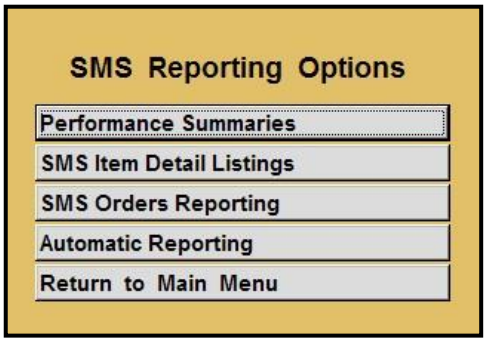
Functional Overview

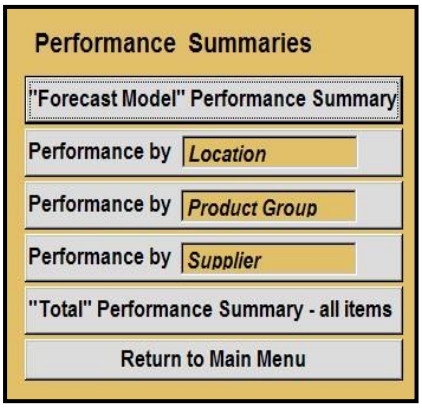
Exception reporting is the feature that sets SMS apart. Fast and effective analysis results in a set of comprehensive databases that can be accessed by over 20 reports. These reports are grouped into three areas: *Performance Summaries*, *SMS Item Detail Listings* and *SMS Orders Reporting*. The results of the SMS Orders Reporting results in a file of calculated replenishment orders that can be sent back to the host in an automated fashion. SMS can usually reduce a week of analysis and order planning to a couple of hours of review at the start of each week.

Each report is shown on screen and can be reviewed in detail before printing. Extensive navigation controls enable the user to scroll to a specific page, print a specific page, select a range of pages to print and even exit without printing anything. Additionally, these reports can be reviewed and printed in a variety of "sort orders" as selected by the user. This makes SMS the most highly effective tool available today to apply exception reporting to the inventory ordering process.

SMS Reporting menus are shown below:



Report examples follow in order of the "sub menus" – *Performance Summaries*, *Item Detail Listings* and *SMS Orders Reporting*. Specific reports are in the order shown in each "sub menu".



Performance Summaries - Forecast Model Summary

This button has no “sub menu” – once clicked, the button produces the report.

Forecast Model Summary

Data Extraction Date: *01-Mar-12* **Print Date:** *18-Apr-13* Page 1 of 1

Forecasted Performance

Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb		
75,268	95,439	52,588	60,894	111,298	113,386	77,637	65,233	72,689	119,779	69,435	75,147	**Year 1**	988,793
77,637	81,578	80,576	99,810	76,483	81,030	83,438	73,334	104,246	86,945	156,387	116,279	**Year 2**	1,117,743
87,692	87,230	88,131	91,468	90,573	90,574	89,924	90,982	93,379	93,052	96,203	96,471	**Raw**	1,095,679
87,692	87,230	88,131	91,468	90,573	90,574	89,924	90,982	93,379	93,052	96,203	96,471	**Adjusted**	1,095,679

Forecast Model Distribution

Model	Forecasting Technique Utilized	Items	Cost	%%	Price	%%
11	Moving Average (3 Month)	2	0	0	0	0
12	Moving Average (6 Month)	133	124,908	22	249,212	22
13	Moving Average (12 Month)	50	37,628	6	74,988	6
	Moving Average Family	185	162,536	29	324,200	29
21	Trend Average (3 Month)	21	103,796	18	207,492	18
22	Trend Average (6 Month)	13	10,943	1	21,828	1
23	Trend Average (12 Month)	5	7,201	1	14,388	1
	Trend Average Family	39	121,940	22	243,708	22
31	Seasonal (No Trend)	16	3,887	0	7,726	0
32	Seasonal (3 Month Trend)	2	11,210	2	22,412	2
33	Seasonal (6 Month Trend)	6	7,053	1	14,080	1
34	Seasonal (Annual Trend)	20	18,802	3	37,532	3
	Seasonal Family	44	40,952	7	81,750	7
41	Exponential Smoothing (A = .08)	7	1,181	0	2,336	0
42	Exponential Smoothing (A = .25)	2	1,575	0	3,144	0
43	Exponential Smoothing (A = .50)	7	4,403	0	8,772	0
	Exponential Smoothing Family	16	7,159	1	14,252	1
51	Linear Regression	116	216,157	39	431,769	39
	Linear Regression Family	116	216,157	39	431,769	39
	Total of All Selected Items	**400**	**548,744**	**100**	**1,095,679**	**100**

Top

- **Data Extraction Date** *Data extraction date (usually same day of processing)*
- **Print Date** *Date the report was actually printed (usually same day of processing)*
- **Page Number** *Current page of total pages (i.e., 13 of 20)*

Forecasted Performance

- **Month Headings** *Three character abbreviations of each month listed (Qtys are @ cost)*
- **Year 1** *(left to right) Monthly history totals with annual total at right*
- **Year 2** *(left to right) Monthly history totals with annual total at right*
- **Raw** *(left to right) Monthly SMS forecasts with annual total at right*
- **Adjusted** *(left to right) Monthly user adjusted forecasts with annual total at right*

Forecast Model Distribution

- **Model** *Model number associated with respective technique (grouped by family)*
- **Forecast Technique** *Description of the model technique for easy reference*
- **Items** *Count of items falling into this forecast technique category*
- **Cost** *Cost of forecast for this forecast technique*
- **% %** *Percentage estimate of number of items in this category (by cost)*
- **Price** *Price of forecast for this forecast technique*
- **% %** *Percentage estimate of number of items in this category (by price)*

Models selected are models SMS will use for forecast projections. This may include “forced” models where the user has specified a specific model or model family. Whenever the user “forces” a model, the possibility exists that this “forced” model will not be the best choice. Statistically, SMS will optimize the entire forecasting process by itself. There may some extenuating circumstances that dictate model “forcing”, but this should be carefully reviewed and controlled by the user. In most cases, a “forced” model is not the optimum model choice.

Performance Summaries – Performance by "XXXXXXXXXX"

There are four of these buttons – each selects the Performance Summary by specified criteria. In each case, the format of the report is identical. There is no "sub menu" – once clicked, the button brings up the report. There are three Key Fields which are sub-categories of items. These are typically location, product line, supplier or other meaningful groupings. These are specified by the user at implementation. The fourth selection would be the "total" summary which provides a summary for all items. This is the most commonly used selection and provides a quick look at the overall inventory status for top management.

Inventory Performance

Grand Total — ***Axletech International***

Data Extraction Date: *01-Sep-15* **Print Date:** *09-Sep-15* — Page 1 of 1

Forecasting — **(@ Cost)**

Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug		Totals
2,414,825	2,443,721	1,833,088	1,949,391	3,029,817	2,447,235	2,462,480	2,590,647	2,257,153	2,762,783	2,421,807	2,657,758	**Year 1**	29,270,705
3,944,642	2,176,253	1,992,699	1,769,738	3,063,622	3,119,566	3,228,904	2,454,583	2,278,938	2,382,690	2,701,451	2,685,953	**Year 2**	31,799,039
1,390,087	1,306,671	1,314,489	1,318,105	1,407,588	1,464,180	1,368,018	1,334,878	1,401,043	1,362,854	1,448,471	1,266,154	**SMS**	16,382,538
1,390,087	1,306,671	1,314,489	1,318,105	1,407,588	1,464,180	1,368,018	1,334,878	1,401,043	1,362,854	1,448,471	1,266,154	**Adjusted**	16,382,538

Safety Stock [1,147,096] + Total Requirement [16,391,548] = TRQ 17,538,644

Investment — **(@ Cost)**

Total Items	*Current Position*	*Investment Range*
68,850	$11,017,828	$9,740,751 Min
% Available: 99%	%: 82.49	$16,971,412 Max

Current Inventory	16,645,926
1/2 EOQ [5,266,277] + Safety Stock [1,147,096] = **Target Investment**	6,413,373
Inventory Imbalance	10,232,553
Potential Savings [or Cost of Additional Investment] @ 10 **% Carrying Cost**	1,023,255

Order Code Distribution — **(# of Items)**

(-4) *Back Order* [No Order]	(-3) *Back Order* [On Order]	(-2) *Shortage* [Expedite]	(-1) *New Order* [On Schedule]	(0) *Balanced* [No Action]	(+1) *Overstock* [No Action]	(+2) *Overstock* [w / Orders]	(+3) *Surplus* [+1 Year]	(+4) *Obsolete* [Inactive]
$2,102,717	$110,758	$1,700,573	$54,786	$128,639	$736,165	$1,661,323	$1,150,773	$4,721,178
90	307	711	10	64,074	286	282	171	2,919
0%	0%	1%	0%	93%	0%	0%	0%	4%

Current Turns: [1.0] Target Turns: [2.6]

Top

- **Data Extraction Date** *Data extraction date (usually same day of processing)*
- **Print Date** *Date the report was actually printed (usually same day of processing)*
- **Page Number** *Current page of total pages (i.e., 13 of 20)*

This section shows standard Stock Management System reports. These reports include:

Forecasting

- **Month Headings** *Three character abbreviations of each month listed (Qtys are @ cost)*
- **Year 1** *(left to right) Monthly history totals with annual total at right (2 yrs ago)*
- **Year 2** *(left to right) Monthly history totals - annual total at right (last year)*
- **Raw** *(left to right) Monthly SMS forecasts with annual total at right*
- **Adjusted** *(left to right) Monthly user adjusted forecasts - annual total at right*
- **Safety Stock** *Safety Stock valuation (@ cost)*
- **Total Requirement** *Total requirement includes projections for item with only safety stock*
- **TRQ** *Sum of Adjusted Forecast and Safety Stock for sporadic forecasts - this includes items with no forecast projection but possibly requiring a usage "hit" sometime in the future (i.e., Safety Stock)*

Investment

- **Total Items** Items downloaded by user – and % of inventory available for use
- **Current Position** Active inventory(@cost) - % of optimal inventory level
- **Investment Range** Minimum inventory needed – and maximum inventory to stock
- **Current Inventory** *Cost of inventory already on the shelf (pre-SMS optimization)*
- **Target Investment** *SMS target inventory [1/2 EOQ + Safety Stock] (post-optimization)*
- **Inventory Imbalance** *Excess investment (or investment shortage)*
- **@ 10% Carrying Cost** *The excess (or shortage) at the user's carrying cost (here it is 10%)*

Order Code Distribution

- **Order Code Category** *Item count (and % distribution) for each Order Code status*
  - **Back-Orders** Orders out-of-stock (needs replenishment)
  - **Back-Orders** Orders out-of-stock (orders already placed)
  - **Shortage** Not enough for lead time horizon
  - **New Order** Planning to run out on schedule
  - **Balanced** No additional orders projected (or needed)
  - **Overstock** More than 1 EOQ at the end of lead time
  - **Overstock w/Orders** More than 1 EOQ and still ordering
  - **Surplus Stock** More than one year's supply of excess
  - **Obsolete** On Hand inventory but no activity last 2 years
- **Current Turns** *Current inventory turns without SMS (user's Stock Status System)*
- **Target Turns** *SMS optimized turns if SMS recommendations are followed*

Item Detail - Forecast Adjustments Report

Forecast Adjustments Report

Data Extraction Date: *15-Apr-13* Print Date: *19-Apr-13* *Page 1 of 2*

Item Group	Product Group	Supplier	Item	Type	Date	Quantity
	CT CUR & NCUR &	21093	E4087754	SM	Sep - 13	94
	CT CUR & NCUR &	22513	E4076042	SM	Apr - 13	18
	CT CUR & NCUR &	22513	E4076042	SM	May - 13	18
	CT CUR & NCUR &	22513	E4076042	SM	Jun - 13	18
	CT CUR & NCUR &	22513	E4076042	SM	Jul - 13	18
	CT CUR & NCUR &	22513	E4076042	SM	Aug - 13	18
	CT CUR & NCUR &	22513	E4076042	SM	Sep - 13	18
	CT CUR & NCUR &	22513	E4076042	SM	Oct - 13	18
	CT CUR & NCUR &	22513	E4076042	SM	Nov - 13	18
	CT CUR & NCUR &	22513	E4076042	SM	Dec - 13	18
	CT CUR & NCUR &	22513	E4076042	SM	Jan - 14	18

There is no “menu screen” – once clicked, the button prints the report.

Top

- **Data Extraction Date** *Data extraction date (usually same day of processing)*
- **Print Date** *Date the report was actually printed (usually same day of processing)*
- **Page Number** *Current page of total pages (i.e., 13 of 20)*

From Left to Right

- **Location** *Highest Level grouping of items (Level 4 could be other grouping)*
- **Product Group** *Secondary Level grouping of items (Level 3)*
- **Supplier** *Tertiary Level grouping of items (Level 2)*
- **Item** *Designator for individual stock item or part (stock-keeping-unit)*
- **Type** *Forecast adjustment type – these are “SA” & “SM” for individual item*

  adjustments – “DA” & “DM” for Level 4 adjustments – “GA” & “GM” for Level 3 adjustments – “LA” & “LM” for Level 2 adjustments

- **Date** *Month and year applicable to the adjustment type*
- **Quantity** *Actual quantity for the adjustment – this is a number for “SA” & “SM”*

Item Detail - Distribution Report for Item: "A1180"

Distribution Report for Item: A1180

Description: A1470 AIR FILTER Cost: 2.89

Data Extraction Date: *01-Mar-12* Print Date: *19-Apr-13* *Page 1 of 100*

Distribution Location	Lead Time	On Hand	Back Orders	Leadtime Forecast	Safety Stock	Order QTY	Minimum QTY	Incr. QTY	Unit Excesses	Existing Orders	New Orders	Expedite Orders
00	18	173	20	87	17	56	12	7	0	0	0	0
10	18	44	20	107	76	64	23	8	0	0	192	128
11	18	21	20	8	2	12	2	6	0	0	12	12
12	18	0	20	0	0	1	1	0	0	0	20	20

There is no "menu screen" – once clicked, the button prints the report.

Top

- **Description** *Description of the item (30 characters)*
- **Cost** *Unit cost of the item (each)*
- **Data Extraction Date** *Data extraction date (usually same day of processing)*
- **Print Date** *Date the report was actually printed (usually same day of processing)*
- **Page Number** *Current page of total pages (i.e., 13 of 20)*

From Left to Right

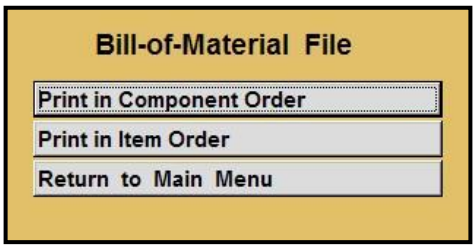
- **Distribution Location** *Warehouse or Plant the item is stored (multiple locations on report)*
- **Lead Time** *Total time (weeks) to replenish stock (includes administration) and/or production time)*
- **On Hand** *Quantity of stock available on the extraction date*
- **Back Orders** *Stock "not available" against customer demand against this item*
- **Lead-time Forecast** *Forecast consumption for the Lead Time weeks horizon - broken down to daily values – then summarized into weekly buckets*
- **Safety Stock** *Safety Stock buffer for forecast error and "criticality" of the item*
- **Order Quantity** *Economic Order Quantity (EOQ) calculated for this item*
- **Minimum Qty** *Minimum Order Quantity specified on user's Stock Status System*
- **Incr. Qty** *Incremental Order Quantity specified on user's Stock Status System*
- **Unit Excesses** *Excess inventory (in units) available after allocating enough stock for lead- time horizon at this location – available for transfer to other locations*
- **Existing Orders** *Outstanding replenishment orders placed – but not yet received*
- **New Orders** *More Orders needed by SMS – place these in addition*
- **Expedite Orders** *Portion of New Orders to be expedited – needed before lead time*

Item Detail – Supersession Listing

This listing is activated upon request. Otherwise, users will already view this file on their existing host system. Only authorized user personnel can modify this file and individual supersession items.

Item Detail – Bill-of-Material Listing

This button invokes a sub-menu screen. Bill-of-Material file listing can be shown in either component order or (parent) item order. Each button selection invokes a "spreadsheet style" listing that can only be viewed (not modified). The host Bill-of-Material file is sent to SMS weekly.



The view window sample below has been selected to be shown in "Item Order". Selecting either "order" brings the same view window. The only difference would be the order of the "Comp" column or the "Item" column.

The view window format is simple. SMS applies the ratio as shown to the Item (parent) and generates the appropriate number of Comp (component) units needed. For example, E112641577 generates a unit for each of 7 Comp (components) as shown in the view. When forecasting the individual Comp (component), SMS forecasts that Comp (component) independantly as a starting point. Remember, some Comp (components) can be sold or used individually. Then SMS generates a replenishment plan for that Comp (component). At that time SMS applies the Item (parent) demand to the weekly demand needed for the Comp (component). This means that the 7 Comp (components) on the right may have both independent demand (in their own right) as well as dependant demand (as part of a "kit" for the Item (parent) part number).

The ratio allows for 9999.00 times as many Comp (components), although this has never been seen thus far. The decimal portion of this ratio is significant since a component may be a fraction (i.e., chemical mixes, decal plates, etc.). These decimals make the SMS Bill-of-Material useful in the chemical industry or for chemical inventories in both manufacturing and/or distribution operations.

Bill-of-Material (Item Order)

Comp	Item	Ratio
E12641576	E112641577	1.00
E12641578	E112641577	1.00
E12641579	E112641577	1.00
E13813526	E112641577	1.00
E13813799	E112641577	1.00
E13814123	E112641577	1.00
E4024829	E112641577	1.00
E12571626	E12571988	1.00
E12571628	E12571988	1.00
E12571629	E12571988	2.00
E12571631	E12571988	1.00
E12571626	E12587771	1.00
E12571629	E12587771	1.00
E12571631	E12587771	1.00
E12626726	E12589457	1.00
E4088214	E12589457	1.00
E12584906	E12591283	1.00
E4016890	E12591283	1.00
E4019708	E12591283	1.00
E4019752	E12591283	1.00
E4200159	E12591283	1.00
E4200162	E12591283	2.00
E4200163	E12591283	2.00
E4200166	E12591283	2.00
E9141911	E12591283	1.00
E9228404	E12591283	1.00

Item Detail – Global Change Listing

This button invokes a sub-menu screen. Global Change listings can be shown by any of the three "key" fields (in this case by Location, Product Group or Supplier). The "key" fields are set by the user and reflect the three key fields in the download file from the host system.

The listing below has been selected by Location. The listing displays all item for this Location – even if one of the three fields has not been global changed.

This listing is in Item order (within the "key" selected). In this case the listing would be in Item order within the Location selected.

Global Overrides by : Location **Processing Date :** *1-Mar -12* **Page 1 of 3**

Location : [10]

Item	Descr	Forecast Used	Forecast Family	EOQ Actual	EOQ Adjusted	EOQ Inc EOQ	EOQ Min EOQ	EOQ Max EOQ	EOQ Wks	Safety Stock Actual	Safety Stock Adjusted	Safety Stock Min SS	Safety Stock Max SS	Safety Stock Wks
A1180	A1470 AIR FILTER	13	10	64	0	8	23	0	52	76	0	0	0	52
A1760	A1447 WLJ5-13-Z40A	51	10	56	0	14	11	0	52					
A1818	A360 FA3454 AIR	13	10	114	0	38	32	0	52					
A6006	HDA5486 FA3101 AIR	32	10	42	0	21	18	0	52					
A7623	FA3251 AIR FILTER MAIN	13	10	98	0	49	34	0	52	30	0	0	0	52
A8504	FA3032 AIR FILTER	21	10	90	0	45	37	0	52	62	0	0	0	52
A8505	FA3263 AIR FILTER MAIN	13	10	204	0	204	49	0	52	125	0	0	0	52
A8513	FA3039 AIR FILTER	12	10	81	0	27	18	0	52	41	0	0	0	52
A8599	AIR FILTER SAFETY	12	10	77	0	77	9	0	52	79	0	0	0	52
C1002	Z79A LUBE FILTER	51	10	112	0	16	24	0	52	85	0	0	0	52
C1004	Z162 PH4731 LUBE	51	10	51	0	17	15	0	52	10	0	0	0	52
C1007	Z371 LO329K LUBE	51	10	162	0	81	81	0	52	111	0	0	0	52

Print Preview 100%

Top

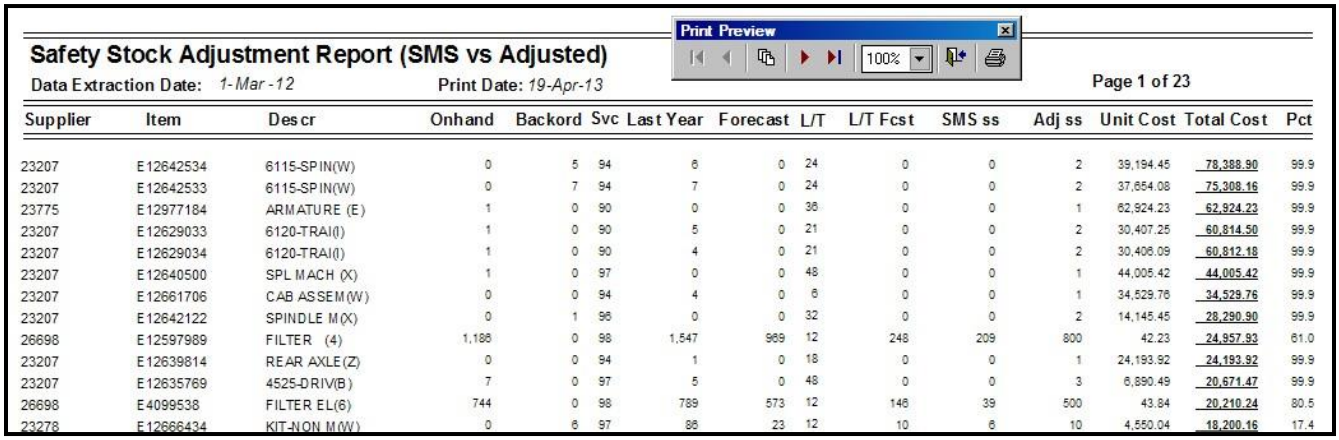
- **Global Overrides by:** *"Key Field" selected to extract – here it is by Location*
- **Print Date** *Date the report was actually printed*
- **Page Number** *Current page of total pages (i.e., 1 of 12)*

From Left to Right

- **Item** *Designator for individual stock item or SKU (stock-keeping-unit)*
- **Item Description** *Description of the item (30 characters)*
- **Forecast - Used** *SMS chosen forecast model selected*
- **Forecast – Family** *Family override (may be zero if no override – available for user override)*
- **EOQ - Actual** *SMS calculated EOQ*
- **EOQ – Adjusted** *User adjusted EOQ (may be zero if no override)*
- **EOQ – Inc EOQ** *Incremental EOQ downloaded from host system*
- **EOQ – Min EOQ** *Minimum EOQ downloaded from host system*
- **EOQ – Max EOQ** *Maximum EOQ downloaded from host system*
- **EOQ - Wks** *EOQ weeks supply (available for global override by user)*
- **Safety Stock - Actual** *SMS calculated safety stock*
- **Safety Stock - Adjusted** *User adjusted safety stock (may be zero if no override)*

Item Detail – Safety Stock Adjustments

This button has no “sub menu” – once clicked, it prints the report.



Print Preview 100%

Safety Stock Adjustment Report (SMS vs Adjusted)

Data Extraction Date: *1-Mar-12* Print Date: *19-Apr-13* Page 1 of 23

Supplier	Item	Descr	Onhand	Backord	Svc	Last Year	Forecast	L/T	L/T Fcst	SMS ss	Adj ss	Unit Cost	Total Cost	Pct
23207	E12642534	6115-SPIN(W)	0	5	94	6	0	24	0	0	2	39,194.45	78,388.90	99.9
23207	E12642533	6115-SPIN(W)	0	7	94	7	0	24	0	0	2	37,654.08	75,308.16	99.9
23775	E12977184	ARMATURE (E)	1	0	90	0	0	36	0	0	1	62,924.23	62,924.23	99.9
23207	E12629033	6120-TRAI(I)	1	0	90	5	0	21	0	0	2	30,407.25	60,814.50	99.9
23207	E12629034	6120-TRAI(I)	1	0	90	4	0	21	0	0	2	30,406.09	60,812.18	99.9
23207	E12640500	SPL MACH (X)	1	0	97	0	0	48	0	0	1	44,005.42	44,005.42	99.9
23207	E12661706	CAB ASSEM(W)	0	0	94	4	0	6	0	0	1	34,529.76	34,529.76	99.9
23207	E12642122	SPINDLE M(X)	0	1	96	0	0	32	0	0	2	14,145.45	28,290.90	99.9
26698	E12597989	FILTER (4)	1,186	0	98	1,547	969	12	248	209	800	42.23	24,957.93	61.0
23207	E12639814	REAR AXLE(Z)	0	0	94	1	0	18	0	0	1	24,193.92	24,193.92	99.9
23207	E12635769	4525-DRIV(B)	7	0	97	5	0	48	0	0	3	6,890.49	20,671.47	99.9
26698	E4099538	FILTER EL(6)	744	0	98	789	573	12	146	39	500	43.84	20,210.24	80.5
23278	E12666434	KIT-NON M(W)	0	6	97	86	23	12	10	6	10	4,550.04	18,200.16	17.4

Top

- **Data Extraction Date** *Data extraction date (usually same day of processing)*
- **Print Date** *Date the report was actually printed (usually same day of processing)*
- **Page Number** *Current page of total pages (i.e., 13 of 20)*

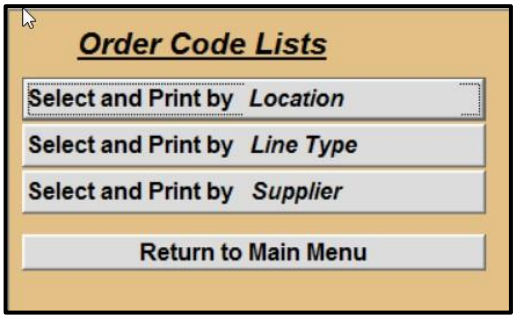
From Left to Right

- **Supplier** *This is the secondary “key field” designator – here is it Supplier order*
- **Item** *This is the part number*
- **Item Description** *Description of the item (30 characters)*

- **Onhand** *Quantity of stock available on the extraction date*
- **Backord** *Quantity of stock needed (sold) but not yet available*
- **Svc** Target customer availability (i.e., in stock 94% of the time)
- **Last Year** *Annual sales during the past 12 month period*
- **Forecast** *Projected annual sales for the coming 12 month period*
- **L/T** *Abbreviation for lead time (in weeks)*
- **L/T Forecast** Projected sales for the coming lead time period (only for lead time)
- **SMS Safety Stock** *The optimal safety stock based on forecast, error and service level*
- **Adj ss** User override – if different then this value is not optimal!!!
- **Unit Cost** Cost for each item (downloaded from host system)
- **Total Cost** This is the difference between SMS vs Adjusted SS (times unit cost)
- **Pct** *The percent change (SMS vs Adjusted values)*

SMS Orders - Order Code Lists

This button invokes a sub-menu screen. Order Code listings can be shown by any of the three "key" fields (in this case by Location, Product Group or Supplier). The "key" fields are set by the user and reflect the three key fields in the download file from the host system.



The screens below will be invoked by clicking the "Supplier" button on the menu shown at left. Any of these buttons invokes yet another sub-level menu that includes two "sort" orders and a "sub-selection" of order categories within each "sort" order. The Order Code List format is the same for any selection made.

This sub-menu has been selected by Supplier. The "key field" was named by the user at the initial implementation of SMS. Supplier is a common use of one of these "key fields" and many companies manage inventory via Supplier categories.

There are two columns – *Sort by Item* and *Sort by Cost*. The former has the advantage of cross checking reports to existing host reports/screens which are typically prepared in item order. The latter has the advantage of showing the most expensive "cost overruns" at the top of each list so that the user can focus on addressing the biggest problems first ("low hanging fruit" approach). We recommend the *Sort by Cost* approach to save time and focus cost savings to the greater excesses. Smaller overruns can be sustained (for example $1.56 is important, but an item excess of $10,437.45 should never be missed).

The button choices in either column are identical. They run from negative (need more orders) to positive (excess and cancel orders). Most users focus on the negative categories first. This keeps item availability higher and ensures that product is available. Positive categories show the result of a planner or buyer procuring too much (just to be sure they do not run out). This practice is costly and usually has a minimal impact on availability. The positive category lists can help the user transfer stock or cancel orders to prevent further excess.

The sample listing on the next page was selected using the *Sort by Cost* criteria and the "*All Negative Codes*" button was clicked. This choice combines all negative codes (Backorders, Expedite Orders and Normal Orders) into one listing. This listing is grouped by Supplier.

Order Code Report - Grouped by Supplier — Print Preview — **Negative Codes**

Data Extraction Date: *1-Mar-12* Print Date: *19-Apr-13* Current Week: 0 — *Page 1 of 7*

Item Number	Item Description	L/T [Weeks]	On Hand	Back Orders	Leadtime Forecast	Safety Stock	Leadtime Orders	Future Orders	Net Balance	Unit Cost	New Orders	Cost Criteria	EOQ Quantity	Annual Usage	Move to Wk#
Supplier: 41															
C1562	Z476 LO1213K OIL FILTER	18	12	6	272	77	0	0	-266	6.41	390	$2,499	78	836	0
SFC5706	P3401 FS1280 FUEL FILTER	18	2	12	240	190	0	0	-250	5.18	480	$2,486	80	539	0
C5722	LF3000 LUBE FILTER	18	0	6	216	89	102	102	-120	8.18	216	$1,766	54	511	0
C1121	Z9 FO1000 LUBE FILTER	18	1,124	25	2,002	217	0	0	-903	1.43	1,176	$1,681	588	5,793	0
C6402	OIL FILTER	18	56	50	549	386	150	150	-393	2.06	800	$1,648	200	1,235	0
O1019	R2391PK LUBE FILTER	18	47	16	282	90	144	144	-107	5.84	276	$1,611	92	786	0
C1701	Z148A LUBE FILTER	18	0	50	456	368	0	0	-506	1.71	910	$1,556	182	916	0
C5703	Z143 LUBE FILTER	18	122	12	318	259	0	0	-208	2.72	500	$1,360	100	652	0
C1110	Z87A PH2834 LUBE FILTER	18	174	50	611	55	0	0	-487	1.88	711	$1,336	237	1,667	0
C1561	Z475 LO1205K LUBE	18	44	6	125	30	0	0	-87	6.87	144	$1,277	48	444	0

Top

- **Data Extraction Date** *Data extraction date (usually same day of processing)*

Top

- **Data Extraction Date** *Data extraction date (usually same day of processing)*

- **Print Date** *Date the report was actually printed (usually same day of processing)*
- **Current Week** *Base line number – relates to "Move to Wk#" on the right for overstocks*
- **Page Number** *Current page of total pages (i.e., 1 of 7)*

From Left to Right

- **Item Number** *Designator for individual stock item or part (stock-keeping-unit)*
- **Item Description** *Description of the item (30 characters)*
- **L/T Weeks** *Total delivery time (weeks) - includes administration, delivery & production time*
- **On Hand** *Quantity of stock available on the extraction date*
- **Back Orders** *Stock "not available" against customer demand for this item*
- **Lead-time Forecast** *Forecast consumption for the Lead Time weeks horizon - broken down to daily values – then summarized into weekly buckets*
- **Safety Stock** *Safety Stock buffer for forecast error and "criticality" of the item*
- **Lead-time Orders** *Orders already scheduled for delivery before(or at) lead time*
- **Future Orders** Orders already scheduled but not expected until after lead time
- **Net Balance** *On Hand - Backorders - lead-time Forecast + lead-time Orders + Future Orders*
- **Unit Cost** *Unit cost per item*
- **New Orders** *Additional replenishment orders needed – rounded to next EOQ value*
- **Cost Criteria** *For negative Order Codes, Cost Criteria is New Orders times Unit Cost*
  For positive Order Codes, Cost Criteria is Net Balance times Unit Cost
- **EOQ Quantity** *The Economic Order Quantity calculated by SMS (may have overrides)*

SMS Orders – Suggested Pending Orders

This button invokes a sub-menu screen. *Suggested Pending Order* listings enable the user to review how much will be spent on each order. This listing is only shown by the top level "key field" (in this case Location). The user can specifiy what the top level "key field" is at initial implementation. The sub-menu is shown below.

In this case, we select the last button "*Only New Orders – Print in Cost Order*".

Any button selection brings the same listing format. Only the specific content and "sort" order vary with each button.

Pending Orders Report - Grouped by Location

Data Extraction Date: *01-Mar-12* Run Date: *19-Apr-13* Page 1 of 11

Item	Description	MM/DD/YY	QTY	Cost	Expedite	Order Code
Location: 00						
C1121	Z9 FO1000 LUBE FILTER	3/01/12	1,764	2,522	1,176	-2
C1562	Z476 LO1213K OIL FILTER	3/01/12	390	2,499	312	-2
C1112	Z334 PH5123 LUBE FILTER	3/01/12	670	1,989	0	-2
C1110	Z87A PH2834 LUBE FILTER	3/01/12	711	1,336	474	-2
C1561	Z475 LO1205K LUBE FILTER	3/01/12	144	1,277	96	-2
C1012	Z372 PH5529 LUBE FILTER	3/01/12	324	1,234	216	-2
O1522	1-13240224-0 LUBE FILTER	3/01/12	192	1,153	144	-2
C1028	Z456 OIL FILTER	3/01/12	844	1,080	422	-2
C1120	Z101 PH2825 LUBE FILTER	3/01/12	696	1,057	522	-2
C5715	OIL FILTER SPIN ON EX C5701-2	3/01/12	168	1,019	112	-2
C1304	Z319 PH5135 LUBE FILTER	3/01/12	156	1,001	104	-3
FC1104	Z252X FUEL FILTER	3/01/12	342	964	0	-2

Top

- **Data Extraction Date** *Data extraction date (usually same day of processing)*
- **Run Date** *Date the report was actually printed (usually same day of processing)*
- **Page Number** *Current page of total pages (i.e., 1 of 11)*
- **Location** *The is the top level "key field" – here is set to Location*

From Left to Right

- **Item** *Designator for individual stock item or SKU (stock-keeping-unit)*
- **Description** *Actual description of the item*
- **MM/DD/YY** *The scheduled date of delivery (past current run date on this report)*
- **Qty** *The amount of the needed order (the total order for each item)*
- **Cost** *Unit Cost times Quantity of the order (i.e., total cost of order)*
- **Expedite** *The portion of the needed order that should be expedited now*
- **Order Code** *SMS Code showing order category (Backorder, Expedite or Normal)*

SMS Orders – Summarized and Centralized Orders

This button invokes a sub-menu screen. *Summarized and Centralized Orders* listings provide a look – by item – into the coming 12 months. This listing summarizes how much will be spent on orders for each item for the next 12 months. This is different from the cost of the coming 12 month forecasts. The sub menu is shown below.

Button selection can be done for the three "key fields" (in this case Location, Product Group and Supplier). Within each grouping of buttons, the user can select reports by item or summaries by grouping. For example, "Total" Item Order – Sort by Cost" will create a listing for each Location showing each item within that Location with monthly totals for each of the next 12 months. Those monthly totals will be the cost of orders for each month.

The Monthly Summary buttons create a lists of monthly inventory "spend" by each Location (for example) rather than individual items. This button is seldom used, but can be useful to gauge the projected cost of inventory in each inventory location.

These listings are utilized for budgetary planning and accounting projections. Weekly ordering and expediting requires more use of the other SMS "working" reports.

The *"Total" Item Order – Sort by Cost* for *Location* has been selected in the example below.

Centralized Monthly Schedule - Grouped by Location

Data Extraction Date: *1-Mar-12* Print Date: *19-Apr-13* Page 1 of 12

Item	Description	Annual Spend	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
Location: 00														
C1112	Z334 PH5123 LUBE	18,304	582	479	583	478	464	583	478	464	597	465	591	294
C1125	Z386 LUBE FILTER	12,381	936	769	938	767	746	937	768	746	960	746	949	472
C1121	Z9 FO1000 LUBE	8,750	538	448	555	461	454	578	480	471	616	485	625	314
FC1104	Z252X FUEL FILTER	8,657	290	238	291	238	231	290	238	231	298	231	294	147
C1032	Z142A / Z79X PH3950 OIL	8,158	571	469	572	469	455	572	468	456	585	455	580	288
C1835	Z416 PH5126 PH9069	5,971	196	161	197	162	157	197	162	158	204	158	201	100
FC1803	Z332 PS5138 FUEL	5,447	174	146	180	148	147	187	156	153	198	157	201	102
C1562	Z476 LO1213K OIL	5,416	72	61	76	63	63	79	67	65	87	67	88	44
C1830	Z436 PH6607 LUBE	5,410	409	336	410	335	326	410	335	327	419	326	415	205
C1028	Z456 OIL FILTER	5,064	374	307	375	306	298	375	306	299	383	298	379	188
C1123	Z418 PH3614 LUBE	4,146	291	244	301	250	245	314	260	255	334	263	339	170
C1012	Z372 PH5529 LUBE	3,741	92	77	93	76	74	93	76	74	96	74	94	46

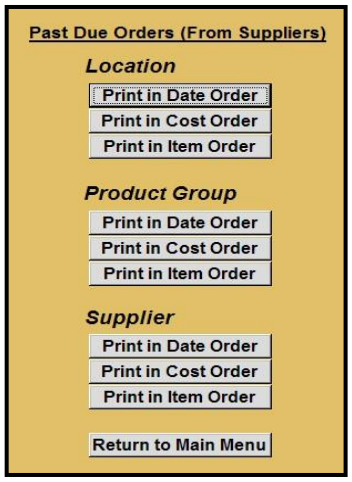
Top

- **Data Extract Date** — *Data extraction date (usually same day of processing)*
- **Print Date** — *Date the report was actually printed (usually same day)*
- **Page Number** — *Current page of total pages (i.e., 1 of 12)*

From Left to Right

- **Item** — *Designator for individual stock item or part (stock-keeping-unit)*
- **Description** — *Description of the item*
- **Annual Spend** — *How much will be spent on this item for the coming 12 months*
- **Months** — *The coming 12 monthly amount projected to be needed*

SMS Orders - Already Placed Past Due Orders Listing



This button invokes a sub-menu screen. These listings identify existing orders that are scheduled to be received into inventory. Frequently these incoming orders are overlooked or simply not recorded as received. This listing is frquently used for cleaning these orders from the host system.

The sub menu is shown on the left.

The listing below has been selected by clicking (within the "Supplier" grouping) the *Print in Date Order* button. This approach has the advantage of seeing the oldest orders at the top of the list. Clearing these old orders becomes much easier in this fashion.

Pending Orders Report - Grouped by Location

Data Extraction Date: *01-Mar-12* Run Date: *19-Apr-13* Page 1 of 11

Item	Description	MM/DD/YY	QTY	Cost	Expedite	Order Code
Location: 00						
C1121	Z9 FO1000 LUBE FILTER	3/01/12	1,764	2,522	1,176	-2
C1562	Z476 LO1213K OIL FILTER	3/01/12	390	2,499	312	-2
C1112	Z334 PH5123 LUBE FILTER	3/01/12	670	1,989	0	-2
C1110	Z87A PH2834 LUBE FILTER	3/01/12	711	1,336	474	-2
C1561	Z475 LO1205K LUBE FILTER	3/01/12	144	1,277	96	-2
C1012	Z372 PH5529 LUBE FILTER	3/01/12	324	1,234	216	-2
O1522	1-13240224-0 LUBE FILTER	3/01/12	192	1,153	144	-2
C1028	Z456 OIL FILTER	3/01/12	844	1,080	422	-2
C1120	Z101 PH2825 LUBE FILTER	3/01/12	696	1,057	522	-2
C5715	OIL FILTER SPIN ON EX C5701-2	3/01/12	168	1,019	112	-2
C1304	Z319 PH5135 LUBE FILTER	3/01/12	156	1,001	104	-3
FC1104	Z252X FUEL FILTER	3/01/12	342	964	0	-2

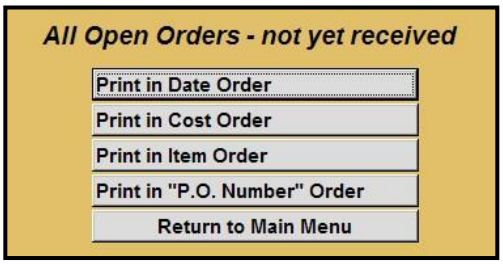
Top

- **Data Extract Date** *Data extraction date (usually same day of processing)*
- **Print Date** *Date the report was actually printed (usually same day)*
- **Page Number** *Current page of total pages (i.e., 1 of 12)*

From Left to Right

- **Item** *Designator for individual stock item or part (stock-keeping-unit)*
- **Description** *Description of the item*
- **Annual Spend** *How much will be spent on this item for the coming 12 months*
- **Months** *The coming 12 monthly amount projected to be needed*

SMS Orders – All Open Orders



This button invokes a sub-menu screen. These listings identify existing orders that are scheduled to be received into inventory. In this case, all incoming orders are shown on the listing. This would include current orders which may not be scheduled until a few weeks ahead.

The listing below was selected by clicking the *"Print in "P.O. Number" Order* button.

Open Replenishment Report - Grouped by Location

Data Extraction Date: *01-Mar-12* Print Date: *20-Apr-13* Page 1 of 4

Item	Location	Description	Date	Quantity	Extended Cost	Order Number
Location: 00						
C5722	00	LF3000 LUBE FILTER	09-Jan-12	24	196.32	C15390
C1835	00	Z416 PH5126 PH9069 LUBE	09-Jan-12	250	715.00	C15722
C1835	00	Z416 PH5126 PH9069 LUBE	09-Jan-12	450	1,287.00	C15994
C5101	00	Z38 2654403 LUBE FILTER	30-Jan-12	25	59.50	C16456
C1007	00	Z371 LO329K LUBE FILTER	30-Jan-12	48	299.04	C16456
O1805	00	R2377P C4706 LUBE FILTER	30-Jan-12	48	120.00	C16456
C6102	00	Z433 LO222K LUBE FILTER	30-Jan-12	24	109.44	C16456
F1507	00	R2607P FUEL FILTER	30-Jan-12	50	70.00	C16456
FC5501	00	Z51 FUEL FILTER	30-Jan-12	60	174.00	C16456
C1125	00	Z386 LUBE FILTER	26-Jan-12	1,000	1,250.00	C16801
C1112	00	Z334 PH5123 LUBE FILTER	26-Jan-12	750	2,227.50	C16801
FC1803	00	Z332 PS5138 FUEL FILTER	26-Jan-12	100	275.00	C16801
C1007	00	Z371 LO329K LUBE FILTER	26-Jan-12	96	598.08	C16801
C1123	00	Z418 PH3614 LUBE FILTER	26-Jan-12	250	312.50	C16801

Top

- **Data Extract Date** *Data extraction date (usually same day of processing)*
- **Print Date** *Date the report was actually printed (usually same day)*
- **Page Number** *Current page of total pages (i.e., 1 of 12)*

From Left to Right

- **Item** *Designator for individual stock item or part (stock-keeping-unit)*
- **Location** *Location (the top "key field")*
- **Description** *Item Description*
- **Date** *Expected delivery date*
- **Quantity** *The amount of the order that is coming in*
- **Extended Cost** *This is the quantity times unit cost*
- **Order Number** *The purchase order number*

SMS Orders - Item Transfer Orders

This button invokes a sub-menu screen. These buttons allow the user to include (or exclude) all orders rather than just transferring only "Backordered" items. Users usually only transfer items that are 'Backordered". This is to avoid transferring too much from a balanced location – only to throw that location into a shortage.

The listing below was selected by clicking the *"Print only "Backordered" Transfers* button.

Stock Item Transfer Report - Grouped By Location

Data Extraction Date: *01-Mar-12* Print Date: *20-Apr-13* Page 1 of 1

Item	Description	Location	From	Amount	Total Cost	Order Code
Location: 11						
C1002	Z79A LUBE FILTER	11	00	60	87.00	-3
C1210	Z125 PH2954 LUBE	11	00	36	50.40	-3
C5704	SPIN ON OIL FILTER	11	00	24	81.12	-3
C8032	Z88A PH46 LUBE	11	00	84	145.32	-3
FC1203	Z262 FUEL FILTER	11	00	54	192.78	-3
Location: 12						
C1002	Z79A LUBE FILTER	12	00	27	39.15	-3
C1004	Z162 PH4731 LUBE	12	10	20	47.20	-3
C1112	Z334 PH5123 LUBE	12	11	207	614.79	-3

Top

- **Data Extraction Date** *Data extraction date (usually same day of processing)*
- **Print Date** *Date the report was actually printed (usually same day of processing)*
- **Page Number** *Current page of total pages (i.e., 1 of 1)*

From Left to Right

- **Item** *Designator for individual stock item or part (stock-keeping-unit)*
- **Description** *Description of the item (30 characters)*
- **Location** *Location to transfer excess stock to (i.e., where it is needed)*
- **From** *Location that has the available excess stock*
- **Amount** *The quantity to be transferred*
- **Total Cost** *Unit Cost times Quantity of the transfer (i.e., total cost of transfer)*
- **Order Code** *Order Code status (for judging how critical the transfer may be)*

Note: Transfers can be done for "All Orders". However, this may introduce an extra cost (of expediting) for items which may only need more stock in a normal manner. If "Back Orders" are selected, then this approach would focus transfer reporting on more critical items needing expedite action to get the stock delivered faster than a supplier.

SMS Orders – "Move-In" Orders

This button has no sub-menu and evokes the listing directly. The "Move-In" Orders Report provides a guide for the user to expedite orders and attempt to move them in closer. This means no additional orders since these items have enough on order – just not scheduled to arrive in time.

"Move-In" Orders Report

Print Preview 100%

SMS Run Date: 1-Mar-12

Supplier: 41

Page 1 of 1

Item Number	Description	On Hand	Back Order	L/T Fcst	Required	Order #	Quantity	From	To Wk#
A6006	HDA5486 FA3101 AIR FILTER	14	4	115	119	A18289	40	13	10
C8014	Z10 FO1025 LUBE FILTER	89	50	689	739	A18289	200	13	10
F1111	R2619P FUEL FILTER	27	50	121	171	A18289	100	13	9
O1522	1-13240224-0 LUBE FILTER	3	10	222	232	A18289	100	13	9
FC1104	Z252X FUEL FILTER	123	25	1,125	1,150	A18289	425	13	10
FC5501	Z51 FUEL FILTER	27	12	311	323	A18289	108	13	9
SFC1904	FUEL FILTER	2	12	313	325	A18289	108	13	9

Top

- **SMS Run Date** *Data extraction date (this should be the date SMS was run)*
- **Supplier** *This report is printed by the level 3 "key field" – usually Supplier*
- **Page Number** *Current page of total pages (i.e., 1 of 1)*

From Left to Right

- **Item Number** *Designator for individual stock item or part (stock-keeping-unit)*
- **Description** *Description of the item (30 characters)*
- **On Hand** *The quantity of stock available*
- **Back Order** *The quantity of stock a customer need, but is not available*
- **L/T Fcst** *The projected forecast needed over the coming lead time*
- **Required** *The quantity of additional stock needed*
- **Order #** *Purchase Order number*
- **Quantity** *Specific portion of total requirement that should be moved in*
- **From** *Which week the quantity is actually in*
- **To Wk#** *The week the quantity should be moved up to*

SMS Orders – "Move-Out" Orders

This button has no sub-menu and evokes the listing directly. The "Move-Out" Orders Report provides a guide for the user to push orders and attempt to move them out into the future. This means slowing unnecessary inventory growth since these items have enough on hand – just not scheduled to arrive too soon.

"Move-Out" Orders Report

Print Preview 100%

SMS Run Date: 1-Mar-12

Supplier: 41

Page 1 of 3

Item Number	Description	On Hand	Back Order	L/T Fcst	Required	Order #	Quantity	From	To Wk#
A6006	HDA5486 FA3101 AIR FILTER	14	4	115	119	A17199	32	2	10
A6006	HDA5486 FA3101 AIR FILTER	14	4	115	119	A17578	52	4	10
A6006	HDA5486 FA3101 AIR FILTER	14	4	115	119	A17930	16	8	10
A7623	FA3251 AIR FILTER MAIN	35	9	59	68	C16801	9	4	17
A7623	FA3251 AIR FILTER MAIN	75	9	247	256	A17578	81	4	13
A7623	FA3251 AIR FILTER MAIN	75	9	247	256	A17930	108	8	13
A8505	FA3263 AIR FILTER MAIN	407	25	388	413	A17578	300	4	26
A8513	FA3039 AIR FILTER R/SEAL	180	25	227	252	A17578	75	4	21
C1007	Z371 LO329K LUBE FILTER	42	6	148	154	C16456	48	5	13
C1007	Z371 LO329K LUBE FILTER	42	6	148	154	C16801	96	4	13
C1007	Z371 LO329K LUBE FILTER	170	6	611	617	A17199	90	2	14
C1007	Z371 LO329K LUBE FILTER	170	6	611	617	A17578	300	4	14

Top

- **SMS Run Date** — *Data extraction date (this should be the date SMS was run)*
- **Supplier** — *This report is printed by the level 3 "key field" – usually Supplier*
- **Page Number** — *Current page of total pages (i.e., 1 of 3)*

From Left to Right

- **Item Number** — *Designator for individual stock item or part (stock-keeping-unit)*
- **Description** — *Description of the item (30 characters)*
- **On Hand** — *The quantity of stock available*
- **Back Order** — *The quantity of stock a customer need, but is not available*
- **L/T Fcst** — *The projected forecast needed over the coming lead time*
- **Required** — *The quantity of additional stock needed*
- **Order #** — *Purchase Order number*
- **Quantity** — *Specific portion of total requirement that should be moved in*
- **From** — *Which week the quantity is actually in*
- **To Wk#** — *The week the quantity should be moved up to*