INDUSTRIAL DATA PROCESSING APPLICATIONS REPORT

Applications: Order Processing & Reporting

Type of Industry: Public Warehousing and Distribution

Name of User: Fleetwing Terminal Corp.
Detroit, Michigan

Equipment Used: GE-115 System

Friden Flex-o-Writers (5)

Synopsis

Fleetwing Terminal is a public warehousing firm, whose largest customer is the Ford Motor Company. Serving as a replenishment warehouse for some 25 Ford Depots, the company is prepared to package and ship about 25,000 short notice items a year, in quantities of one to several hundred. The system assists Fleetwing in keeping track of merchandise shipped and merchandise received at the company's terminals. Turnaround time on orders received has dropped from five days to several hours. Fleetwing can now move rush orders out of the warehouse within the morning of receipt of the order. In computerizing from the original tab system, the terminal company moved to a card system and now operates its GE-115 with random access discs.

Background

Fleetwing Terminal Corp. is the largest public warehousing firm in Detroit with 2-1/2 million square feet of floor space in nine buildings. Approximately 80 employes handle over 111 million lbs. of parts every year. In the past, Fleetwing used tab equipment to process inventory and order data. Glenn R. Berger, executive vice president and general manager of the terminal explains that the change to computerization was due to customers who "...have come to expect the kind of response to demand...and documented reporting that can be provided by a computer." Berger adds that Fleetwing management realized that the transition had to be made from tab equipment to a card-oriented system and then to a disc system. "This was vital because our people had to be trained gradually," he adds.

The GE-115 system includes an 8K central processor, a 60 to 200 card-per-minute card punch, a 600 card-per-minute reader and a 166 line-per-minute printer. The system has now been operating slightly more than two years.

Since the major portion of Fleetwing's work is with Ford Motor Co., the data processing activities reported here will reflect that company's interaction with Fleetwing. Ford items range from distributor wires to automobile hoods. There are more than 40,000 different Ford parts and accessories in the inventory. In a typical year, Fleetwing processes 94,000 shipping orders and handles 4,500 freight card and 8,300 trailers for Ford.

The System

Processing begins when a parts-order-for-shipment is received. Invoices and data cards accompany the transmittal papers. The data cards which are prepared by Ford on a different computer system must be converted to the Fleetwing line-up. Since orders arrive via messenger, mail and TWX lines, a variety arrive without cards. These are keypunched into cards immediately.

Most orders for Ford are already batched when they are received. Only one or two of the Fleetwing terminals handle the Ford orders, so that orders are usually gathered at one location. The terminals maintain duplicate contents; however, Ford keeps track of its supplies and ships from one terminal exclusively. Exceptions are priority items, items which require immediate shipping attention. (These orders must be shipped by 3:30 p.m. if the order is received by noon.)

The converted order cards are passed against the master locator file, stored on disc, which contains warehouse locations by part number. The locations are retrieved by this step and the program prints a picking document. Creation of the picking ticket takes 30 to 90 minutes after the receipt of the cards, depending on the order load. The picking ticket is taken to the warehouseman by messenger.

Meanwhile, a duplicate of the original order card is sent to the warehouse shipping office with a copy of the picking ticket. After the order is picked and loaded on a truck, the picking ticket (showing all picking information, customer order number, part number or description) is matched up with the shipping office copy of the card.

When the items have been picked and shipped, a non-negotiable shipper (an internal document), a bill of lading and a paper tape are created. A shipping clerk uses the Friden Flex-o-writer to type the bill of lading. The heading, date, etc., are typed manually; the order card provides the shipping quantity (if the quantity is the same as that shipped). The card also provides the part number and the document number for other shipping information.

Thus, all pertinent information is simultaneously punched into paper tape by the Flex-o-writer. The paper tape serves as input for the computer to update inventory records. (The master inventory file and the quantative locator file.) The paper tape enters the following shipment information: date, warehouse, account, weight, part number, quantity, billing code, number of pallets, non-negotiable shipper number, trailer number and customer invoice number. This information is the input that creates printed invoices and maintenance of location documents (add and kill sheets used by warehouse personnel to update stock locations). Shipping papers are distributed to Fleetwing customers, to the consignee, to the data processing department and to customer accounts payable to support the computer listing of billings. All shipping paper stays in the shipping office until shipment is actually made.

NON-NEGOTIABLE SHIPPER

PAGE 3 OF 4

SHIP TO
FORD MOTOR CO. 66 DAD
MISCELLANEOUS DEPOTS
HONORAH POOL

DATE ▶ 7/1/69

S 26635

ORDER #

BILL TO
FORD MOTOR CO. 66 DAD
P.O. BOX 3600
HIGHLAND PARK, MICH.

FLEETWING
TERMINAL CORP.
6400 MT. ELLIOTT
DETROIT, MICHIGAN 48211
PHONE (313) 921-9700

P.O. NO.

SHIPPED FROM 1600 CLAY, DETROIT, MICHIGAN

CARRIER NO. WARD ROUTING SEAL

C.O.D. $ AND REMIT TO: CITY STATE

COLLECT ▶ XXX PREPAID ▶ C.O.D. CHARGES PAID BY: CONSIGNEE ▶ SHIPPER ▶

QUANTITY	PART NUMBER		SHIPPER	DEPOT NO.	UNIT	WEIGHT	ACCOUNT CODE	DESCRIPTION
00023	C2VY	5230B	237931	41	000LSE	00276	03	AUTO PARTSNCI.
12	B70	5240A	37933	41	000LSE	00070	03	
00007	B80	5240A			000LSE	00063	03	

NON-NEGOTIABLE SHIPPER

Before the Flex-o-writers, Fleetwing used IBM 826 units, which were combination typewriter-card punches. When the system moved to random access disc, it was more effective to send information through on punched paper tape.

The nine terminals are served by five Flex-o-writers. In several cases, one Flex-o-writer serves its own terminal and one near by.

Stock Receipt

The packing list and freight bills create Fleetwing's inbound warehouse receipt. A control number (via Bates numbering machine) is used to help connect related documents. After stock is unloaded at the Fleetwing terminal and checked and put into the warehouse, a stock locator sheet is forwarded to the warehouse office and matched to inbound documents. Then the warehouse receipt is issued on Flex-o-writer, which produces a related paper tape containing all pertinent information (such as date, part number and weight) for billing, updating the master inventory and quantitative locations. This activity all takes place in the warehouse office.

The punched paper tape is transferred to the computer center where the data is automatically punched into cards, simultaneously an inbound warehouse receipt is prepared.

INBOUND NON-NEGOTIABLE
WAREHOUSE RECEIPT

011812

BILL TO 0741
FORD MOTOR CO. 34 DPD
12723 TELEGRAPH RD.
DETROIT, MICHIGAN

DATE 07/01/69

R 11812

ORDER #

RECEIVED FROM

SAME

FLEETWING
TERMINAL CORP.
6400 MT. ELLIOTT
DETROIT, MICHIGAN 48211
PHONE (313) 921-9700

P. O. NO.

RECEIVED AT 1600 CLAY STREET DETROIT, MICH. 8

CARRIER BILL OF LADING WARD 0000487

PRO # 19920 SHIPPER NUMBER 57145 THEU 58

QUANTITY	PART NUMBER	SHIPPER	DEPOT NO.	UNIT	WEIGHT	ACCOUNT CODE	DESCRIPTION
177	FL 168	057145		001PLT	000000	11	606445
258	B8AZ 9A586E	057146		001PLT	000000	11	606446
99	FL 88	057147		001PLT	000000	11	606447
228	C6OZ 3A635D	057148		001PLT	000000	11	606448
73	FL 64	057149		001PLT	000000	11	606449
200	C5AZ 138013	057150		001PLT	000000	11	606450
	C4TZ 65058				000000	11	

NON-NEGOTIABLE WAREHOUSE RECEIPT

Fleetwing warehousing is on a random locator basis. The master inventory shows the total inventory on hand for given items. It is broken down only by specific warehouses. The quantitative locator file is a separate breakdown of each location and quantity within that location within the warehouse. (See locator report).

There are eight disc files: inventory, customer, in transit, warehouse, open shipper, shipment, receipts and location. They are contained on one disc, and are separate, but are chained together so that one complete disc record or a combination of several records or parts of records may be accessed.

Reports

More than 30 reports are generated for Fleetwing management, on daily, weekly, monthly and a special request basis. Daily reports include:

Billing invoice listing: A list of all the day's inbound and outbound movements, according to invoice, unit and dollar value. This listing serves as an additional record source to trace stock movements in case other records are not available, and doubles as a thorough auditing document for Fleetwing customers.

D.A.D. BILLING INVOICE LISTING PAGE NO.001

CUST ID	WHSE	F.T.C. DOC.NO	DATE	PART NUMBER	RATES OR SHIPR NO	CODE	POUNDS	PALLETS	SPEC
740	1	11768	6/30/69	C7MY 8200A	211081	02		7	
740	1	11768	6/30/69	C6MY 8151A	211081	02		19	
740	1	11768	6/30/69	C4SZ 15500B	211082	02		1	
740	1	11769	6/30/69	C8QZ 16B124B	211080	02		3	
740	1	11770	6/30/69	C6MY 8151A	211079	02		20	
740	1	11770	6/30/69	C7MY 8200A	211079	02		10	
740	1	11771	6/30/69	C4TZ 17757D	211078	02		6	
740	1	11772	6/30/69	C3TZ 8005E	211077	01	10,096		
740	1	11773	6/30/69	C3A7 5246B	211075	05	2,430		
740	1	11773	6/30/69	C3A7 5246B	211076	05	6,030		
740	1	11774	6/30/69	C7TZ 16138A	211073	01	3,712		
740	1	11774	6/30/69	C9A7 16138A	211074	01	3,290		
740	1	11775	6/30/69	C9A7 8200B	211072	02		40	
740	1	11776	6/30/69	C7TZ 13064C	211065	02		5	
740	1	11776	6/30/69	C6D7 5410128A	211066	02		1	
740	1	11776	6/30/69	C8QZ 17766B	211067	02		1	
740	1	11776	6/30/69	C1T7 8190A	211068	02		2	
740	1	11776	6/30/69	C9Z7 16055A	211069	02		2	
740	1	11776	6/30/69	C9WY62405A26A	211070	02		1	
		11776	6/30/69	C8QZ [illegible]	211070	02		1	

BILLING INVOICE LISTING

Shipping and receiving: The previous day's inbound and outbound warehouse shipments are listed and summarized for Ford's Detroit parts depot and Detroit area distribution. These records are used to approximate revenue on a daily basis, and also as a reference if a customer must back-check on activities.

Open shipper: A list of unshipped invoices by date. This report is used to evaluate performance as a check against the customer's records.

No stock: A listing of the orders for shipment for which there is no stock.

Foreman's invoice control: A listing of invoices according to required shipping date and warehouse stock location. This is used by Fleetwing foremen to analyze work loads, prepare stock orders and assign work. It also serves as a control listing.

WEEKLY REPORTS

Locator files: Input data to update locator files is derived from cycle checks, inbound location documents, stock movement reports, inventory and special checks made on specific parts.

LOCATOR BOOK FLEETWING TERMINAL CORPORATION DATE 07/03/69
D.A.D. ANNEX PAGE 0001

PART NUMBER	WHSE	WHS QTY	LOCATION	QTY	LOCATION	QTY	LOCATION	QTY	LOCATION	QTY
C0A725280B70A	01	49	105G12		1A4D05	131				
C7VY53219A00B	01		4B3B05							
C4MY54403A76A	01	33	1A4B05	10	1A4B07	25	1A4D08	18	404G13	
			1A4F10	4						
C5A754423A82A	01		4B6H05							
C5A754425A82A	01	299	105E09	50	4B6F05		1A5E24			
C1D759291A33A	01	360	* 1A5F11		105E10					
C1AB59405A26C	01	93	105D13							
C1AB62279A65D	01	15	104D07							
[illegible]	01									

LOCATOR BOOK

Stock status: Quantity is determined from inbound and outbound documents.

D.A.D. STOCK STATUS REPORT CLAY ST AS OF 06/16/69 PAGE 92

PART NUMBER		DATE	WHSE	F.T.C. DOC.NO.		CUSTOMER DOC.NO.	QUANTITY
C9OZ	8200A	6/02/69	01	R	11181	210669	432
C9OZ	8200A	6/02/69	01	R	11181	210670	384
C9OZ	8200A	6/07/69	01	R	11312	210764	240
C9OZ	8200A	6/13/69	01	R	11363	210803	192
						BALANCE	2,784
C9T7	8200A						765
C9T7	8200A	6/02/69	01	R	11186	210677	300
C9T7	8200A	6/03/69	01	R	11217	210702	270
C9T7	8200A	6/10/69	01	S	25139	234780	4-
						BALANCE	1,331

STOCK STATUS REPORT

Walkoff or Cycle check: This is a second update of locator files based on warehouse information other than inbound and outbound documentation.

Warehouse Labor Analysis: Comparison of labor cost and revenue for each warehouse.

MONTHLY REPORTS

Ledger: All Fleetwing subsidiary ledgers are prepared by the computer. (For instance, the cash disbursement purchase and sales journal). Profit and Loss statements are computed and printed for each building from input based on revenue and expense documents.

SPECIAL REPORTS

Sales Analysis Year to Date: Summarized revenue by warehouse for the year, and provides statistical data on receivals and shipments. Indicated revenue sources and volume of work in each of the warehouses.

Evacuation Control: A special control listing for Ford's national parts depot operation including part number, quantity to be shipped, quantity on hand, location and shipper number of all parts.

Inventory vs. Locator File: This information is provided to the Ford Motor Co. on request. It "purifies" the locator data and indicates the scope of "lost" stock by providing a listing of part numbers where stock is listed but no location is shown, and where locations are shown but no stock is indicated.

Results and future plans

Most recently added to Fleetwing's system are paper tape and random access disc capabilities. This is because the company's final goal is to transmit order information directly from the customer to Fleetwing's data processing center, and from there to the firm's nine warehouses. This will eliminate the transmission and carrying of invoices and data cards. Parts-order-for-shipment information will be transmitted directly from the customer into the GE-115 computer.

According to Fleetwing, the system has most improved the time required between the receipt of an order and shipment. Before, an average of five days was required. Now, orders are processed and shipped within 24 hours.

The system provides faster identification of stock location, better cost evaluation and control, quicker response to customer inquiries, more detailed and timely documentation, and has doubled Fleetwing's peak-volume handling capabilities.