

Manufacturing Plus 2009 RTC – 41 Key Features

Manufacturing Plus is a series of improvements to Dynamics NAV Manufacturing.

Manufacturing Plus provides clear views into Production Standard Costing, Current Costing, Future Costing, Estimating, and Pricing. Many enhancements have been added to the Item Card, Production BOM, and Production Order Card.

Manufacturing Plus is designed to quickly launch a new Customer's Installation of Dynamics NAV Manufacturing with an "out of the box" solution for accurate costing and clear visibility to Work Center or Machine Center activities.

Manufacturing Plus is ideally suited for a "Mass Production Operation". See the comparison chart to a "Job Shop" below.

<i>Job Shops (Job Manager)</i>	<i>Mass Production Operations (Manufacturing Plus)</i>
Make to order	Build to stock
No finished goods inventories	Finished goods inventories/SKU's
Different products	Standard products
Sell to other companies	Sell to distributors or end users
Customer order driven	MRP demand forecast driven
Bid on RFQ's to get work	No RFQ's
Estimating is critical	Standard costing
Customer pricing (quotes)	Market pricing
Lead time required	Fill orders from finished goods inventory

Many schedule changes	Few schedule changes
Set ups/changeovers frequent	Set ups/changeovers less frequent
Direct contact with customer	Indirect contact with remote customer
Smaller companies	Larger companies
Owner managed	Professionally managed
Variable overhead allocation	Labor-based overhead allocation
Variable volume	More stable volume
Order backlog is good	Order backlog is bad (stockouts)
More dynamic	More static
More skilled labor (variable tasks)	Less skilled labor (repetitive tasks)
Dynamic scheduling	Static scheduling
Shorter runs	Longer runs
Improve by reducing lead time	Improve by reducing inventories

Product Design – 41 Key Features

Remember: Manufacturing Plus is built on top of our “Foundation Pack”. Please refer to that document for the 45+ embedded improvements.

Below are just the features for “Manufacturing Plus”, not the other 45+ features from Foundation Pack.

Manufacturing Plus Role Center

1. New Role Center for NAV Manufacturing designed for manufacturing operations.

The screenshot displays the Manufacturing Plus Role Center in Microsoft Dynamics NAV. The interface is organized into several key sections:

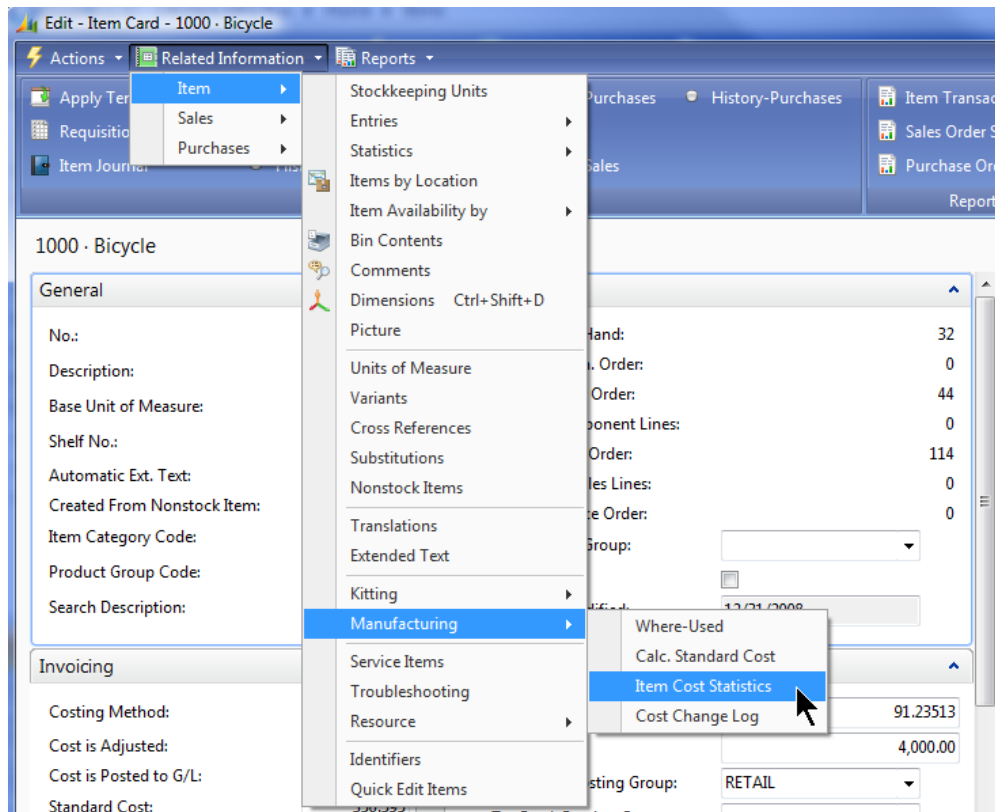
- Navigation Pane (Left):** Lists various functional areas including Role Center, Production Orders (Planned, Firm Planned, Released, Finished), Planning - Operations, Design, Microsoft Outlook, Home, Journals, Worksheets, Product Design, Capacities, and Departments.
- Activities Section:**
 - Production Orders:** Includes icons for Planned, Firm Planned, and Released Production Orders, along with actions like Change Production Order Status, New Production Order, and Navigate.
 - Planning - Operations:** Includes a My Purchases icon and actions like New Purchase Order, Edit Planning Worksheet, and Edit Subcontracting Worksheet.
 - Design:** Includes icons for Production BOMs and Routings, along with actions like New Item, New Production BOM, and New Routing.
- Microsoft Outlook:** Shows Mail (Inbox: 0), Calendar (Today, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday), and Tasks.
- My Items:** A table listing items with columns for Item No., Description, and Unit Price.

Item No.	Description	Unit Price
1896-S	ATHENS Desk	1,000.80
70000	Side Panel	47.30
70001	Base	62.10
- Production Orders per Status:** A 2D bar chart showing the count of production orders across four statuses: Planned, Firm Planned, Released, and Finished.
- Production Orders per Status and Inventory Posting Group:** A 3D bar chart showing counts for FINISHED and RESALE items across the same four statuses. The chart includes a filter for Work Center 100|300.
- My Notifications:** A table for tracking notifications with columns for From, Created, Note, and Page.

The status bar at the bottom indicates the user is logged in as 'rick' on Thursday, January 28, 2010.

Item Card Changes

- From the Item Card, there is a new **Statistics Card for: Standard Cost, Current Cost, and Future Cost** information.



1000 - Item Cost Statistics

Item Cost Statistics

Item No. . . . 1000

Description . . Bicycle

	Unit/Standard Cost	Current/Future Cost	Variance
Lot Size	406.75	441.92	35.18
Overhead Rate			
Indirect Cost %			
Scrap %			
Production BOM			
Routing No.			
	Single-Lev Material Cost .		
	Single-Lev Capacity Cost .		
	Single-Lev Subcon. Cost .		
	Single-Lev Mfg. Ovhd . . .		
	Single-Lev Cap. Ovhd . . .		
	Rolled-up Material Cost .		
	Rolled-up Capacity Co...		
	Rolled-up Subcontrd Cost		
	Rolled-up Mfg. Ovhd C...		
	Rolled-up Cap. Overh...		
	Last Cost Calc. Lot Size .		
	Last Cost Calc BOM No. .		
	Last Cost Calc BOM Rev.		
	Last Cost Calc Router ...		
	Last Cost Calc Router ...		
	Last Cost Calc Date . . .		
	Last Cost Action Date . .		
	Last Cost Factor		

Parameters for Current/Future Costs

New Lot Size 0.00

New Overhead Rate 0.00

New Indirect Cost % 0.00

New Scrap % 0.00

New Production BOM... [↑]

New Routing No. [↑]

New Cost Factor 0.00

New Calculation Date

Calc. Current Cost Item Print Help

3. Ability to **Re-Calc Current and Future Cost** with out effecting Standard Cost. (see above picture)

4. Ability to **Re-Calc Current and Future Cost with user defined parameters.**

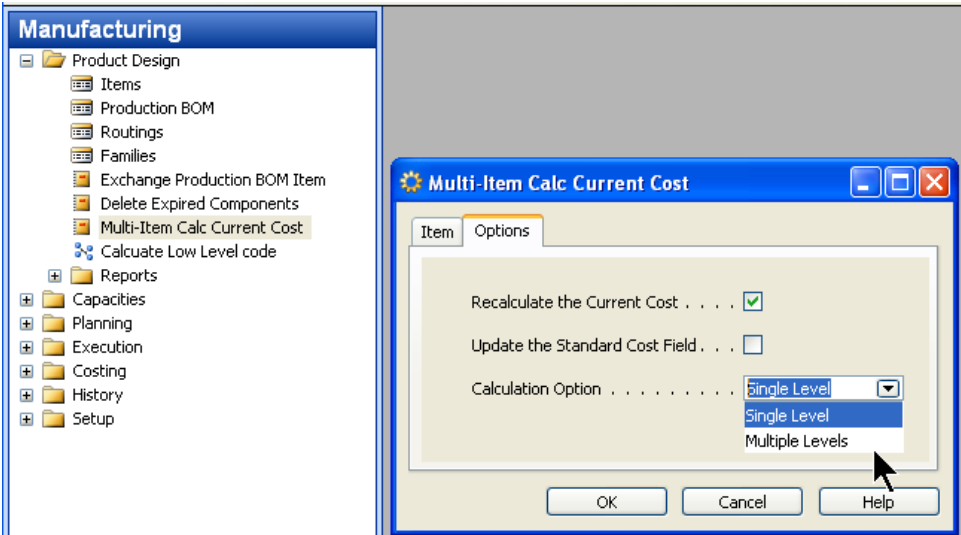
This enables “what if” planning.

5. **Variance Statistics** between Standard Cost and Current/Future Cost. (see above picture)

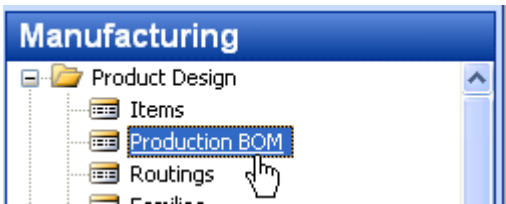
6. From Item Card, Manufacturing, **Standard Cost Change Log** holds each re-calculation of Current Cost or Standard Cost.

Action Date	Calculation Date	User ID	Entry Type	Calculation Method	Previous Std. Cost	Calcd or Entered Std. ...	Item Card Lot Size	Curre Calc
12/04/04	12/04/04		Current Cost Calc	Rolled-u...	345.69	0.00	100.00	
12/04/04	12/04/04		Std Cost Calc	Rolled-u...	345.69	345.69	100.00	
12/04/04	12/04/04		Current Cost Calc	Rolled-u...	345.69	0.00	100.00	
12/04/04	12/04/04		Std Cost Field Change		345.69	250.00	100.00	
12/04/04	12/04/04		Current Cost Calc	Rolled-u...	250.00	0.00	100.00	
12/04/04	12/04/04		Mass Update		250.00	345.69	100.00	
12/04/04	12/04/04		Std Cost Calc	Rolled-u...	345.69	345.69	100.00	
12/04/04	12/04/04		Current Cost Calc	Single L...	345.69	0.00	100.00	
12/04/04	12/04/04		Current Cost Calc	Rolled-u...	345.69	0.00	100.00	
12/04/04	12/04/04		Current Cost Calc	Rolled-u...	345.69	0.00	100.00	
12/04/04	12/04/04		Std Cost Field Change		345.69	250.00	100.00	
12/04/04	12/04/04		Mass Update		250.00	345.69	100.00	
12/04/04	12/04/04		Std Cost Calc	Rolled-u...	345.69	345.69	100.00	
12/04/04	12/04/04		Std Cost Field Change		345.69	200.00	100.00	
12/04/04	12/04/04		Current Cost Calc	Rolled-u...	200.00	0.00	100.00	
12/04/04	12/04/04		Mass Update		200.00	345.69	100.00	

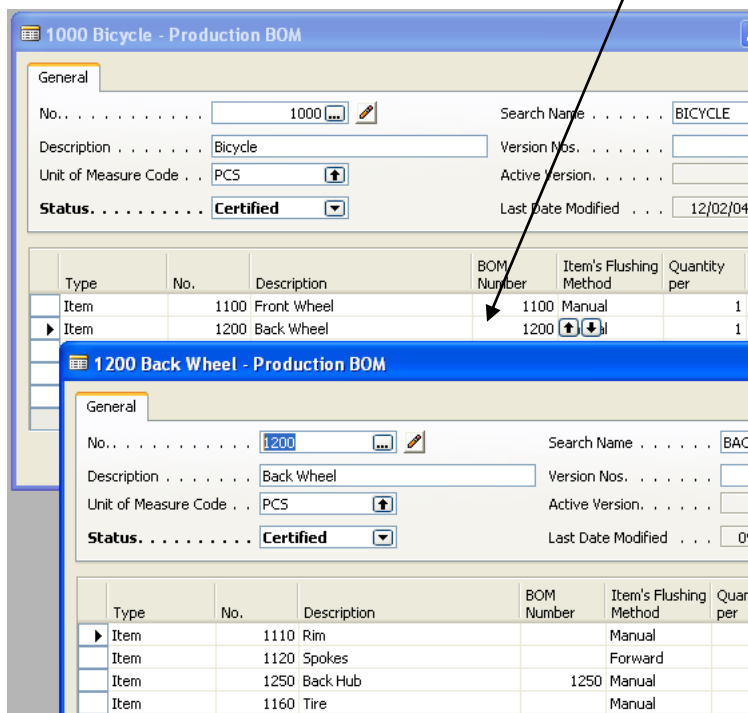
7. New option on Product Design to enable global re-calculation of current cost as well as optional update of the “standard” cost.



Bill of Material Enhancements



8. From Production BOM Card - enhancement with Lookup to Sub-BOM capabilities. (Shown below)



In RTC – Go to the Lines Action Menu.

9. BOM Card now shows: Item's Flushing Method.

10. Item Card, Replenishment, Production BOM Active Version.
(REV Number)

With full instant drill down to the current active version

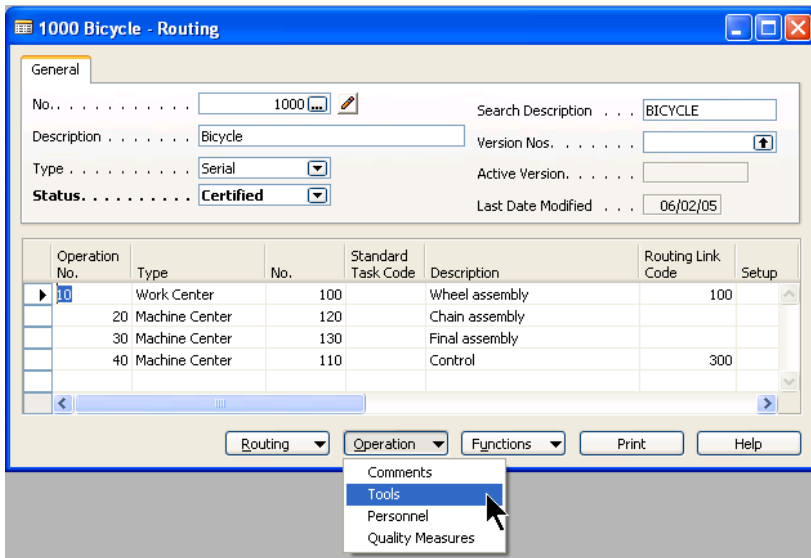
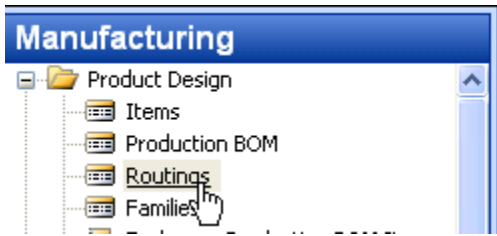
With auto-increment option of Version Number. (1, 2, 3, 4...)

The screenshot shows the 'Replenishment' form with the following fields and values:

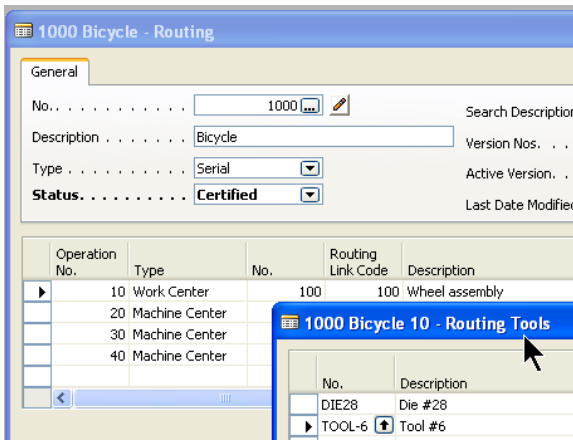
Section	Field	Value
Replenishment System	Replenishment System:	Prod. Orde
	Rounding Precision:	0.001
	Flushing Method:	Manual
	Scrap %:	0
	Lot Size:	10
Production	Manufacturing Policy:	Make-to-S
	Routing No.:	1000
	Routing Active Version:	1
	Production BOM No.:	1000
	BOM Active Version:	1
Purchase	Vendor No.:	-

The 'Production BOM No.' field is highlighted with a red oval, indicating the current active version.

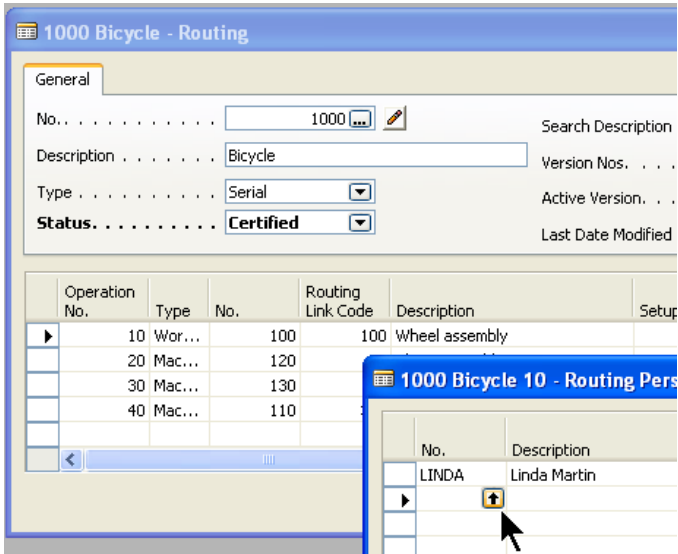
Routing Card Improvements



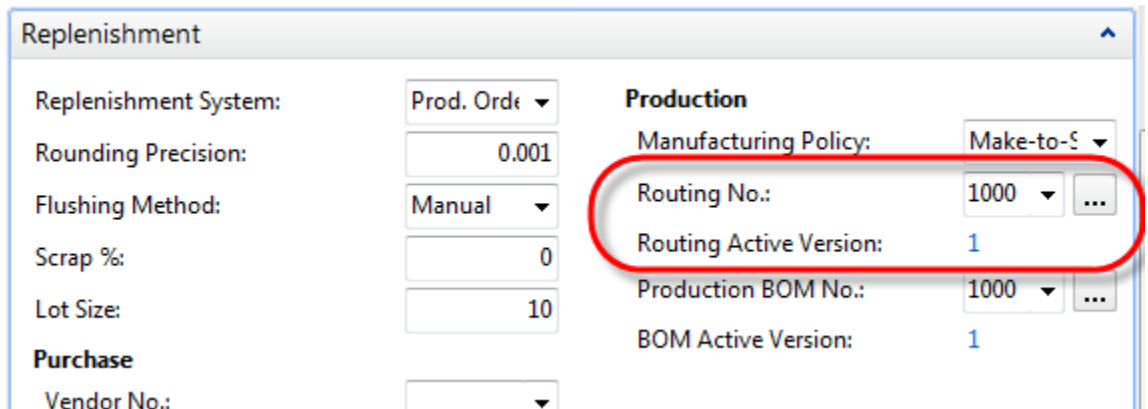
11. Routing Link Codes are clearly shown.
12. Quick Print Button to Print the Router.
13. Router Master, Routing Line, "Tools" has new lookup to a new "Tool" Table. (See picture above)



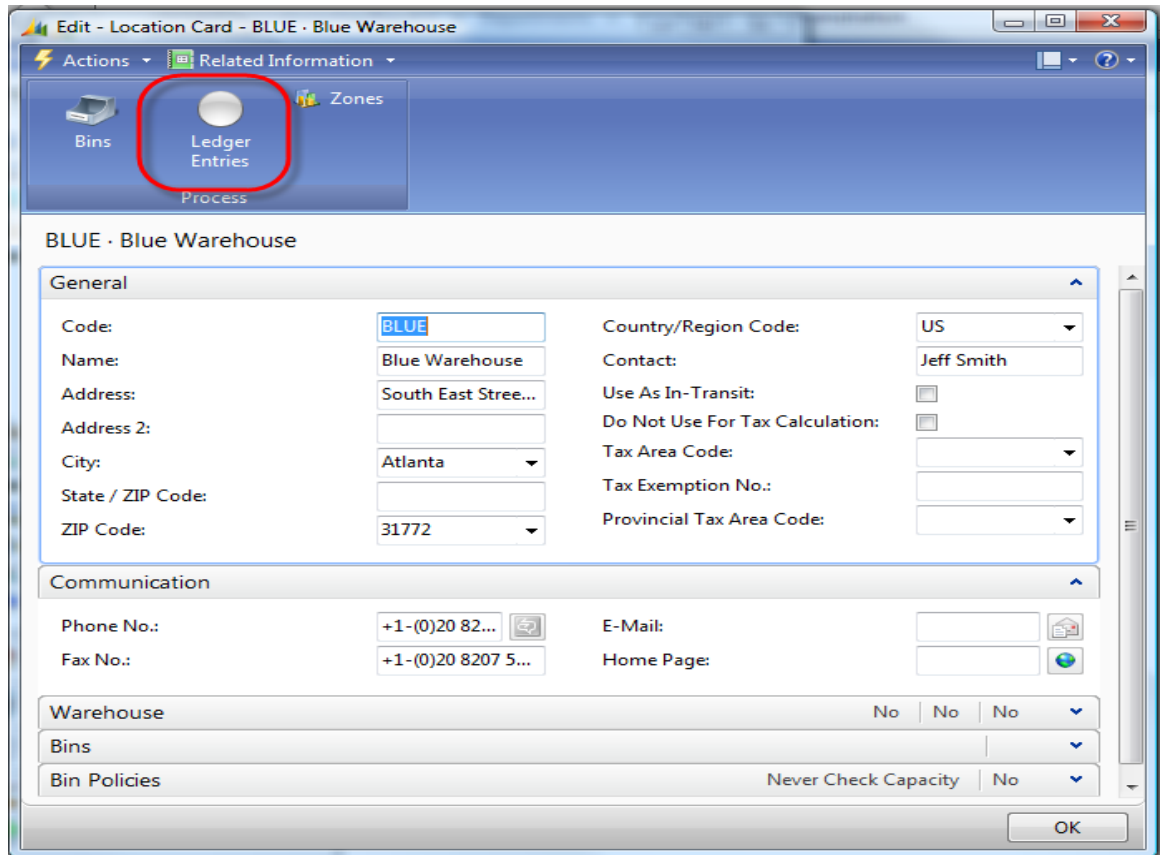
14. Routing Line, "Personnel" has lookup to Resource List.



15. Item Card, Replenishment, Routing Active Version (REV Number)
With full instant drill down to the active version.
With auto-increment option of Version Number. (1, 2, 3, 4,...)



16. Location Card, Quick access to the associated Ledger Entries has been added.



17. Production Order Card, Line: Display “Actual Material Cost” and “Actual Capacity Cost” in real time.

1011002 · Bicycle

General

No.:	1011002	Quantity:	27
Description:	Bicycle	Due Date:	1/29/2011
Description 2:		Assigned User ID:	
Source Type:	Item	Blocked:	<input type="checkbox"/>
Source No.:	1000	Last Date Modified:	
Search Description:	BICYCLE	Status:	Released

Lines

Unit Cost	Cost Amount	Act Material Cost	Act Capacity Cost	Indirect Cost %	Overhead Rate
350.595	9,466.07	8,720.87	520.80	0	0.00

Drillable too.

18. Production Order Cards: Improved Field Positions and Displays.

1011002 · Bicycle

General

No.: 1011002 Quantity: 27
 Description: Bicycle Due Date: 1/29/2011
 Description 2: Assigned User ID:
 Source Type: Item Blocked:
 Source No.: 1000 Last Date Modified:
 Search Description: BICYCLE Status: Released

Lines

Item No.	Due Date	Description	Production BOM No.	Production BOM Versio...	Routing No.	Routing Version
1000	1/29/2011	Bicycle	1000		1000	
<i>More not shown.</i>						

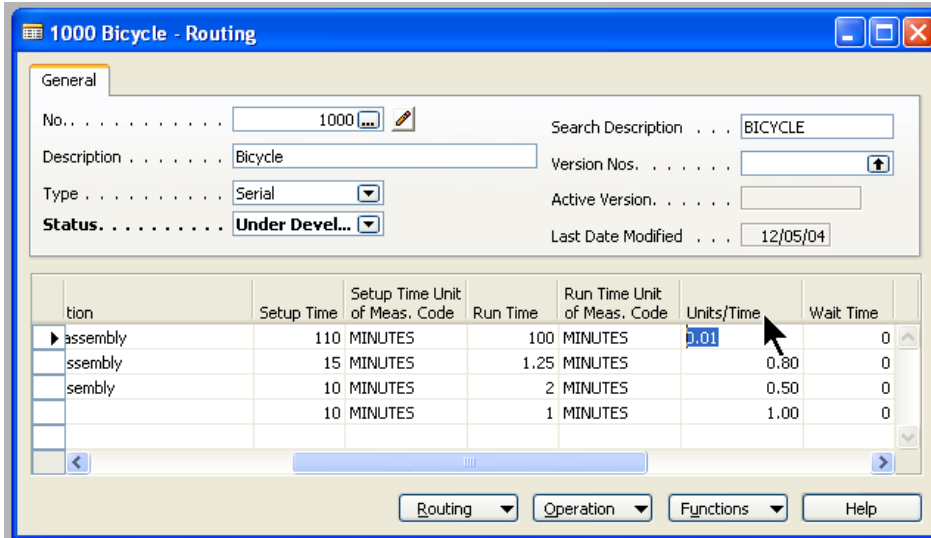
Schedule

Starting Date: 1/25/2011 Ending Time: 4:00:00 PM
 Starting Time: 12:50:00 PM
 Expected Component Cost Amt.: 8,720.87
 Ending Date: 1/28/2011 Expected Operation Cost Amt.: 520.80
 Expected Capacity Need: 1,630

Posting















Inventory Posting Group: FINISHED Project Code:
 Gen. Prod. Posting Group: RETAIL Location Code:
 Gen. Bus. Posting Group: Bin Code:
 Department Code:

19. Routing Line, Run Time now has reciprocal “Units/Time” displayed and is backward calculation capable.




Capacities

Manufacturing

- ▷  Items
 -  Stockkeeping Units
 -  Vendors
 -  Customers
- ▷  Production BOMs
 -  Routings
 -  Families
 -  **Machine Centers** ← 
 -  Work Centers
-  Sales Quote
-  Blanket Sales Orders
-  Sales Orders
-  Purchase Quotes

20. Machine Center has new field “Current Capacity Need” (similar to W/C)

110 · Mike Seamans

General	
No.:	<input type="text" value="110"/> ...
Name:	<input type="text" value="Mike Seamans"/>
Work Center No.:	<input type="text" value="100"/>
Search Name:	<input type="text" value="MIKE SEAMANS"/>
Blocked:	<input type="checkbox"/>
Last Date Modified:	<input type="text"/>
Current Capacity Need:	<input type="text" value="652.00"/> ← 

21. Work Center Card has new flow field into “Current Capacity Need”.

Process

100 · Assembly department

General

No.: 100 Search Name: ASSEMBLY DEPARTMENT

Name: Assembly department Blocked:

Work Center Group Code: 1 Last Date Modified:

Alternate Work Center: Current Capacity Need: 1,548.00

Posting

22. Enhanced “Task List” Report to show Production Order Descriptions and more relevant data. (R14004524)

Note: This report works for either Machine Center or Work Center, but you must specify in the dialogue window when you run the report.

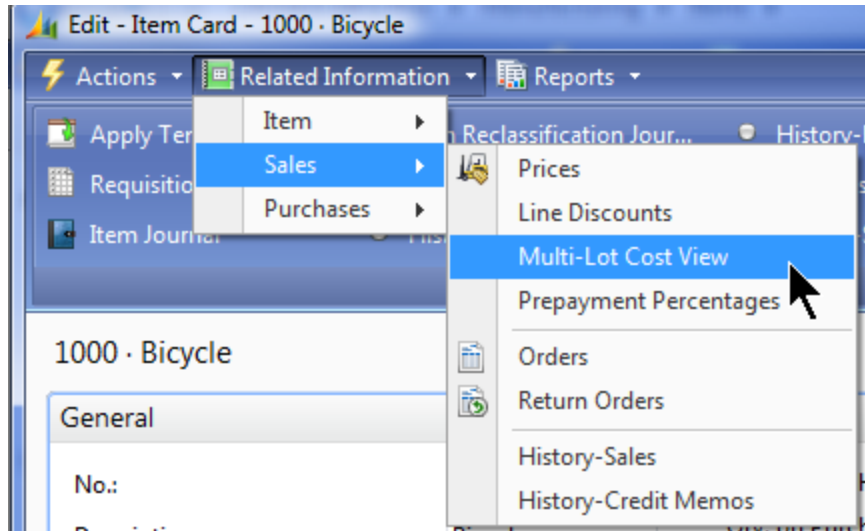
CRONUS USA, Inc. **Capacity Task List** Report

Prod. Order Routing Line:

Prod. Order No.	Status	Operation No.	Description	Production Description	Source No.	Input Quantity	Setup Time	Run Time	Expected Capacity Need
Work Center		100	Assembly department						
1011002	Released	10	Wheel assembly	Bicycle	1000	27	110	12	434
1011003	Released	10	Wheel assembly	Bicycle	1000	16	110	12	302
101004	Firm Plann	10	Rim assembly	Front Wheel	1100	100	60	5	560
101006	Firm Plann	10	Rim assembly	Back Wheel	1200	100	60	5	560
101001	Firm Plann	10	Wheel assembly	Bicycle	1000	100	110	12	1,310
1010006	Firm Plann	10	Wheel assembly	Touring Bicycl	1001	3	110	12	146
101005	Firm Plann	10	Rim assembly	Front Wheel	1100	100	60	5	560
101007	Firm Plann	10	Rim assembly	Back Wheel	1200	100	60	5	560
101002	Firm Plann	10	Wheel assembly	Bicycle	1000	100	110	12	1,310
101012	Firm Plann	50	Hub assembly	Front Hub	1150	105	30	6	660
101013	Firm Plann	50	Hub assembly	Back Hub	1250	105	30	6	660
101003	Firm Plann	10	Wheel assembly	Touring Bicycl	1001	10	110	12	230
101016	Firm Plann	10	Rim assembly	Front Wheel	1100	100	60	5	560
101014	Firm Plann	10	Rim assembly	Front Wheel	1100	31	60	5	215
									8,067

Planning

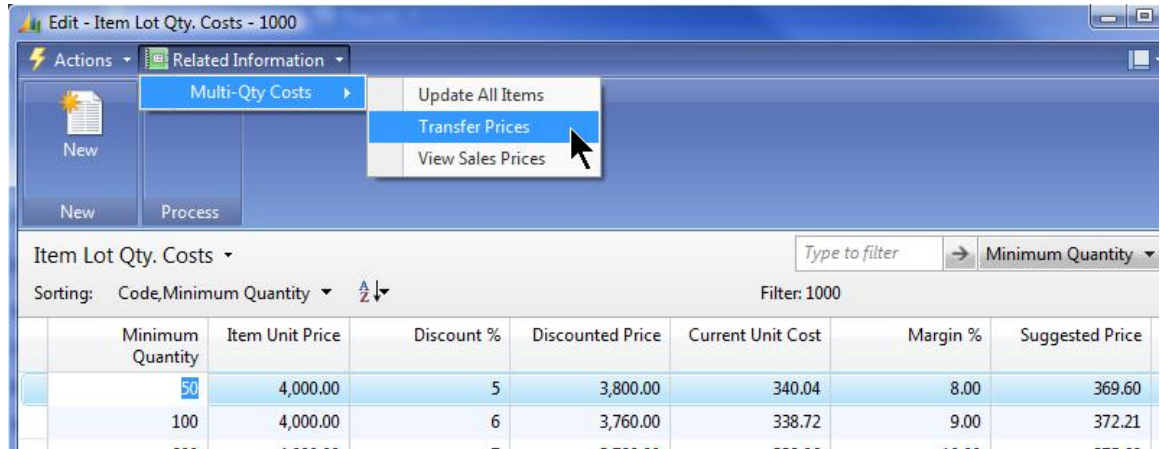
23. A new form has been added, from the Item Card, to show Costs at Multiple Quantity Break points.



Lot Size Levels have been added which shows Current Cost/Price at different Lot Sizes. You also have the ability to add "Margin %" to calculate Suggested Price. (Great for Estimating) (see picture below) This will assist in identifying your "Economic Order Quantity" too. (see 5,000 to 10,000 below with 1 cent cost diff.)

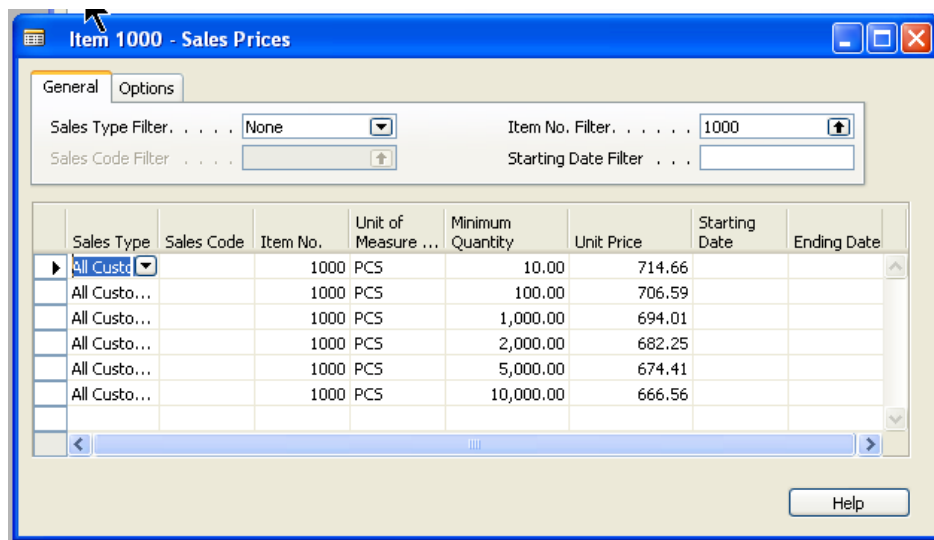
Minimum Quantity	Item Unit Price	Discount %	Discounted Price	Current Unit Cost	Margin %	Suggested Price
50	4,000.00	5	3,800.00	340.04	8.00	369.60
100	4,000.00	6	3,760.00	338.72	9.00	372.21
200	4,000.00	7	3,720.00	338.06	10.00	375.62
1,000	4,000.00	8	3,680.00	337.53	11.00	379.24
10,000	4,000.00	9	3,640.00	337.41	15.00	396.95

24. Transfer Prices (see above) will transfer the “Suggested Price” to the “Contract Price Table”. The “View Sales Prices” gives you a quick access to the contract price table.



25. “Update All Items” will re-calculate (refresh) the cost based on the current cost.

26. The “Contract Price” table in Dynamics NAV can be updated with the Suggested Price from the Multi-Lot price calculations. (see above picture)



27. Totals have been added on the Requisition Worksheet

Name DEFAULT

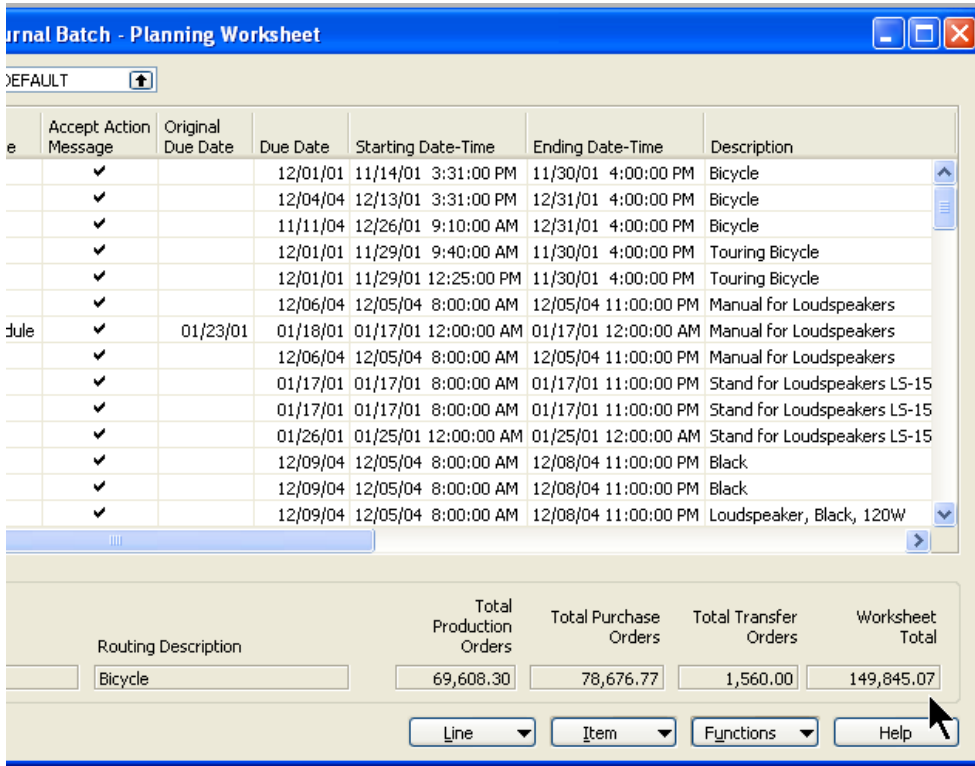
Type	No.	Action Message	Accept Action Message	Description	Location Code	Q
Item	1720	New	✓	Hand front wheel Brake		
Item	1720	New	✓	Hand front wheel Brake		
Item	1720	New	✓	Hand front wheel Brake		
Item	1720	New	✓	Hand front wheel Brake	BLUE	
Item	1151	New	✓	Axle Front Wheel		
Item	1151	New	✓	Axle Front Wheel	BLUE	
▶ Item	1155	New	<input type="checkbox"/>	Socket Front		

Description: Socket Front Buy-from Vendor Name: Groene Kater BVBA Planned Total : 130,965.57 Planning Total : 0.00 Worksheet Total : 130,965.57

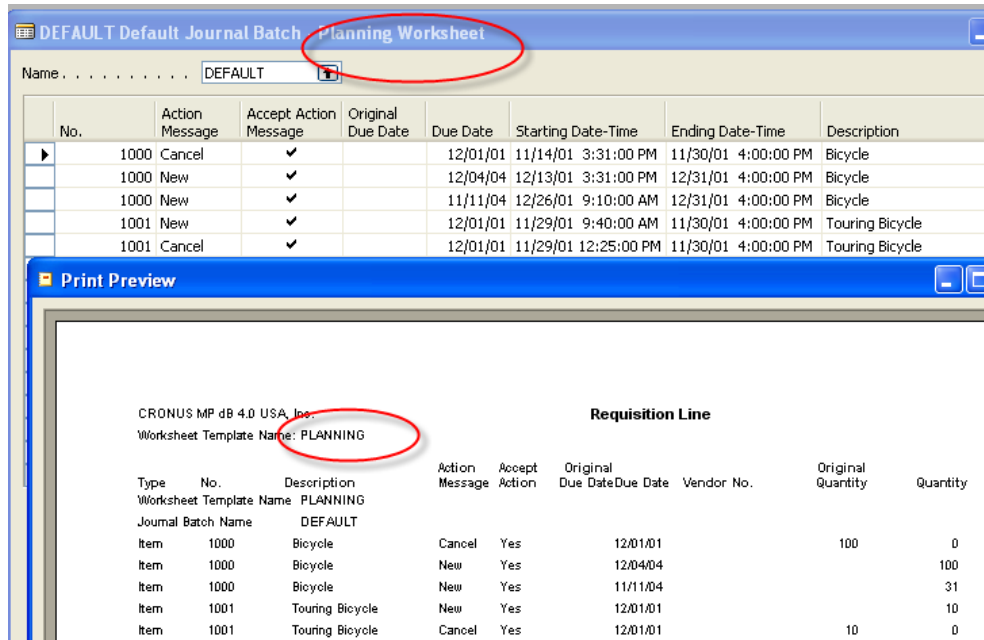
Line Functions Help

28. Not Shown: Hard Copy report of Requisition Worksheet. (“Carry Out” preview.) (R14004525)

29. Totals have been added to the Planning Worksheet:



30. New report is provided to print the details of the Planning Worksheet. (Pre-Carry Out)



31. New report is provided as "Audit" of Carry Out.
Shows exactly what got updated and what didn't and why not.

Type	No.	Description	Quantity	Action Message	Ref. Order Type	Vendor No.	Location Code	Ref. Order Status	Ref. Order No.
Item	LS-150	Loudspeaker, Cherrv. 150W	32	New	Purchase	50000	SILVER		
Item	LS-150	Loudspeaker, Cherrv. 150W	54	New	Purchase	50000	WHITE		
Item	1200	Back Wheel	100	New	Prod. Order		BLUE	Planned	101010

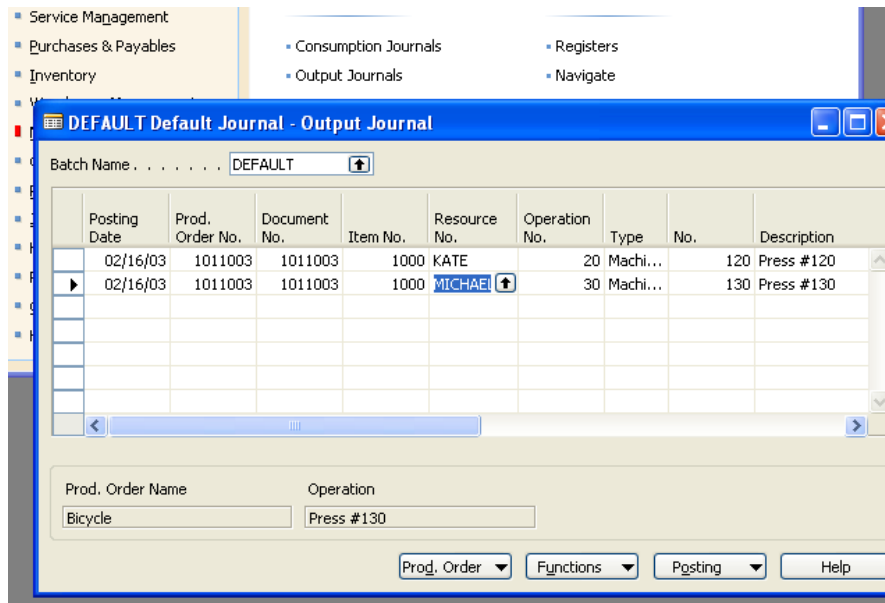
1/18/2010 10:06 AM

CCSNETwick

1

Execution

32. Output Journal has “Resource No.” added to enable posting of Employee’s Time against Production Orders. Details are posted to the Capacity Ledger Entries and Value Entries. This enables true “Activity Based Costing” for those that need a higher level of detail.



33. Production Order, Line, Components: “Unit Cost” is now visible, but non-editable.

Posting Method	Expected Quantity	Act. Consumption...	Remaining Quantity	Routing Link Code	Unit Cost	Cost Amount	Substitution Available
Annual	27	27	0		129.671	3,501.12	
Annual	27	27	0		129.682	3,501.41	
Annual	27	27	0		13.157	355.24	
Annual	27	27	0		3.90	105.30	
Annual	27	27	0		3.90	105.30	
Annual	27	27	0		5.20	140.40	
Annual	27	27	0		2.70	72.90	
Annual	27	27	0		9.765	263.66	
Annual	27	27	0		2.12	57.24	

34. Production Order, Line, and Routing: "Input Quantity" is now visible, but non-editable.

The screenshot shows the '1011002 Bicycle 1000 - Prod. Order Routing' window. It contains a table with the following data:

	Input Quantity	Setup Time	Run Time	Wait Time	Move Time	Expected Capacity Need	Unit Cost per	Expected Operation Cost Amt.
	27	110	12	0	0	434	1.20	520.80
	27	15	15	0	0	420	0.00	0.00
	27	10	20	0	0	550	0.00	0.00
	27	10	8	0	0	226	0.00	0.00

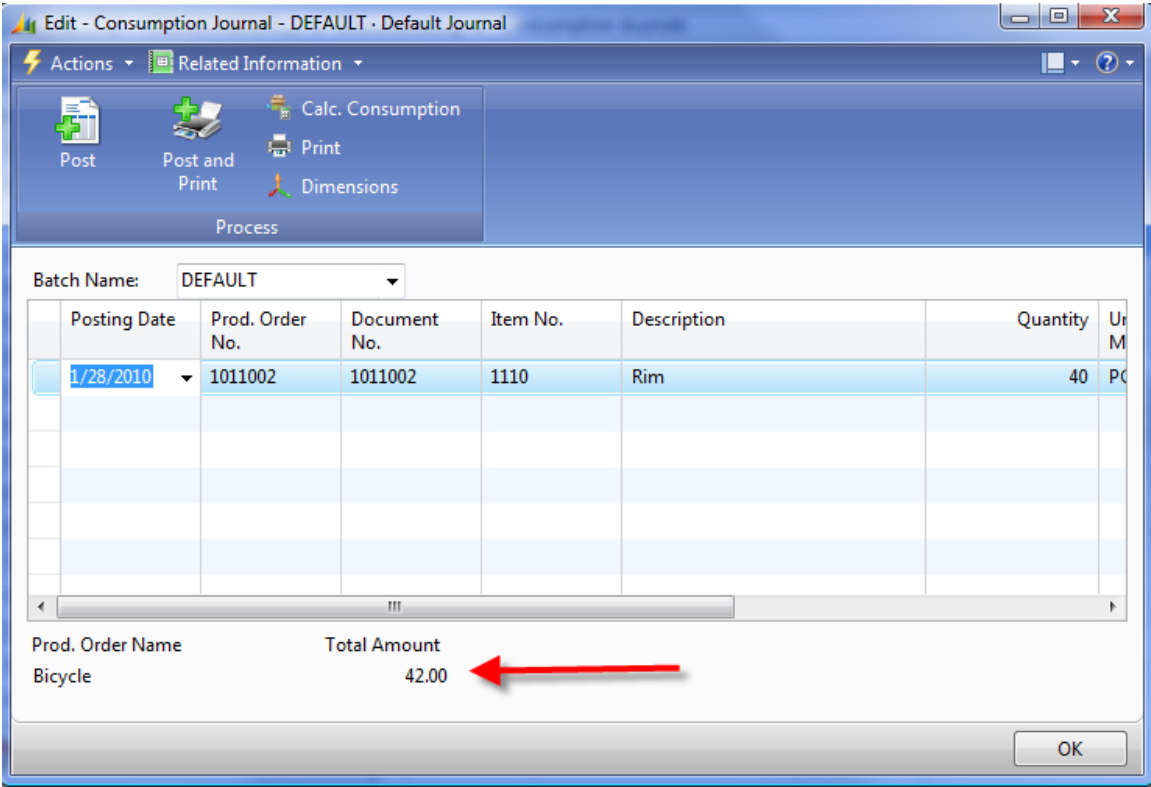
35. Routing Line's "Expected Capacity Need" is now drillable to the details.

The screenshot shows the 'Edit - Prod. Order Routing - 1011002 Bicycle 1000' window. It displays a table with a red arrow pointing to the 'Expected Capacity Need' value of 434 for the first row.

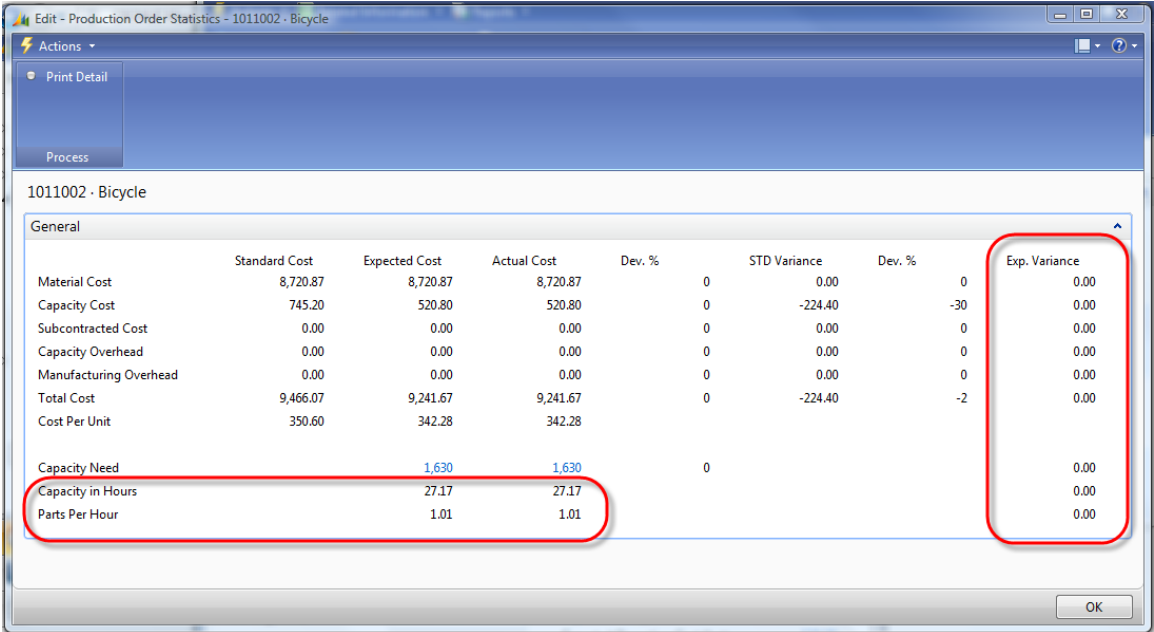
ding Date-Time	Input Quantity	Setup Time	Run Time	Wait Time	Move Time	Expected Capacity Need	Unit Cost per
7/2010 6:04 AM	27	110	12	0	0	434	1.20
8/2010 5:04 AM	27	15	15	0	0	420	0.00
9/2010 6:14 AM	27	10	20	0	0	550	0.00
9/2010 10:00 AM	27	10	8	0	0	226	0.00

Now Drillable

36. Totals have been added to the Consumption Journal screen.



37. Production Order Statistics has been enhanced to show: Capacity in Hours, Parts per Hour, and Variance to Expected Cost.



38. Totals have been added to the "Output Journal" screen.

Batch Name DEFAULT

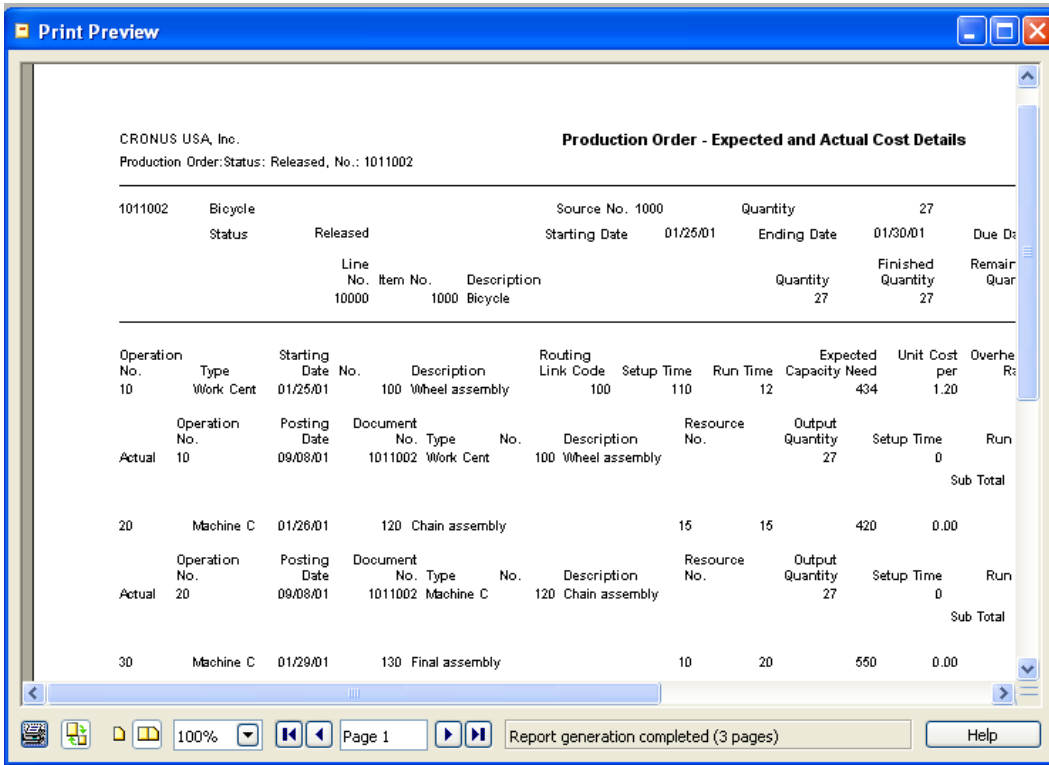
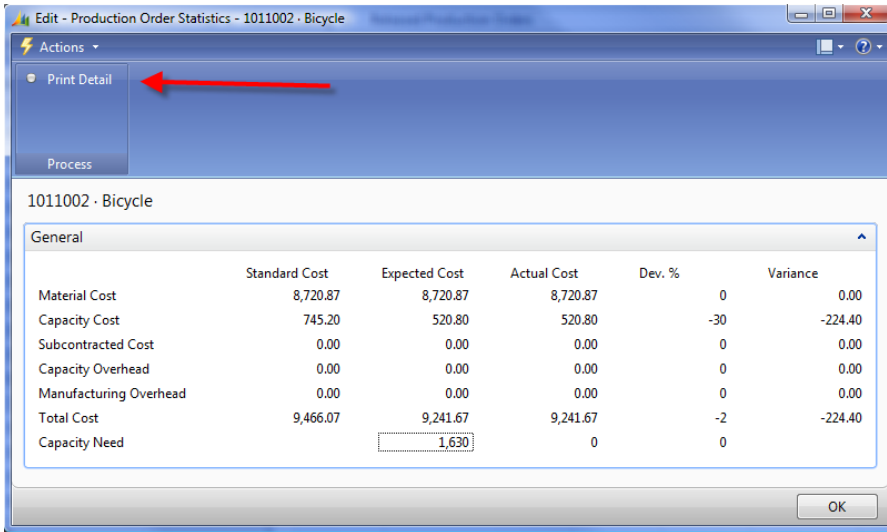
Line	Cap. Unit of Measure Code	Output Quantity	Unit of Measure Code	Unit Cost	Unit Amount	Amount	Scrap Quantity
0	MINUTES	12,000	PCS	0.45	0.45	5,400.00	0

Prod. Order Name: Bicycle Operation: Final assembly Total Output Amount: 5,400.00

Line Prod. Order Functions Pgsting Print... Help

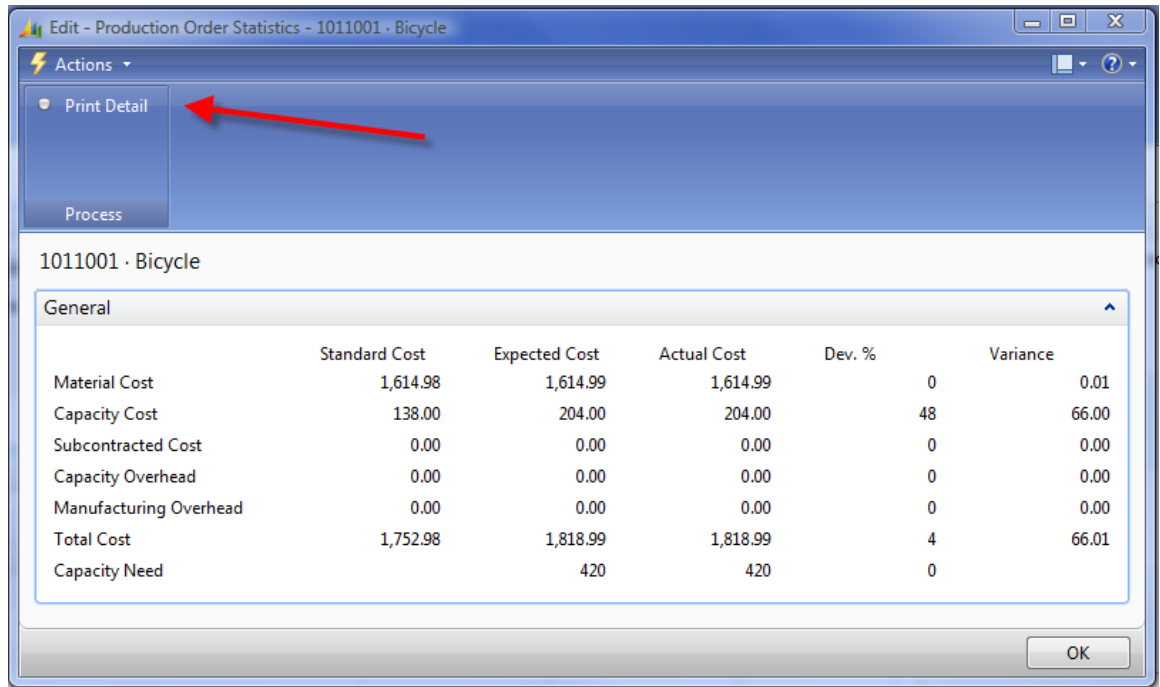
39. Production Order's Statistics have been enhanced with a Print Button to launch a report that shows all the details. (R14004546) "Job Costing" per Production Order with "Prod. Order – Expected, Actual" Report.

Estimated Cost – Actual Cost = Over/Under Cost Variance



History

40. Finished Production Order Statistics with Direct Print of Actual Cost Analysis.
(Similar to above report, but from the History Files) (R14004546)



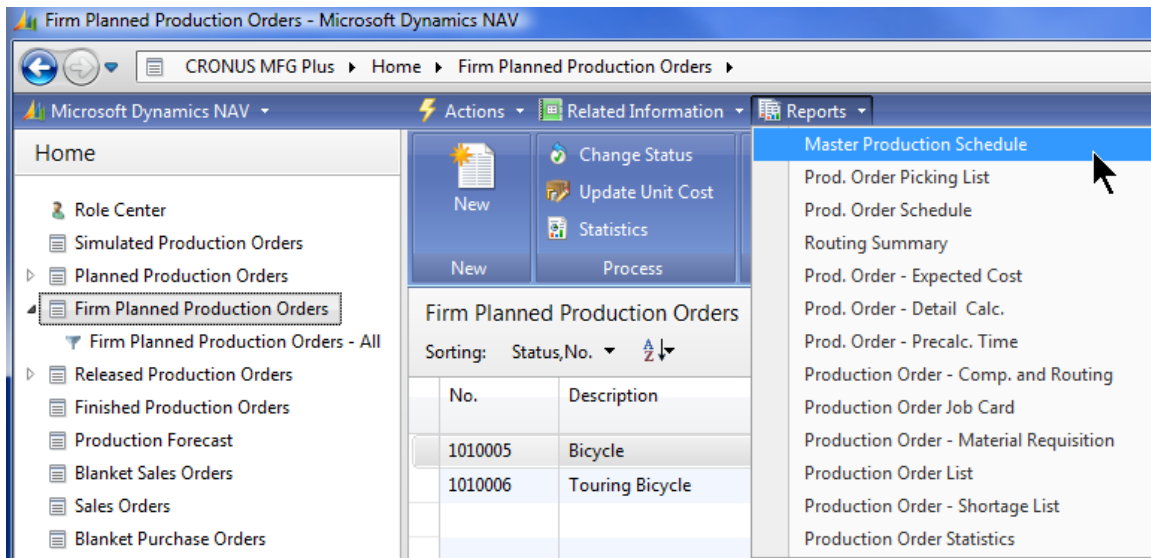
1011001 - Bicycle

	Standard Cost	Expected Cost	Actual Cost	Dev. %	Variance
Material Cost	1,614.98	1,614.99	1,614.99	0	0.01
Capacity Cost	138.00	204.00	204.00	48	66.00
Subcontracted Cost	0.00	0.00	0.00	0	0.00
Capacity Overhead	0.00	0.00	0.00	0	0.00
Manufacturing Overhead	0.00	0.00	0.00	0	0.00
Total Cost	1,752.98	1,818.99	1,818.99	4	66.01
Capacity Need		420	420	0	

Reporting

41. Manufacturing Plus comes with 9 additional reports.

Here is an example of the reports for FPPOs.



Enhanced Single Level (R14004545) and Rolled up Cost Reports (R14004540) (Shown below).

Note: Not all reports have been moved to RTC. We are working on that.

Level	No.	Description	Quantity (Base)	Base Unit of Measure Co	Material Cost	Capacity Cost	Overhead Cost	Total Cost
1000 Bicycle								
1	1100	Front Wheel	1.00	PCS	110.577	24.918	0.00	135.495
2	1110	Rim	1.05	PCS	1.103	0.00	0.00	1.103
2	1120	Spokes	52.50	PCS	105.00	0.00	0.00	105.00
2	1150	Front Hub	1.05	PCS	1.345	11.718	0.00	13.063
3	1151	Axle Front Wheel	1.1025	PCS	0.496	0.00	0.00	0.496
3	1155	Socket Front	1.1025	PCS	0.849	0.00	0.00	0.849
2	1160	Tire	1.05	PCS	1.292	0.00	0.00	1.292
2	1170	Tube	1.05	PCS	1.838	0.00	0.00	1.838
1	1200	Back Wheel	1.00	PCS	105.322	24.36	0.00	129.682
2	1110	Rim	1.00	PCS	1.05	0.00	0.00	1.05
2	1120	Spokes	50.00	PCS	100.00	0.00	0.00	100.00
2	1250	Back Hub	1.00	PCS	1.292	11.16	0.00	12.452
3	1251	Axle Back Wheel	1.05	PCS	0.347	0.00	0.00	0.347
3	1255	Socket Back	1.05	PCS	0.945	0.00	0.00	0.945
2	1160	Tire	1.00	PCS	1.23	0.00	0.00	1.23
2	1170	Tube	1.00	PCS	1.75	0.00	0.00	1.75
1	1300	Chain Assy	1.05	PCS	13.815	0.00	0.00	13.815
2	1310	Chain	1.1025	PCS	2.194	0.00	0.00	2.194
2	1320	Chain Wheel Front	1.1025	PCS	5.138	0.00	0.00	5.138
2	1330	Chain Wheel Back	1.1025	PCS	6.483	0.00	0.00	6.483
1	1400	Mudguard front	1.00	PCS	3.90	0.00	0.00	3.90
1	1460	Mudguard back	1.00	PCS	3.90	0.00	0.00	3.90
1	1600	Lamp	1.00	PCS	5.20	0.00	0.00	5.20
1	1600	Bell	1.00	PCS	2.70	0.00	0.00	2.70
1	1700	Brake	1.05	PCS	10.253	0.00	0.00	10.253
2	1710	Hand rear wheel Brake	1.1025	PCS	4.961	0.00	0.00	4.961
2	1720	Hand front wheel Brake	1.1025	PCS	5.292	0.00	0.00	5.292
1	1800	Handlebars	1.00	PCS	2.12	0.00	0.00	2.12
1	1850	Saddle	1.00	PCS	7.20	0.00	0.00	7.20
1	1900	Frame	1.00	PCS	15.70	0.00	0.00	15.70
Cost Shares for this Item					345.685	0.00	0.00	345.685

Benefits:

- Saves time configuring your new database.
- Statistical Analysis on all data.
- Quick and Easy views into your critical data.
- “Actual Cost” reporting now available on Production Orders. (Vs. Expected Costing only)

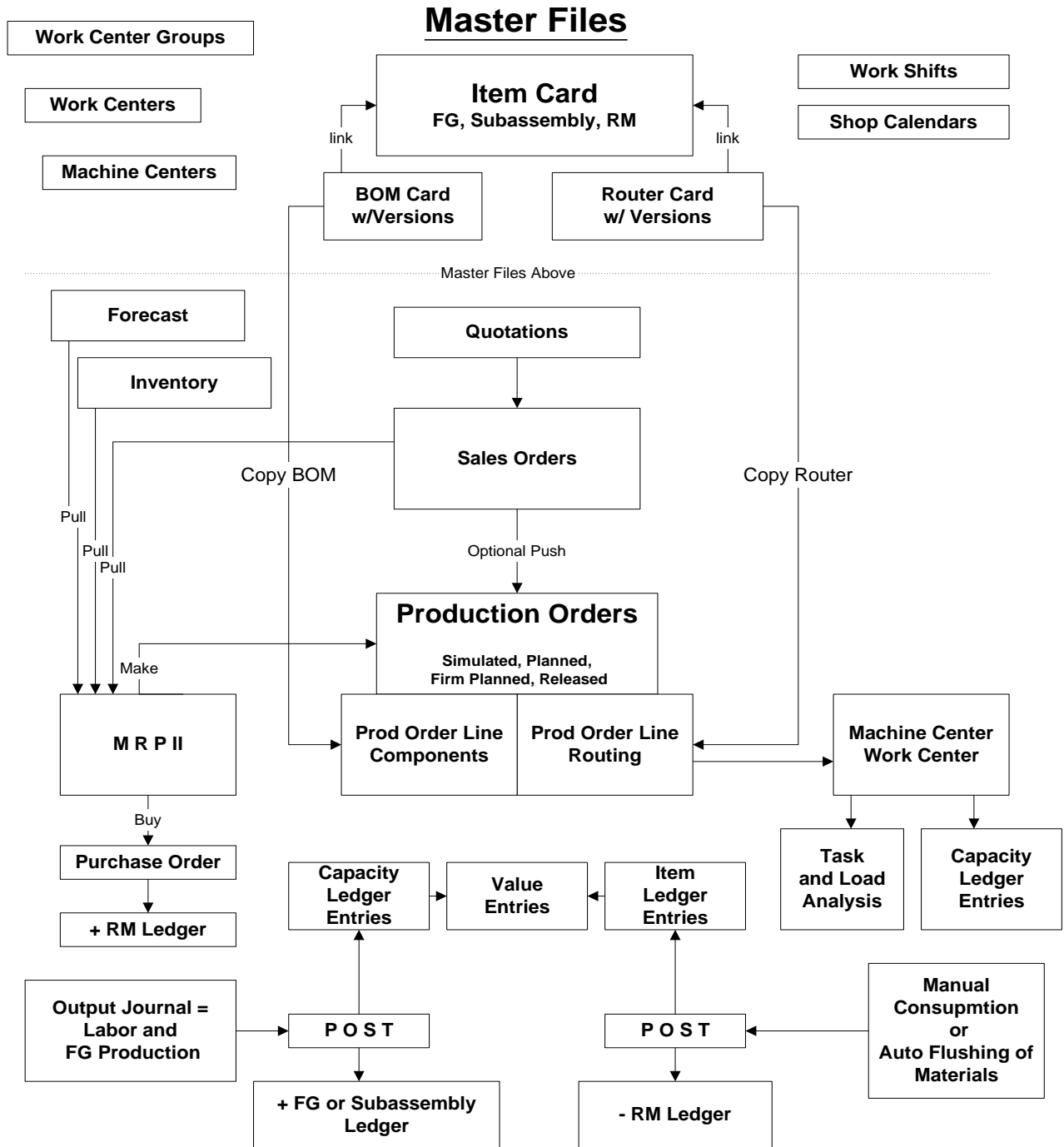
Dependencies:

- Dynamics NAV Manufacturing (all granules to get the most benefit)
- Dynamics NAV Sales & Receivables, Order Management
- Dynamics NAV Inventory

We highly recommend adding the following Granules to compliment the Manufacturing Plus Objects:

- Quality Control
- Business Snapshot Plus
- Pop-up Notes
- Reports Pack (Foundation Reports Pack)

Navision Manufacturing



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For more information please contact the developer:

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