

# INDUSTRIAL DATA PROCESSING APPLICATIONS REPORT

**Applications:** Data Collection  
**Type of Industry:** Truck Sales and Service  
**Name of User:** Mack Trucks  
Allentown, Pa.

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**Equipment Used:** Addo-X adding machine/tape punches  
IBM System/360 Computers  
(at Service Bureau Corp. service centers)

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## Synopsis

Mack Trucks and the Mack branch offices needed a uniform accounting system to capture and process data consisting of such items as cash receipts, payment records, and various office accounts and accounts payable. It was decided that the previous accounting functions, using bookkeeping machines and ledger cards were inadequate. In finding both solutions to these accounting problems and new operating methods, Mack called upon the talents of Service Bureau Corp. and Addo-X. The trio devised both testing methods and an appropriate cooperative plan to unify and operate Mack's accounting system.

Mack Trucks, a major truck manufacturer, Addo-X and Service Bureau Corp. pooled resources to solve the problem of how to provide control over accounting requirements and data from the Mack branch offices.

Data to be collected consisted of such items as cash receipts for used and new trucks, records of payment for parts sold, retail counter sales, new and used truck inventory, warranty claims, cash receipts, general ledger reports, home office accounts and various accounts payable. Mack Trucks wanted an automated accounting system and uniformity of computer input, work schedules and forms.

Uniformity was a special challenge, as some 61 company-owned branch and sub-branch sales and service locations throughout the U.S.A. and Canada each deal with independent sets of information which must get to headquarters each month.

Though Mack Trucks maintains its own data processing center, the company considered assistance from Service Bureau Corp. and Addo-X for several reasons: the range of knowledge and equipment afforded by the other firms was one; and especially useful for Mack's purposes, SBC had already debugged and tested a system and had installed it in other companies.

Previously, the Mack accounting functions were performed manually on bookkeeping machines using ledger cards. Each month, handwritten reports were submitted to corporate headquarters in Allentown, Pa.

### THE SYSTEM

The three-part cooperative plan called for Service Bureau Corp. to provide an existing computer system specially designed for automotive dealers, while Addo-X furnished a 10-key adding machine/tape punch combination with an interchangeable program card providing sequence checks and control totals which could handle the input requirements. Mack had, of course, the input which included information such as branch number, the date and source of information (type of transaction) document number, reference number, cost of service, line number (account number) and the dollar amount of the entry.

Mack spent some time looking at installations and speaking to users of Addo-X equipment. Then, Mack, Addo-X and SBC spent six months redesigning forms, writing new computer and tape punch programs for IBM 1401 and System/360 computers at Service Bureau Corp. offices throughout the country.

"Mostly, we made sure that all the Mack requirements would be met to provide a complete corporate general ledger accounting system for our U.S. and Canadian branches," says R. G. Leugers, Mack controller. To get everybody into the act who would be dealing with the equipment, seminars were held for branch and regional personnel. The seminars were scheduled in Allentown, Pa., New York City, Chicago, San Francisco and in five other regional locations. In attendance at each was the local Mack office manager, representatives from the SBC office from that region, and a representative of Addo-X. The Mack managers were expected to learn the system and use the equipment. Addo and SBC personnel later taught the system to the Mack employees who would be using it.

"This way," explains Sheldon Kurtz, Addo's Eastern regional sales manager, "the Mack office manager was ahead of the game. And, the response to the seminars, in general, was excellent."

A three-month test was performed--and observed--before the final commitment and system installation.

MACK TRUCKS

|                                  |          |        |                         |  |   |
|----------------------------------|----------|--------|-------------------------|--|---|
| BRANCH NO. 1320                  |          | 4 21 A | NEW TRUCK SD            |  |  |
| DATE/SOURCE 19 66                | MO R 18  | 4 24 B | 08 - NEW VEHICLE RETAIL |  |   |
| DOCUMENT NO. (INVOICE NO.) 156   | 10 09/13 | 4 28 C | 09 - NEW VEHICLE DIST.  |  |   |
| REFERENCE NO. (VEHICLE NO.) 1441 |          | 4 31 D | 13 - VEHICLE LEASE      |  |   |

  

| NO./ACCT.                 | COST     | LINE | AMOUNT   |    |
|---------------------------|----------|------|----------|----|
| 3000 RET HWY              | 15738.60 | 3010 | 17060.14 | E  |
| 3001 OFF H RET            |          | 3050 |          |    |
| 3002 FIRE RET             |          | 3080 |          |    |
| 3500 DIST HWY             |          | 3110 |          |    |
| 3501 OFF H DIST           |          | 3060 |          |    |
| 3502 FIRE A DIST          |          | 3090 |          |    |
| 3020 FREIGHT              |          | 3160 |          |    |
| 3029 FUEL FOR DEL         |          | 3170 | 50.00    | G  |
| 2082 SUR. CHARGE          |          | 2120 | 1456.86  | J  |
| 2093 STATE TAX            |          | 214A |          |    |
| 2093 CITY SLS. TAX        |          | 214B |          |    |
| 2100 ALL SLS COMM         |          | 2210 | 556.15   | L  |
| 2101 ALL SLS OC           |          | 2220 | 111.23   | M  |
| 1-11 COMM NV              |          | 6020 | 667.38   | N  |
| 2234 LOC COST             |          | 2460 | 1170.00  | S  |
| 2310 H.O. CONTRACT        |          | 254A | 16481.16 | U  |
| 2310 H.O. LOCAL COST      |          | 254B | 1170.00  | W  |
| H.O. V.L. DIME            |          | 254C |          |    |
| 2310 H.O. SPEC ALLOW      |          | 254D |          |    |
| 2310 HOME OFF.            |          | 2540 |          |    |
| 4003 SPEC ALLOW           |          | 5040 |          |    |
| 4018 VOL. DISCT. NEW VEH. |          | 5090 |          |    |
| 4503 SP AL DIST           |          | 5050 |          |    |
| 1120 ACC. REC.            |          | 107A |          |    |
| 1345 USED TRADE           |          | 1170 |          | AC |
| 1130 ACC. REG. TRUCK      | 3360     | 1080 | 2085.80  |    |

  

|    |          |    |
|----|----------|----|
| A  | 13.20    | 4  |
| B  | 818.08   | 4  |
| C  | 1.56     | 4  |
| D  | 14.61    | 4  |
| E  | 15738.60 | 4  |
| F  | 3.17     | 4  |
| G  | 50.00    | 4  |
| H  | 5.00     | 4  |
| I  | 2.21     | 4  |
| J  | 1456.86  | 4  |
| K  | 2.21     | 4  |
| L  | 556.15   | 4  |
| M  | 111.23   | 4  |
| N  | 667.38   | 4  |
| O  | 1.17     | 4  |
| P  | 2.22     | 4  |
| Q  | 111.23   | 4  |
| R  | 6.02     | 4  |
| S  | 667.38   | 4  |
| T  | 2.46     | 4  |
| U  | 1.17     | 4  |
| V  | 2.54     | 4  |
| W  | 1.17     | 4  |
| X  | 2.54     | 4  |
| Y  | 1.17     | 4  |
| Z  | 2.54     | 4  |
| AA | 3.36     | 4  |
| AB | 1.17     | 4  |
| AC | 2.08     | 4  |
| AD | 5.84     | 4  |
| AE |          | 4  |
|    |          | KC |

DOCUMENTS SUCH AS THIS ARE PREPARED DAILY BY CLERKS AT THE MACK BRANCH OFFICE. THE HARD COPY AUDIT TRAIL IS THE COLUMN ON THE RIGHT. THE LETTER CODE SHOWS THE SOURCE OF THE INFORMATION PUNCHED INTO PAPER TAPE.

System Operation

Operation of the system begins with coding preprinted source documents coordinated with the Addo-X input instructions. These documents are precoded to provide both a one-time entry of money transactions along with the necessary operator instructions to ensure clean input.

Next, each accounting document is proofed, and each branch schedule report is matched with the branch's trial balance. If these schedules do not tie in with the trial balance, that is, if one does not prove to the other, the home office writes or calls the branch for an explanation. The system enables the branch to verify the accuracy of its input which is then punched into paper tape on the Addo-X machine. The punched paper tape from the branches produced by the previous operation is sent to the local Service Bureau Corp. centers. There, the tape is run

MACK TRUCKS

against their programs to produce all journals, subsidiary schedules, accounts receivable analysis, statements, the trial balance and the general ledger. These reports are sent to each Mack sales and service branch for adjustments, if necessary. After the work has been reviewed locally, the reports are sent to Mack's accounting headquarters to be included in corporate records.

**Mack TRUCKS**

RECEIVED FROM **SHANNON INDUSTRIES** ADDRESS \_\_\_\_\_ YR. \_\_\_\_\_

CRV No. \_\_\_\_\_

\$ CASH \_\_\_\_\_ \$ M.O. \_\_\_\_\_

CHECKS DRAWN ON BANK NO. **5544 WASHINGTON TRUST CO 5544**

TO BE APPLIED TO ACCOUNT OF \_\_\_\_\_ AS FOLLOWS:

DEPOSIT - CHASSIS \$ \_\_\_\_\_ INSTALLMENT ACCOUNT \_\_\_\_\_

DELY. PYMT - CHASSIS \$ \_\_\_\_\_ CHASSIS No. \_\_\_\_\_ DUE \_\_\_\_\_ PRIN. \_\_\_\_\_ INT. \_\_\_\_\_ FEES \_\_\_\_\_

PARTS - SERVICE ACCOUNT \$ **5544** \_\_\_\_\_

CHANGE ON CHECK a/c \$ \_\_\_\_\_

SIGNED: \_\_\_\_\_

MAC 501

BRANCH NO. 1320

DATE/SOURCE **8/25** 02

DOCUMENT NO. **213**

REF. NO. **13970**

| NO/ACCT.       | LINE | AMOUNT      |
|----------------|------|-------------|
| 1120 AC REC    | 107A | 5544        |
| 1130 TR AC REC | 1080 |             |
| 2310 MACK FIN  | 2540 |             |
| 2310 TRUCK A/C | 2540 |             |
| 2310 MO        | 2540 |             |
| NON-ADD        | 1    | SUB TOTAL 5 |

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**Mack TRUCKS**

RECEIVED FROM **U. S. PLYWOOD CORP** ADDRESS \_\_\_\_\_ YR. \_\_\_\_\_

CRV No. \_\_\_\_\_

\$ CASH \_\_\_\_\_ \$ M.O. \_\_\_\_\_

CHECKS DRAWN ON BANK NO. **1601 FIRST NATIONAL BANK 1601**

TO BE APPLIED TO ACCOUNT OF \_\_\_\_\_ AS FOLLOWS:

DEPOSIT - CHASSIS \$ \_\_\_\_\_ INSTALLMENT ACCOUNT \_\_\_\_\_

DELY. PYMT - CHASSIS \$ \_\_\_\_\_ CHASSIS No. \_\_\_\_\_ DUE \_\_\_\_\_ PRIN. \_\_\_\_\_ INT. \_\_\_\_\_ FEES \_\_\_\_\_

PARTS - SERVICE ACCOUNT \$ **16.01** \_\_\_\_\_

CHANGE ON CHECK a/c \$ \_\_\_\_\_

SIGNED: \_\_\_\_\_

MAC 501

BRANCH NO. 1320

DATE/SOURCE **8/25** 02

DOCUMENT NO. **214**

REF. NO. **4315**

| NO/ACCT.       | LINE | AMOUNT           |
|----------------|------|------------------|
| 1120 AC REC    | 107A | 16.01            |
| 1130 TR AC REC | 1080 |                  |
| 2310 MACK FIN  | 2540 |                  |
| 2310 TRUCK A/C | 2540 |                  |
| 2310 MO        | 2540 |                  |
| NON-ADD        | 1    | SUB TOTAL 3/2 27 |

THE ACCOUNTS RECEIVABLE CHECK VOUCHER FORM IS PREPARED WITH THE OTHER DOCUMENTS IN THE MACK BRANCH OFFICES. THE SAME "AUDIT TRAIL" METHOD IS USED.

Every company-owned sales and service branch with the exception of certain tiny sub-branch levels maintains Addo-X tape punches. In all, 50 machines are used. Mack management feels that the system has eliminated peak loads by making all forms, input and work schedules uniform. This uniformity has eliminated many steps--wherein information would have to be interpreted before processing could begin. Thus, the local Mack Trucks' office manager can more easily control his branch accounting than, as in the past, having to concern himself to a large degree with preparation of reports.

Standardization at the branch level has smoothed activity at headquarters, and in keeping with a planned schedule of daily tape punching, the end-of-month work load that existed at Mack has been greatly reduced.

Results and Future Plans

Mack is pleased with the initial results. Controller Leugers adds that Mack plans to continue adding procedures to increase accounting and inventory control phases of Mack Trucks' operations: "At some future date, the general ledger system will be tied in with inventory control. Our inventory control system, 'AIM,' is not ready for that link-up yet. We think 'MAC' accounting and 'AIM' are two of the most advanced in their fields applicable to our industry."