Courses (**CpsRecipes_rev0502.mdb**)
 - Added new **DSN "CpsRecipes" = CpsRecipes_rev0502.mdb**
 - AutoLogon options added to Config (**CpsModel_rev0503.mdb**)
 - System will now wait for PAS Ready before resuming Purge from OOT
 - Added simulation error for PAS Temp & RH (**CpsSysdef_rev0501.mdb**)
 - Removed users APS & aps from User DB; now hardcoded (**CpsUser_rev0501.mdb**)
 - Removed duplicate entries from **User DB; CASE doesn't matter**
 - Added Calibration DB File (**CpsCalibrations_rev0500.mdb**)
 - Added new Modes for "Wait" & "Pause" Job Sequence Courses
 - Corrected Elog message when Auto_Stop on LeakCheck Error
 - Butane Supply values are now saved to the Windows Registry
- update g released
- Corrected Baro units on reports (Barometer is always mBar)
 - Corrected LeakCheck Pressure units on reports & displays (Pressure is always psig)
 - Corrected divide-by-zero error when during calc of recipe duration
 - Corrected scale-has-errors when simulating scales that are not currently in use
 - Corrected scroll bars and excessive width of Event Log & Data Log screens
 - During Purge, "Actual" only updated during PurgePurging
 - LoadByWeight & LoadByBreakthru now have a minimum duration
 - After EndOnPurge Purge, increment cycle number
 - Tweaked appearance of the EventLog & DataLog(Alarm,FileMaint,OOT) screens
 - Program-Error-Notification on status bar is cleared when EventLog loads
 - Corrected Reporting of Butane Total on reports when UsingLineVolume
 - Changed MAXVALIDWEIGHTCHANGE to 0.55 (was 0.25)
 - Tweaked appearance of the EventLog & DataLog(Alarm,FileMaint,OOT) screens
 - Tweaked appearance of the Overview screen with 2Stn/1Shift
 - Corrected Canvent Override Logic error when SystemTime (i.e. Now) has a glitch
 - Modified use of "ActiveTitleBar" color for use with Windows7
 - Correct response to Close button on PrintSet screen
 - Changed MAXVALIDWEIGHTCHANGE to 0.85 (was 0.55)
 - Added sysdef entry of Minimum Allowed Mfc SetPoint (% of fullscale)
 - **Butane Supply values are now saved to the Windows Registry once per hour**
 - Modified Reporting of Scale Weight Change on Detail & Summary reports
- update h released
- Changed MAXVALIDWEIGHTCHANGE to 0.99 (was 0.85)
 - Added #-of-Days to StnDetail Elapsed Time display
 - Added option of Moisture in RH instead of grains/lb (**CpsModel_rev0504.mdb**)
 - USINGOPPSELSCALES option deleted; is now always true
 - Combined various USING options into Integers in sysdef.@@@
 - Show Concordance sooner for short load cycles
 - Updated Printer Setup screen
 - Updated Canister & Recipe printing
 - Updated Configuration printing
 - Tweaked Cal & CalCheck printing
 - Tweaked DataLog & EventLog printing
 - Tweaked JobsList printing
 - Concordance available to CPS, ADMIN & APS (but not USER)
 - Changed icon for Overview screen
 - Fixed display of Station Name on Data Watcher screen
 - Updated Common TC's
 - BugFix: Not Read Addr=2 Analogs on Common Board

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- Allow 16-slot Opto Boards for All Nodes
 - Allow No Opto Board for Station Nodes
 - IoMonitor replaces ComIOForce, FIDIOForce & StnIOForce screens
 - BugFix: N2 Load SP when Butane & N2 MFC's have different ranges reports
- update j released
- BugFix: File_Maint is always enabled
 - BugFix: For Aux Purge Only, a purge flow rate is not required
 - With Aux Purge Only, no time value caused an error
 - Added XIs Report
 - Expanded purge volume field to allow up to 9999 volumes (was 999)
 - Added ButaneMassLimit & LoadTimeLimit to Configuration ([CpsModel_rev0505.mdb](#))
 - Added logic to Abort if Station ButaneMassLimit is exceeded
 - Added logic to Abort if Station LoadTimeLimit is exceeded
 - Added logic to Pause if Station LoadPressure Alarm
 - Added EOT & Generation report options to Configuration ([CpsModel_rev0506.mdb](#))
- update k released
- BugFix: Weight Change Summary lines on reports corrected
 - BugFix: Baro field on Cal screen now non-zero
 - BugFix: Load-End-Weight for Aux scale now before settling
 - BugFix: EOT Reporting generates DataSource error
 - Added New Scale Type (A = A&D) Option
 - Added Support for shift 3 & 4; (1-4 stations only) ([CpsModel_rev0507.mdb](#))
 - Added Support for up to 4 aux. outputs per station ([CpsRecipes_rev0503.mdb](#))
 - Added Display Properties Screen
 - Upgraded appearance of SysDef screens
 - Added Opto Comm Off during Manual Report Generation
 - Added Timer8 = (Manual) Report Generation
 - ESTOP Input is now a SysDef choice
 - Added Scale Comm Off during Manual Report Generation
- update m released
- BugFix: Vehicle Number not shown in JobList until job is complete
 - BugFix: On Main screen, "shift" area below pbar does not open StnDetail screen
 - BugFix: USINGC, USINGLVol_Engl & USINGMoist_Grains were "Loaded" incorrectly
 - Changed min allowed LeakCheck duration to 10s from 15s
 - Now turn off Beacon when Operator presses Continue after PAUSE, Alarm or OOT
 - Added PB to Turn off Beacon
 - PB to Turn off Horn
 - BugFix: SearchCan was not filling the data grid
 - BugFix: SearchRcp was not filling the data grid
 - **Added Temperature & Humidity Logging (AirLogs)**
 - Added New db file in sysdbf folder for AirLogs ([CpsAirLogModel_rev0501.mdb](#))
 - Added OOT checking of Air Temp & Humidity when using AirLogs
 - Added ViewAirLog screen to display contents of current AirLog file
 - Added a trend chart to ViewAirLog screen
- update q released
- BugFix: AnD Scale Value was not updating properly when "unstable" screen
- update r released
- BugFix: Changed flag for debug display of new scale reading to NotDebugSCALES
 - OptionExplicit now on all Forms and Modules except 16 & 18 (from Opto22)
 - Added verbose option to config for AirLog events to the EventLog
- update s released
- Added New db file in recipe folder for TOM Interface ([CpsTomCanLoad_rev0502.mdb](#))
 - **Added TOM Interface screen and logic**
 - Combined additional USING options into Integer#3 in sysdef.@@@
 - Added TOM csv report
 - Added Clear(Reset) of Active TOM tasks at program startup

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- Changed ViewAirLog minimum log interval from 1 to 10 minutes
- update t released
- Added set "Vehicle" to the TOM VIN
- Added Print Detail Report at End-Of-Test config option
- BugFix: Not Updating TOM DB properly
- BugFix: Not Loading ReportingCfg.EotDetail properly
- BugFix: GenerateReports button on Joblist screen was never enabled
- BugFix: Menu Item TomCanLoad didn't open TomCanLoad screen

Canister Preconditioning System Software Release Notes

2008 March 13

1. Optional environment variable *WHEREISCPS* can be used to specify a path other than *c:\cps2000* as the CPS2000 root folder at runtime. (ex: set WHEREISCPS = d:\cps2000)
2. Added new bat file *showDoc.bat* to the *cps2000\manuals* folder. It supercedes the existing bat files *run.bat* and *runNotes.bat*. There is no need to remove the existing bat files.
3. The time period for a message to remain visible is now set on the sysdef main screen. This setting applies to all messages boxes that disappear without user intervention. The time period is specified in milliseconds. The default value is 1000ms. Note that a value of 0 ms can be entered and saved; but will be reset to the default value of 1000 ms should the program be restarted.
4. Added a button on the Calibration screen to set all rows of Actual Flow values to nominal. This new button is available for Flow Standard calibration only.
5. Can now enter VDCmin & VDCmax values for Analog IO as non-integers. (i.e. with numbers to the right of the decimal point). Only six characters, including the decimal point, are allowed.
6. The program revision description is now saved in sysdef.@@@. The file is updated every time the program starts. (CfgRevLvl 3)
7. Multiple scales assigned to the same comm port will all update.
8. PurgeTime calculations for the Station Recipe screen were updated to better indicate any errors needing correction.
9. Error checking on the Recipe and Station recipe screens was made more consistent.
10. DB file *cpsmodel_rev03.mdb* replaces *cpsmodel.2001.mdb* (adds millisecond Data resolution, MFC Ranges & LoadMethod to Recipe, Actual; DbfRevLvl 3).
11. DB file *cpsmaster_rev03.mdb* replaces *cps500.2000.mdb* (DbfRevLvl 3).
12. DB file *cpsuser_rev03.mdb* replaces *apsinf.2000.mdb* (DbfRevLvl 3).
13. New System Timer monitor screen.
14. New Settings for Interval Timers on SysDef Screen (only viewable when logged on as *aps*):
 - a. Scan IO 70 ms
 - b. Scan Scales 10 ms
 - c. Alarm/OOT Logic 950 ms
 - d. DataLogger 20 ms
 - e. Controllers Logic 150 ms
 - f. Station Logic 50 ms
 - g. Timer (new) 10 ms
15. Load & Purge Totalization intervals are now set on Config screen. Each Totalize Interval (Load & Purge) must be less than or equal to its respective Report Interval.
16. Cycle Count is now incremented after Load or PauseAfterLoad (if selected). Previously it was always incremented after Load.
17. USINGLOADFIRST & USINGENDONPURGE removed from sysdef main screen. The *Start with Load* and *End with Purge* choices will always appear on the Recipe screens.
18. New Button on File Menu. It Generates reports from existing DB files. (Only works for DB files made from *cpsmodel_rev03.mdb* or later.).
19. New Button on File Menu. It Reviews data from existing DB files for running stations.
20. New Button on File Menu. It Watchs current data values and the most recent data for running stations.
21. On the ReviewData screen, DoubleClicking the Next button displays the End of File data. DoubleClicking the Prev button displays the Begin of File data.
22. On the ReviewData screen, the data will automatically refresh if the latest data for the currently active mode for the current cycle is on screen.
23. Added check for existence of the root, reports, cal, cfg, data and manuals file paths at startup.
24. Tweaked Access Codes for the Default User. (OK to GenerateReports, ReviewData and WatchData; NO to SysDef access.)

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25. Added Simulation Control Panel button on the sysdef screen (only when logged on as aps). Simulation of Scales & MFC's occurs when IO Scanning is turned off and Simulation is turned On. The Simulation Control Panel (Alt-P-Shift or use the button on the sysdef main screen) also allows setting offset errors for each MFC. ($PV = SP + \text{offset}$)
26. A station now takes ownership of it's scale(s) at beginning of "Leak Wait" instead of at the end of "Leak Wait".
27. Corrected File_MaintDB logic. It now actually deletes old db files. It also no longer tries to delete an open DB file.
28. Now write Header & Recipe data to the DB file at the start of a test. (Header is also updated at the end.) Previously nothing was written to the DB file until the first load or purge cycle.
29. Revised Main Menu. It now scales itself to the number of stations and shifts. Recipe, Canister, DB file and progress bar were added for each station/shift. To adjust the **WindowsXP screen colors while the program is running** (access to settings is slightly different for Windows 2000) :
 1. right-click the desktop
 2. Display Properties > Appearance > Advanced
 3. Modify items, esp. *3D Objects* and *ToolTips*, as needed for best display appearance.
On the Main screen, *3D Objects* is used for the Background Color when a Station is Idle; *ToolTips* is used for the Background Color when a Station is Running
30. On the Config screen a status panel replaces the popup message boxes.
31. On the Recipe screen a status panel replaces the popup message boxes.
32. On the Station Recipe screen a status panel replaces the popup message boxes.
33. Manuals in pdf format are now supported. If multiple versions of the same manual are in the manuals folder, preference order is *pdf* then *doc* then *rtf*. If none exist, the user gets a message to that effect.
34. On the Config screen, Maintenance Time is now user settable. Separate *Max # of Files* and *Max Days Old* values for Report Maintenance and DB File maintenance are now supported.
35. On the Config screen, VaporCarrier Flow Tolerance (only for systems with a LiveFuel station) is now user settable. When a system is upgraded to CfgRevLvl 3, the VaporCarrier Flow Tolerance is set to the value of the Nitrogen Flow Tolerance.
36. New bat file newCPS.bat for installation of released version.

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2007 October 15

1. Engr. Units for Butane Flow Tolerance is now Grams/Hour (was % of Full Scale).
2. At beginning of LeakCheck, Open Valves & PurgeMFC to vent existing pressure.
3. Comm Port (i.e. Scales) Error Messages are more specific and descriptive.
4. Added LowLimit for Tolerance Checking of Purge & Load MFCs (on config screen; 0.0-4.0%).
5. Settings for Interval Timers on SysDef Screen (only viewable when logged on as *aps*):
 - a. Scan IO 550 ms
 - b. Scan Scales 5 ms
 - c. Alarm/OOT Logic 1850 ms
 - d. DataLogger 750 ms
 - e. Controllers Logic 650 ms
 - f. Station Logic 50 ms
6. Misc. bug fixes, esp. to Scale assignments in recipes, Butane reporting and use of SI units.
7. **Added RELEASE NOTES** – a new button on the About screen (only viewable when logged on as *aps*) and three new files in the *CPS2000\manuals* folder:
 - a. RunNotes.bat (bat file to open *RelNotes.rtf*)
 - b. RelNotes.rtf (the latest Release Notes document)
 - c. CpsReleaseNotesYYYYMMDD.rtf (Master/Backup copy of each Release Notes)
8. Added SI/English Units choice (on sysdef) for LineVolume parameters (ID & Length). On Process and station recipe screens, SI units means mm & meters for ID & Length, English units means inches & feet. The resulting volume is always in liters.
9. Screen background color for Main screen and Station Detail screen are now set to the Windows ApplicationBackground color. The background color for many other screens is still set to the Windows ButtonFace pallet color. Some screens (esp. CanRecipe, SysDef & many of the smaller ones), have been upgraded to have the background color set to the Windows WindowBackground color. **Before running this version, please ensure that the Windows ApplicationBackground and ActiveTitleBar colors are contrasting colors.** If consistency with the existing screen colors is desired, set the Windows ApplicationBackground color to match the existing main screen background and set the ActiveTitleBar color to dark blue. Note that Windows colors can be changed while the application is running.