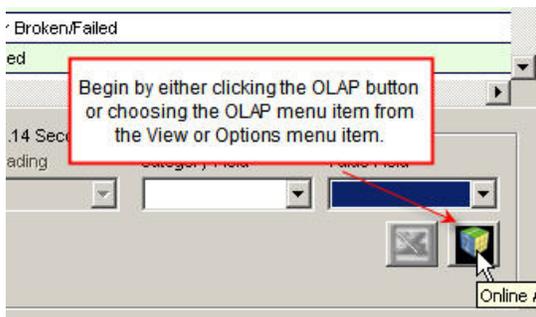


MaintSmart 4.1 OLAP (Online Analytical Processing) Component

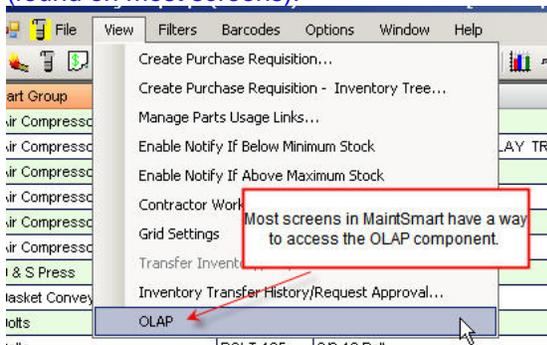
OLAP is a tremendously powerful component that provides analytical processing features similar to those found in Microsoft Excel Pivot Tables and Pivot Charts. Drag-and-drop views give you real-time information, insights, and results in seconds. Drag up to five column fields, five row fields and five value fields to generate a user-defined two or three dimensional data set of virtually any data in the MaintSmart database.

MaintSmart leverage the data queries you create in the MaintSmart Analysis screens by linking to these user defined data sets with the OLAP component. Additionally OLAP is available on most other screens including work order, down time, purchasing, inventory and preventive maintenance screens. Data from any of these screens may be arranged as needed by drag and drop in the OLAP screen. This data may then be totaled by row and column using one of several statistical functions. This data set is then charted automatically.

Clicking on a grid cell in the OLAP data grid causes the underlying data for that cell to be displayed in a separate grid. The OLAP data grid may be exported directly to Excel (just like all grids in MaintSmart) for further analysis.



Click the OLAP button (found on some screens OR click the OLAP menu item (found on most screens)).



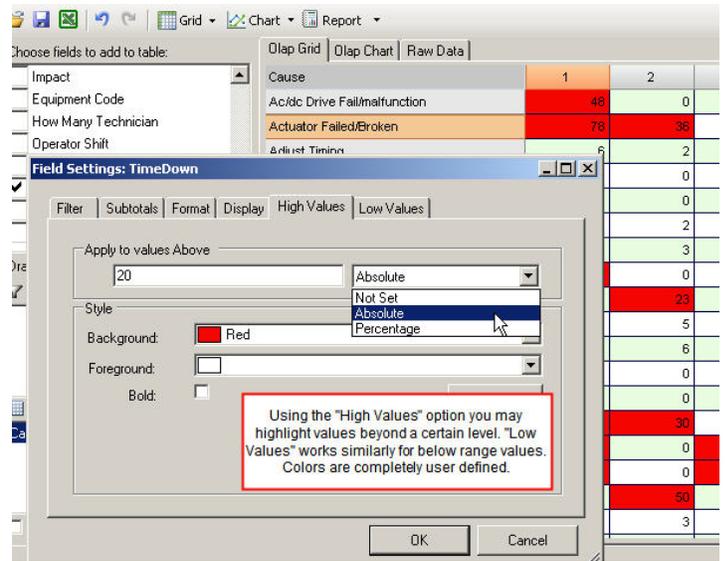
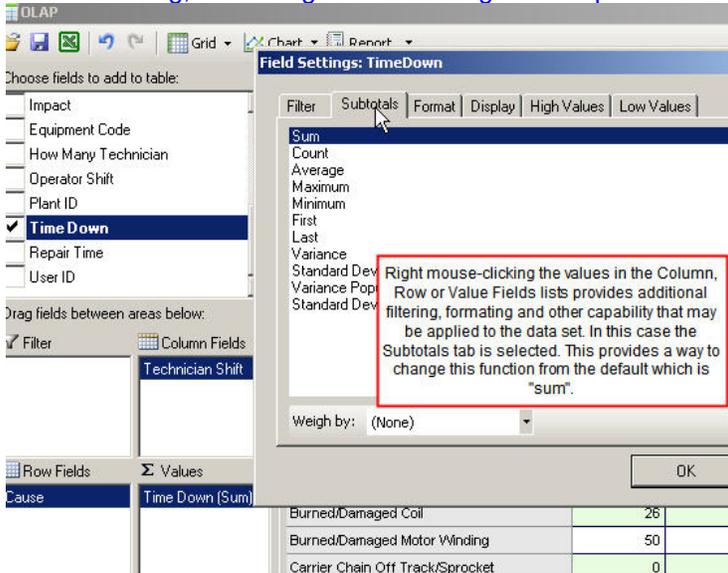
When OLAP screen appears drag and drop fields from the uppermost filed box to the lower list boxes. You may drag up to five fields into each box, however the data grid and chart may become cluttered with this much data.

Drag and drop fields from the upper most list box into the four list boxes. You only need to populate the Value field and either the Column or Row field to get a data set.

Data is arranged by Failure Cause and Technician Shift. Rows and columns are totaled using one of several statistical functions (Sum, Average, Count, Variance, Standard Deviation, etc.)

Cause	1	2	3	Total
Ac/dc Drive Fail/malfunction	48	0	0	48
Actuator Failed/Broken	78	36	2	116
Adjust Timing				8
Adjustment Screw Stripped/Broken				4
Air Compressor Failure				2
Air Cylinder Failed				12
Bad Circuit Board	0	3	0	3
Bad Terminal/Connection	60	0	0	60
Blade(s) Broken	8	23	5	37
Blades		5	0	5
Blown		6	0	6
Brack			11	11
Broken/Damaged Photo Eye Reflector	3	0	0	3
Broken/Damaged Wire	30	30	0	60
Burned/Damaged Coil	26	0	35	61
Burned/Damaged Motor Winding	50	0	46	96
Carrier Chain Off Track/Sprocket	0	50	0	50
Circuit Breaker Tripped	10	3	3	16

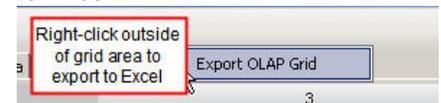
There are several options available by right-clicking on the selected field(s) and choosing from the resulting dialog screen. These include filtering, formatting and formatting based upon the value.



Below shows how multiple fields are displayed. In this example there are two column fields and two value fields. The value fields are summed in this case in separate columns, grouping by Operator and Technician Shift. Rows are also summed.

Cause	Operator Shift		Technician Shift		Total	Total
	Time Down	Repair Time	Time Down	Repair Time		
Roller Broken/Failed	0	0	0	0	15	15
Roller(s) Bad	0	0	0	0	5	5
Safety Interlock Open	0	0	0	0	59	59
Scaper Damaged or Fell Out	0	0	0	0	60	60
Shaft Bearing Failed	0	0	0	0	38	25
Sprocket Slipped	0	0	0	0	95	95
Sprocket Worn	15	12	0	0	15	12
Stop Plate Failed	0	0	0	0	7	7
Structural Failure	0	0	0	0	2	2
Switch (Other) Failed	0	0	0	0	33	24
Switch Sticking Switch Sticking Switch Sticker	0	0	0	0	2	2
Table Top Chain Broken	6	6	0	0	47	45
Table Top Chain Off	0	0	0	0	5	5
Temp. Controller Malfunction	45	2	0	0	45	2
Temperature Sensor Loose or Fail	0	0	0	0	2	2
Track Belt	0	0	0	0	3	3
Variable Pulley Failed	0	0	0	0	14	14
Water in Machine or Electrical	0	0	0	0	325	325
Total	349	289	2	2	2,931	2,747

Easily export the resulting data from grid to Excel.



Cause	Time Down	Repair Time	Time Down	Repair Time	Time Down	Re
Ac/dc Drive Fail/malfunction	41	57	7	6	0	
Actuator Failed/Broken	34	29	44	44	0	
Adjust Timing	6	6	0	0	0	
Adjustment Screw Stripped/Broken	2	2	0	0	0	
Air Compressor Failure	2	2	0	0	0	
Air Cylinder Failed	0	0	10	10	0	
Bad Circuit Board	0	0	0	0	0	
Bad Terminal/Connection	0	0	60	60	0	
Blade(s) Broken	0	0	0	0	9	
Blade(s) Dull	0	0	0	0	0	
Blown Fuse	0	0	0	0	0	
Bracket Failed	0	0	0	0	0	
Broken/Damaged Photo Eye Reflector	0	0	3	3	0	
Broken/Damaged Wire	0	0	30	30	0	
Burned/Damaged Coil	0	0	26	26	0	
Burned/Damaged Motor Winding	0	0	50	50	0	
Carrier Chain Off Track/Sprocket	0	0	0	0	0	
Circuit Breaker Tripped	0	0	0	0	10	
Clutch/Brake Worn/Fail	0	0	5	5	0	
Contacts Burned/Damaged	0	0	0	0	30	
Conveyor Belt Torn/Damaged	0	0	5	5	50	
Conveyor Broken/Failed	0	0	8	8	55	

This is the resulting Excel spreadsheet. You may also click the Excel icon at top of screen however this option simply saves the data as Excel but doesn't automatically open the spreadsheet after saving.

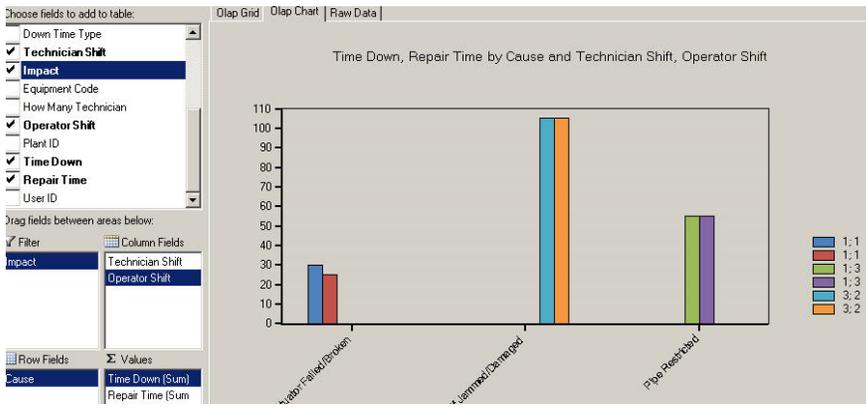
Cause	Time Down	Repair Time	Time Down	Repair Time	Time Down	Repair Time
Bun Wrapping	5				15	
No Area Assignmer	5				5	
Bread Slicers	59				59	
No Area Assignmer	60				60	
Bread Baggers/Wrapping Machine	38				38	
No Area Assignmer	95				95	
Bread Baggers/Wrapping Machine	15				15	
No Area Assignmer	7				7	
No Area Assignmer	2				2	
Bun Cooler	33				33	
	2				2	
	47				47	
	5				5	
	45				45	

Right clicking in the grid area on a particular cell causes the underlying data that generated the value in that cell to be displayed in a separate grid.

Right-click on a grid cell to see a grid of the underlying data that generated the value for that grid cell. (Note: actual field names are displayed in this case)

Right-click a Value field and you will have the opportunity to format, filter or change the subtotal setting for that value. Subtotal settings include: Sum, Average, Max, Min, Variance, Standard Deviation and more.

Format colors based upon high or low value constraints as shown below:



MaintSmart will also create a corresponding chart for the data.

Cause	1		3		Total	Total
	Time Down	Repair Time	Time Down	Repair Time		
Actuator Failed/Broken	0	0	0	0	30	25
Oven Shelf Jammed/Damaged	0	0	105	105	105	105
Pipe Restricted	55	55	0	0	55	55
Total	55	55	105	105	190	185

This is an example of a filtered data set. In many cases you'll want to filter the data especially if you want a legible uncluttered chart.

As you can see this is a tremendously powerful and useful tool. The OLAP component is very flexible and available on all screens where appropriate.