Application of dBASE IV to the Production scheduling System at Sea Ray Boats, Inc.

Julia L. Morse

University of Tennessee - Knoxville

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Application of dBASE IV to the Production Scheduling System at Sea Ray Boats, Inc.

Presentation of Tennessee Scholars Senior Project

by Julia L. Morse

May 3, 1993

Industrial Engineering Conference Room

University of Tennessee, Knoxville
Acknowledgements

I wish to thank the following persons for contributions related to this project:

Mr. David Conley, Engineering Manager, and Ms. Marie Sharpe, Office Assistant, of Sea Ray Boats, Inc., Knoxville, Tennessee.

Dr. W.W. Claycombe for arranging the initial cooperative project with Sea Ray Boats.

Dr. E.L. DePorter for sponsoring my continuation of this work as an independent project.

Danny Bradshaw, Robert Osborne, and Jamie Pittman, who, as the other members of the group project team, helped examine the facility’s production scheduling system, define goals, and explore software alternatives. Mr. Osborne provided additional assistance in debugging the dBASE application program.
APPLICATION OF dBASE IV TO THE PRODUCTION SCHEDULING SYSTEM AT SEA RAY BOATS, INC.

I. The Production Scheduling System at Sea Ray Boats, Inc.
   A. Production Lines
   B. Schedules
      1. Lamination
      2. Assembly/Woodshop Assembly

II. Automating the Scheduling System (Group Project)

III. Further Program Development
   A. Goals for a Friendlier, More Flexible System
   B. Actions Taken

Appendix A: Using the Schedule Program: An Operator’s Guide
Appendix B: Screen Options Flowchart for Schedule Program
Appendix C: Notes for Advanced Program Maintenance (Including file descriptions, program module schematic, hard copy of schedule programs)
Introduction

In September, 1992, I participated in an Industrial Engineering small-group project. We were introduced to the production scheduling system at Sea Ray Boats facility in Knoxville, Tennessee, and were assigned the task of computerizing some of the scheduling system. We presented a dBASE IV scheduling applications program on December 10. Because this initial program had room for improvement, I accepted the task of further developing its flexibility and ease of use.

Statement of Project Originality

I have taken what had its roots as a group project and expanded upon it. All work on this project following the presentation of the initial application program on December 10, 1992, is entirely my own. Furthermore, the selection of the dBASE software package and all dBASE programming--including program logic, procedures, and menu design--were my contributions to the group project. Therefore, the entire application program is my own work.

All members of the Fall 1992 project group are aware that I have taken on the further development of this application program as my own personal project, and they have given me their consent.
The Production Scheduling System at Sea Ray Boats

A simple schematic of the relevant production processes are depicted in Figure 1. Lamination is the process in which the fiberglass boat hulls are produced. Because of the limited number of molds available for each model, all models are run through this line in a rotating order. The lamination schedule is carefully made so that the order of model numbers will provide the assembly lines with a continuous supply of the hulls they require.

Assembly lines are divided into three different product lines. Three woodshop assembly lines provide the main assembly lines with such items as cushioned seats, etc. A The woodshop router area feeds both woodshop assembly and lamination. Because of the complicated nature of scheduling this area to feed both lines, the router schedule was not considered for inclusion into the automated scheduling system.

Figure 2 is an example of the lamination schedule. All other production schedules are based on this schedule. Each boat is identified by its model number and its hull number. Color and engine specifications are included so that each boat can be built with the appropriate features.

Boats are placed on the assembly schedule, Figure 3, such that the hulls will be ready at that time. Since the assembly lines are fed by woodshop assembly products, the woodshop assembly schedule is based on the lamination schedule as well, even though the woodshop assembly process does not depend on having a hull as one of its component parts.
Figure 1. Production Schematic (Processes Considered for Scheduling Automation)
## Lamination Schedule

**September 28, 1992**

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**NOTES:**
- **(I/B)** = INBOARDS
- **(V/D)** = V-DRIVES
- **(I/O)** = STERN DRIVES

**LAM STARTS:** 25

**RACK COUNT:** 25

**THUR:**

270DA 270WE 290DA 300DA 300WE 330DA 330EC 310SS
4 2 6 3 3 5 1 1

**Figure 2. Example of Lamination Schedule (Original)**
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Figure 3. Example of Assembly Schedule (Original)
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Figure 4: Example of Woodshop Assembly Schedule (Original)
Automating the Scheduling System

Our goal was to develop a computer application that would partially automate this scheduling system. Key requirements for this program were that it be user-friendly and flexible enough to accommodate changes in the manufacturing environment, including:

- Number of boats produced per week
- Stations on each assembly line
- "Roll times" (scheduled times for boats to advance to the next station)
- Standard model numbers dedicated to each line
- Order of boat models on lamination schedule

After initial efforts with Lotus 1-2-3, we determined that spreadsheet applications could not give us the flexibility, nor the ease of use we required. At this point, I suggested that we develop a dBASE applications program which would print out the desired line schedules, but also allow user interface to facilitate adjustments in standard schedule format.

The program which I developed constructed assembly and woodshop assembly schedules from lamination schedules input into database files. Other files held assembly station names and roll times; these define the rows and columns required when the schedule is built. The program pulled boats with the appropriate model numbers from the lamination queue and placed them on the assembly schedule after verifying which boat should be placed first on the schedule. All other boats were checked with placement on the lamination schedule before being placed on the assembly schedule. These checks prevented boats from being scheduled before the hulls might actually be ready for assembly.

A sequence of menus was set up to guide the user in inputting the necessary data into
**LAMINATION SCHEDULE**

(1/28/92)

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### Line #1 Assembly Schedule

for week starting 10/05/92

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STA_1_AS

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3          Hull 2       Deck 2
4          3rd Station  
5          4th Station  
6          5th Station  
7          6th Station  
8          Test Tank    
9          In           Process
10         Final        Finish

TIM_1_AS

Record#   DAY       START_TIME       FINISH_TIME    LAMLIMIT
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2          Mon       10:00          2:30           15
3          Mon       2:30           8:00           17
4          Tue       8:00           12:30          19
5          Tue       12:30          4:30           22
6          Wed       6:00           10:00          23
7          Wed       10:00          2:30           25
8          Wed       2:30           8:00           28
9          Thu       8:00           12:30          32
10         Thu       12:30          4:30           34

AS1_VARS.MEM

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MEMHULL    priv C "1274"           B:TEMP2.prg
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MEMHULN    priv C "1279"           B:TEMP2.prg
MEMDATE    priv D 10/05/92         B:TEMP2.prg

5 variables defined,       37 bytes used
251 variables available,   5963 bytes available
the database and in selecting the desired schedules for output. Therefore, the only knowledge of dBASE IV required of the user is an understanding of data-entry and editing commands within these menus, plus knowledge of how to start-up the application.

This initial scheduling program accomplished its task: it produced assembly schedules and it provided inherent flexibility. However, procedures necessary to implement flexibility were somewhat complicated and time-consuming. Because Sea Ray was currently undergoing changes in production standards, the implementation of this program was extremely difficult.

I therefore took on the task of attempting to develop the program to be more flexible and straight-forward.
Further Program Development

Goals for Implementing a Friendlier, More Flexible System

In the continued development of this program, goals emphasized increasing program reliability and ease of operation in the face of fluxuating production flow and other production standards. Targeted efforts included:

- Streamlining process for making changes to the standard schedule format (station names and roll times)
- Establishing a more straightforward and reliable method of assuring that the boat is not placed on the assembly schedule until the hull is ready.
- Orienting the program for operation by an office assistant.
- Training office assistant to use the program to generate assembly line schedules.
- Developing a program manual to provide:
  (a) Program usage instructions.
  (b) A guide for engineering to facilitate further program development.

Actions Taken in Addressing Goals

(1) Streamlining process for making changes to the standard schedule format (station names and roll times)

- Added "insert" option at the edit menu to allow easier addition of stations or roll times.
- Eliminated the need to establish appropriate "limit" values for each roll time (a result of item (2), discussed below).

(2) Establishing a more straightforward and reliable method of assuring that the boat is not placed on the assembly schedule until the hull is ready.

This problem had been previously addressed by associating "limit" values with each "roll time" row in the assembly schedules. These limits, saved in the roll time format files, referred to the latest spot on the lamination schedule where the hull can be scheduled in order for that boat to be placed on the assembly schedule at that roll time.
If the hull for the next boat available to be scheduled for assembly would not be ready at that roll time, a blank space would be "scheduled" at this time; the program would not place a boat on the schedule unless the hull would be ready at that time.

Without this feature, the next boat in the queue would be placed on the schedule, regardless of whether the next hull would actually be ready at that time.

This feature worked smoothly under normal production, but, with changing numbers of boats produced per week and consequent adjustments in roll times, the "limit" values had to be readjusted with each change. Built-in interpolation of the limit values based on the number of boats on each lamination schedule was a partial and misleading solution; the program had no way of determining whether roll times had been adjusted to the number of boats on the lamination schedule. A set of "universal" limit codes, which would refer to specific time of week on the lamination schedule regardless of the number of boats scheduled, could have overcome this problem, but would have further complicated the assigning of limit values, the meaning of which was already less than obvious to the user. Furthermore, the office assistant assigned to operate this program did not have the process knowledge necessary to make decisions regarding appropriate limit value.

The end effect was that, under changing production flows, attempts to make compensating adjustments were difficult, making these boat placement verification checks unreliable. Blank spots would surface inappropriately into the printed schedules.

Because the program is based on the simple hull lamination queue, the problem in verifying placement of boats on the assembly schedules stems from the difficulty in associating specific lamination times to boats placed in the queue. This problem could have been addressed by assigning boats from the lamination schedule to defined time blocks. However, this would have necessitated extensive changes in the basic structure of the program. Sea Ray personnel were already quite satisfied with the schedules produced, asking only that the problem of blank spaces inserted into the schedules be eliminated.

In the interest of time, we considered the fact that the boats on the lamination schedule are deliberately scheduled such that assembly is not kept waiting for hulls, and that such idle-time should not normally occur. This check feature has therefore been removed. The program now operates under the assumption that the hulls are produced in lamination such that no wait-time occurs in assembly. In the rare event that special circumstances require idle time on an assembly line, adjustments to the schedule will have to be made by hand.
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**NOTE:** 270WE 1201 & 310SS 1201 - 1994 MODEL PHOTO BOATS  
330EC 1252 - 1993 MODEL PHOTO BOAT

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(I/O) = STERNDRIVES  
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<td>250BC</td>
<td>270DA</td>
</tr>
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<td>1282</td>
</tr>
<tr>
<td>Tue 1:45</td>
<td>270DA</td>
<td>270DA</td>
<td>270WE</td>
<td>250BC</td>
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<td>270WE</td>
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<td>270WE</td>
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<td>1349</td>
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<td>1347</td>
<td>1346</td>
<td>1283</td>
<td>1256</td>
<td>1345</td>
</tr>
<tr>
<td>Wed 9:00</td>
<td>270WE</td>
<td>250BC</td>
<td>270DA</td>
<td>270WE</td>
<td>250BC</td>
<td>270DA</td>
<td>270WE</td>
<td>270DA</td>
<td>270WE</td>
<td>250BC</td>
<td>270DA</td>
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<tr>
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<td>1201</td>
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<td>1201</td>
<td>1285</td>
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<td>1348</td>
<td>1284</td>
<td>1347</td>
<td>1346</td>
<td>1283</td>
<td>1256</td>
</tr>
<tr>
<td>Wed 3:15</td>
<td>270DA</td>
<td>270DA</td>
<td>250BC</td>
<td>270DA</td>
<td>270WE</td>
<td>250BC</td>
<td>270DA</td>
<td>270DA</td>
<td>270WE</td>
<td>250BC</td>
<td>270DA</td>
</tr>
<tr>
<td></td>
<td>1350</td>
<td>1349</td>
<td>1258</td>
<td>1201</td>
<td>1285</td>
<td>1257</td>
<td>1348</td>
<td>1284</td>
<td>1347</td>
<td>1346</td>
<td>1283</td>
</tr>
<tr>
<td>Thr 11:00</td>
<td>250BC</td>
<td>270WE</td>
<td>270DA</td>
<td>250BC</td>
<td>270DA</td>
<td>270WE</td>
<td>250BC</td>
<td>270DA</td>
<td>270WE</td>
<td>250BC</td>
<td>270DA</td>
</tr>
<tr>
<td></td>
<td>1259</td>
<td>1201</td>
<td>1349</td>
<td>1258</td>
<td>1201</td>
<td>1285</td>
<td>1257</td>
<td>1348</td>
<td>1284</td>
<td>1347</td>
<td>1346</td>
</tr>
</tbody>
</table>
(3) Orienting the program for operation by an office assistant.

- Simplified starting boat selection and verification.

The original program selected the first boat to place on a schedule by comparing what it expected from memory (determined from the previous week's schedule) with the boat's expected location on the lamination schedule, and prompting the operator to confirm the selected boat or enter an alternative.

By establishing a routine in which the office assistant requests the starting boat number from each line manager each week, she can verify the starting boat which the program offers.

Under normal conditions, the boat provided by program memory should be correct, but verification and the possibility of correction is helpful in instances in which:

- Changes in production have occurred since the printing of the previous week's schedules, resulting in memory data which is not up-to-date.
- The previous week's schedules were not printed, and therefore the memory data for the starting boats was not updated.

- Enhanced the printout for the lamination schedules to generate a schedule printout identical to the schedule previously produces through a separate software package.

This capability enables the office assistant to accomplish the maintenance of the program's main data files through the creation of the weekly lamination schedule. The ability to produce an official lamination schedule printout through this program minimizes the amount of additional work which the operation of this schedule program places on her weekly workload.

- Added modules to the program to assist in building and printing "rack lists" (schedules of boats which are to be completed on given days).

These rack lists are generated independently of the lamination and assembly schedule data files, but the data entry, editing, and output options are assisted through the schedule program menus. Ms. Marie Sharpe, office assistant at Sea Ray, requested that this capability be added after working with the lamination list and assembly schedule portions of the program.

(4) Training office assistant to use the program to generate assembly line schedules.

- Worked with Ms. Sharpe on a weekly basis, walking her through the process of entering lamination schedules and producing assembly line schedules.
This time was also valuable in helping me to see where changes to the program and its menus could improve ease of use.

(5) Developing a program manual to provide:
(a) Program usage instructions. (Appendix A)
(b) A guide for engineering to facilitate further program development. (Appendix C)
What This Scheduling Program Contributes

- Saves line managers a minimum of 20 minutes a week which the previously had to devote to writing out the schedules.

- Provides the possibility of quick changes in the schedules when lamination scheduling is changed. The office assistant can simply edit the lamination schedule and print out the revised schedules.

- Provides clean, easy to read schedules.

- Minimizes the possibility of making an error in assigning boat order on the assembly schedule.

- Provides the office assistant with a quick way to produce master lamination schedules.

In Conclusion

This schedule program has been developed to meet the needs of its user. In this case, it was important that the program could be run smoothly by an office assistant who has limited knowledge of day-to-day changes in production activities and who therefore has a limited basis for making the judgements and decisions required to update formats as standards changed. The technology of a more intelligent system--namely the checks for sufficient hull lamination time before placement on the assembly schedule--has been sacrificed in favor of a ready system with easy flexibility. The end result is a program which can be operated under changing production flows with minimal format adjustments.
APPENDIX A

USING THE SCHEDULE PROGRAM: AN OPERATOR'S GUIDE
USING THE SCHEDULE PROGRAM

1. General Program Description

2. Generating Assembly and Woodshop Schedules
   a. Modify standard roll times or stations (row and column headings) if necessary.
   b. Enter new lamination schedule.
   c. Print schedule.

3. Making Lamination Schedules

4. Making Rack Lists

5. Working with dBASE IV
   a. Starting dBASE IV from DOS
   b. Starting the Schedule Program
   c. Using dBASE IV pop-up menus
   d. Using the dBASE editing functions menu
      (1) Deleting a record
      (2) Inserting a record

6. Dealing with Problems
   a. If you are prompted with an error message
   b. If you accidently press escape at the wrong time
   c. If you accidently exit from the dBASE IV control center
USING THE SCHEDULE PROGRAM

1. General Program Description

The schedule program stores the four most recent lamination schedules, and then it uses these files to build and print line schedules.

To use this program, the operator must:

- Enter the latest lamination schedule(s).
- Choose the line schedule to be printed.
- Verify the "starting boat" for that schedule--the first boat to be scheduled for that week.

Occasionally, when the stations or start times (column and side headings) that appear on a schedule must be changed, the operator must change this "format" for that particular schedule. This is available as a menu option, and is as simple as changing heading names listed in a file.

In addition to printing line schedules, this program can also print lamination schedules. Totals for each model number scheduled are tallied automatically at the bottom of the lamination schedule. The operator has the opportunity to add or edit notes to appear at the bottom of the lamination schedule.

As an added feature to the program, rack lists can be keyed-in and printed using this program. Like the lamination schedules, rack lists may include notes at the bottom of the list, and totals for each model number are tallied at the bottom of the schedule automatically.

2. Generating Assembly and Woodshop Schedules

a. Modify standard roll times or stations if necessary

If the roll times for the week will be different from standard roll times, this information has to be obtained from line managers and adjusted for each schedule.

(1) To change standard roll times (side headings)

Choose main menu option

(F) Change standard schedule FORMAT.

Select desired schedule to change, then select

(S) Roll times (SIDE headings).
The records listed will be the side headings on the schedule, as in the following example:

<table>
<thead>
<tr>
<th>Records</th>
<th>Organize</th>
<th>Fields</th>
<th>Go To</th>
<th>Exit</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAY</td>
<td>START_TIME</td>
<td>FINISH_TIME</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mon</td>
<td>6:00</td>
<td>11:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mon</td>
<td>12:15</td>
<td>3:30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tue</td>
<td>7:30</td>
<td>9:30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tue</td>
<td>1:45</td>
<td>2:30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wed</td>
<td>9:00</td>
<td>8:30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wed</td>
<td>3:15</td>
<td>1:30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thr</td>
<td>11:00</td>
<td>7:30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Edit these records to reflect desired roll times using the editing menu [F10]. (See "Using the dBASE editing functions menu," under "5. Working with dBASE IV".)

After you have made all desired changes, go to the menu [F10] and then move arrow key to select "Exit" option. Press <ENTER> to save changes and exit.

You may choose to change the format of other schedules or press <R> to return to the main menu.

(2) To change standard stations (column headings)

At the main menu, choose

(F) Change standard schedule FORMAT.

Select desired schedule to be changed and then select

(C) Stations (COLUMN headings)

The records look similar to the following example:
where "First_Word" is the top line of the heading, and "Secnd_Word" is the bottom line of the heading.

Use edit features from the menu [F10] to make changes. (See "Using the dBASE editing functions menu," under "5. Working with dBASE IV").

Note: A blank record is used to designate a "phantom" in-process station; boats scheduled in this column will be "blanked-out" by an empty column. This maintains the proper schedule order, as seen in the following schedule:

<table>
<thead>
<tr>
<th>START TIMES</th>
<th>Wire</th>
<th>HULL 1</th>
<th>HULL 2</th>
<th>HULL 3</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
<th>Test</th>
<th>In</th>
<th>Final</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mon 6:00</td>
<td>270WE</td>
<td>270DA</td>
<td>270WE</td>
<td>270DA</td>
<td>270WE</td>
<td>270DA</td>
<td>270WE</td>
<td>250BC</td>
<td>270DA</td>
<td>270WE</td>
<td>250BC</td>
</tr>
<tr>
<td></td>
<td>1258</td>
<td>1348</td>
<td>1284</td>
<td>1347</td>
<td>1346</td>
<td>1283</td>
<td>1256</td>
<td>1345</td>
<td>1282</td>
<td>1255</td>
<td>1344</td>
</tr>
<tr>
<td>Mon 12:15</td>
<td>270DA</td>
<td>250BC</td>
<td>270DA</td>
<td>270WE</td>
<td>270DA</td>
<td>270DA</td>
<td>270WE</td>
<td>250BC</td>
<td>270DA</td>
<td>270WE</td>
<td>250BC</td>
</tr>
<tr>
<td></td>
<td>1201</td>
<td>1257</td>
<td>1348</td>
<td>1284</td>
<td>1347</td>
<td>1346</td>
<td>1283</td>
<td>1256</td>
<td>1345</td>
<td>1282</td>
<td>1255</td>
</tr>
<tr>
<td>Tue 7:30</td>
<td>250BC</td>
<td>270WE</td>
<td>250BC</td>
<td>270DA</td>
<td>270WE</td>
<td>270DA</td>
<td>270DA</td>
<td>270WE</td>
<td>250BC</td>
<td>270DA</td>
<td>270WE</td>
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<tr>
<td></td>
<td>1258</td>
<td>1285</td>
<td>1257</td>
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<td>1346</td>
<td>1283</td>
<td>1256</td>
<td>1345</td>
<td>1282</td>
</tr>
<tr>
<td>Tue 1:45</td>
<td>270DA</td>
<td>270DA</td>
<td>270DA</td>
<td>250BC</td>
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<td>270DA</td>
<td>270WE</td>
<td>270DA</td>
<td>270DA</td>
<td>270WE</td>
<td>250BC</td>
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<td></td>
<td>1349</td>
<td>1201</td>
<td>1285</td>
<td>1257</td>
<td>1348</td>
<td>1284</td>
<td>1347</td>
<td>1346</td>
<td>1283</td>
<td>1256</td>
<td>1345</td>
</tr>
</tbody>
</table>
When finished, go to the menu [F10] and use the arrow key to select "Exit" option. Press <ENTER> to save changes and exit.

You may choose to change the format of other schedules or press <R> to return to the main menu.

b. Enter new lamination schedule

At the main menu, choose option

(N) Enter NEW Lamination Schedule.

Verify the schedule date.

At the data-entry screen, enter records for the lamination schedule in the order that they should appear.

If you prefer to see the entire table of records as you enter them, press [F2] to switch to that alternate data-entry screen.

In the "WKDAY" field, enter the one-letter code to represent the day of week the boat appears on the lamination schedule. Weekday codes are as follows:

M = Monday
T = Tuesday
W = Wednesday
R = Thursday
F = Friday
S = Saturday

If you enter an inappropriate letter, the day of week for that record will be printed out as "ERR" (error!) on the lamination schedule print-out.

The "NT" field allows for asterisks ("**") or other text to mark special boats.

In order to print line schedules, only the model numbers and hull numbers must be entered. Other fields are used in printing a full lamination schedule.

Once you have completed entering records, go to the menu [F10] and move the arrow key to select the "Exit" option. Press <ENTER> to save this list of records.

You will now have a choice of viewing and/or editing the records you just entered. You may also use this opportunity to insert a record in the middle of the list, if necessary.

If you have any notes to include at the bottom of the lamination schedule, you may choose to enter them. Any records which have a
note marker in the "NT" field have automatically been included in the file for reference. Only information typed in the "NOTE" field will be included on the lamination schedule print-out.

You must verify the date as requested, and then you have the opportunity to back out without saving the new schedule. If, for some reason, the files should not be updated to include the lamination schedule and other information just entered, you may press "X" at this time. Otherwise, simply pressing <ENTER> will save this new lamination schedule and update all files accordingly.

c. Print schedule

From the main menu, choose option

(S) Print SCHEDULE (Assembly or Woodshop Assembly).

Choose particular line schedule to print.

Verify starting boat number. The given boat number comes from memory of the last schedule printed. This boat number should be correct, unless, for example:

- No schedule was printed for this line last week.
- Actual production on this line varied from the schedule printed last week.

In either case, the information in memory is out-of-date, and it might be appropriate to schedule a different boat to start the schedule.

You may set up the printer and press <ENTER> when ready to print.

When a pop-up menu asks you to okay overwriting a file, simply press <ENTER> to accept the overwrite. Failure to do so may result in incorrect data being left in memory.

3. Making Lamination Schedules

The process of entering a new lamination schedule is discussed above.

Printing and editing options for the lamination schedule are also available from the main menu. The editing option allows the user to:

- Edit lamination records
- Insert a blank line in the lamination schedule
- Add/edit notes to be found at the bottom of the printed lamination schedule
4. Making Rack Lists

The rack lists are unrelated to the rest of the files; these files and menu options have been added in order to facilitate the making of these lists.

The creation, editing, and printing of these lists is similar to the process followed in making and maintaining lamination schedules.

5. Working with dBASE IV

a. Starting dBASE IV from DOS

Move to the c:\DBASE\SCHEDULE subdirectory:

Type CD.. and <ENTER> to return to main directory C:\.

Type CD DBASE\SCHEDULE and <ENTER>.

Type DBASE and <ENTER> to start dBASE IV.

b. Starting the Schedule Program

Use the arrow keys to highlight the program name, "MENU," seen in the "Applications" column. Press <ENTER>.

At "Run Application," press <ENTER>.

At "Are you sure . . . ?" press "y" for "Yes," or press arrow key to highlight "Yes" and press <ENTER>.

This should bring you into the main menu of the schedule program.

c. Using dBASE IV pop-up menus

Press [F10] to get access to menu options.

The Aqua-colored bar highlights the option you wish to choose. Use arrow keys to move to desired option and press <ENTER> to make this selection.

d. Using the dBASE editing functions menu

(1) Deleting a record

Deletion is a two-step process which involves:

1. Marking the record(s) for deletion ("Mark")
2. Erasing the marked records
To "Mark" the record(s) for deletion:

Move to the record to be deleted.
Press [F10] for access to the menu.
Highlight menu option "Mark record for deletion."
Press <ENTER>.

The "marked" records still appear on the screen, but the notation "Del" will appear in the lower right hand corner of the screen, indicating the record is marked for deletion.

The schedule program will remove the marked records automatically when you save your changes and exit the edit area. However, you may wish to erase the marked records yourself so that you can see that the records have been deleted properly.

To permanently remove marked records:

Press [F10] for access to the menu.
Move to "Organize"
Highlight "Erase marked records" option.
Press <ENTER>.

(2) Inserting a record

Unfortunately, the dBASE IV data entry and editing menus do not include the option of inserting a record between existing records. You may, however, insert a record by exiting from the data-editing menu and selecting option (1), "Insert".

If you choose to insert a record, you will be shown the current list of records. Find the record on this list which should follow the inserted record. Make note of its record number (the number shown to the left of the record), and enter this number as requested. The insertion of a blank record will be made, and you will be returned to the edit menu.

6. Dealing with Problems

a. If you are prompted with an error message while in the schedule program, it is usually best to select the "Ignore" option, if at all possible. This allows you to return to the program and provides a greater possibility for saving important data to memory; if you exit the program in mid-stream because of an error, the program may not have a chance to update files, dates in memory, etc.

Check your data, and try performing the same task again.
b. If you accidently press escape, be careful! Choose "Ignore" to keep from getting booted out of the program and losing up-dated data.

c. If you accidently exit from the dBASE IV control center menu to the dot-prompt menu (blank blue screen with dot before cursor at the base of the screen), you have the following options:

• To exit to DOS, type "QUIT" and press <ENTER>.
• To return to the dBASE control center menu, type "ASSIST" and press <ENTER>
APPENDIX B

SCREEN OPTIONS FLOWCHART FOR SCHEDULE PROGRAM
MAIN MENU

Current Lamination Schedule: 05/03/93

(S) Print SCHEDULE (Assembly or Woodshop Assembly)
(N) Enter NEW Lamination Schedule
(B) EDIT and View Existing Lamination Schedule
(P) PRINT Lamination Schedule
(F) Change Standard Schedule FORMAT
(X) Rack List Options
(Q) QUIT (Return to DOS)
(R) Return to dBASE

Choose Option Letter:

Choose Option:
(N) Enter NEW Rack List
(R) EDIT and View Existing Rack List
(P) PRINT Rack List
(R) RETURN to Main Menu
Choose Schedule to Print:

(1) Line #1 Assembly
(2) Line #1 Woodshop Assembly
(3) Line #2 Assembly
(4) Line #2 Woodshop Assembly
(5) Line #3 Assembly
(6) Line #3 Woodshop Assembly

According to the last schedule printed, the starting boat should be:
270WE 1285

Select Number:

or type <X> to choose other

or type <R> to Return to Main Menu

Set Printer to CONDENSED TYPE

Press <ENTER> when ready . . .

or press <R> to return to Line Schedule menu

Printing Line 270DA/WE, 250EC -- Assembly Schedule schedule

File already exists

Overwrite  Cancel

Be sure to press <ENTER> to ACCEPT OVERWRITE!!!
Failure to do so will result in incorrect data in memory!
NOTE: SCREEN OPTIONS FOR "RAKENTRY" FOLLOW SAME FLOW AS "LAMENTRY"

Latest Lamination Schedule is dated: 05/03/93

You have selected to enter a new schedule.
Type <R> to Return to Main Menu
or press <ENTER> to continue

Would you like to view and/or edit the schedule just entered? (Y/N) : y
(If you need to insert a blank record, press <D> at this time)

You have just entered records for a new lamination schedule
for the week starting: 05/10/93

Is this data correct? (Y/N) : y

WARNING: If you wish to return to the main menu without
saving this new schedule, you must cancel it by
typing the letter 'x' now

To SAVE this new lamination schedule, press <ENTER>
LAMINATION SCHEDULE
View and edit

The following Lamination Schedules are available:

1. 05/02/93 (Most Recent)
2. 04/26/93
3. 04/19/93
4. 04/12/93

Choose date by pressing 1, 2, 3, or 4, or type <R> to Return to menu.
The following Lamination Schedules are available:

(1) 05/03/93 (Most Recent)
(2) 04/26/93
(3) 04/19/93
(4) 04/12/93

Choose Date by pressing 1, 2, 3, or 4, or type <R> to Return to Main Menu.

```
MCN 1 290OA 1421 S-7.4L W/BR I/O  SEA RAY SPORT YACHTS  AM/GR
  2 300DA 1315 T-5.7L I/O  C & N MARINE  AM/GR
  3 290OA 1422 S-7.4L W/BR I/O  LAKE WYLIE MARINA  AM/BG
  4 330DA 1351 T-7.4L V/D  HARBORS VIEW MARINA  AM/GR
  5 300WE 1260 T-5.7L V/D  SUBSHEENE  AGR
** 6 270OE 1201 S-7.4L W/BR I/O
TUE  7 330BC 1251 T-7  =
   8 270OE 1421
```
Choose Schedule Format to change:

(1) Line #1 Assembly
(2) Line #1 Workshop Assembly
(3) Line #2 Assembly
(4) Line #2 Workshop Assembly
(5) Line #3 Assembly
(6) Line #3 Workshop Assembly

Select Number:
or type <R> to Return to Main Menu

Select Format to Change:

(5) Roll times (SIDE headings)
(6) Stations (COLUMN headings)
or type <R> to Return to Main Menu

Make Selection:

Records organize Fields Go To Exit

Records organize Fields Go To Exit

<table>
<thead>
<tr>
<th>Day</th>
<th>START_TIME</th>
<th>FINISH_TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mon</td>
<td>6:00</td>
<td>11:00</td>
</tr>
<tr>
<td>Mon</td>
<td>12:00</td>
<td>12:30</td>
</tr>
<tr>
<td>Tue</td>
<td>12:30</td>
<td>12:30</td>
</tr>
<tr>
<td>Tue</td>
<td>12:30</td>
<td>12:30</td>
</tr>
<tr>
<td>Wed</td>
<td>12:30</td>
<td>12:30</td>
</tr>
<tr>
<td>Wed</td>
<td>12:30</td>
<td>12:30</td>
</tr>
<tr>
<td>Thu</td>
<td>11:00</td>
<td>12:30</td>
</tr>
</tbody>
</table>

Browse [B:NTM_1.AS] Dec 1/7 [File]
APPENDIX C
NOTES FOR ADVANCED PROGRAM MAINTENANCE

• Instructions for adjusting model numbers assigned to each line
• Database and memory file names and descriptions
• Program module schematic
• Schedule program, hard copy
To make adjustments in model numbers assigned to each line:

Go to SCHOOSE.prg.

Variables and filenames are assigned to each line number in the DO...CASE loop from lines 36 through 90.

Model numbers included in each line are defined by variables COND1, COND2, and COND3. This allows for up to three model numbers to be assigned to a line. If less than three are needed, set COND3=COND2. If a fourth sort variable is needed, a COND4 can be established for all lines--and must be added to all six cases--and in lines 50 through 53 of SCHEDULE.prg, ".OR. MODEL=COND4" must be added to each line.
DATABASE AND MEMORY FILES USED IN SCHEDULE PROGRAM

Lamination Schedules:

(These files are also referred to as &LAM within the written program. These are the files which are updated whenever the user enters a new lamination schedule.)

LAM3          Most Recent Lamination Schedule
LAM2          Previous Week’s Lamination Schedule
LAM1
LAM0

Lamination Notes:

(These files contain the notes that correspond to the lamination schedules.)

LAMNOTE3
LAMNOTE2
LAMNOTE1
LAMNOTE0

Station Names:

(These files are also referred to as &STAFILE within the written program. These are the files which can be edited to change, remove, or delete stations from a given schedule format.)

STA_1_AS       Line #1 Assembly
STA_1_WA       Line #1 Woodshop Assembly
STA_2_AS       Line #2 Assembly
STA_2_WA       Line #2 Woodshop Assembly
STA_3_AS       Line #3 Assembly
STA_3_WA       Line #3 Woodshop Assembly

Roll Time Files:

(These files are also referred to as &TIMFILE within the written program. These are the files which can be edited to change, remove, or delete standard roll times from a given schedule format.)

TIM_1_AS       Line #1 Assembly
TIM_1_WA       Line #1 Woodshop Assembly
TIM_2_AS       Line #2 Assembly
TIM_2_WA       Line #2 Woodshop Assembly
TIM_3_AS       Line #3 Assembly
TIM_3_WA       Line #3 Woodshop Assembly
Temporary Files:

(These are built and used by the program automatically during the program's run.)

TEMP Compilation of boats for a selected line number

Rack List and Rack List Note Files:

Similar to lamination files and lamination note files.

RACK3 RAKNOTE3
RACK2 RAKNOTE2
RACK1 RAKNOTE1
RACK0 RAKNOTE0

Memory Files (*.mem):

(These files store certain pertinent information about particular schedules.)

LAMDATES Dates of the four lamination schedules
RAKDATES Dates of the four rack lists
AS1_VARS Line #1 Assembly
WA1_VARS Line #1 Woodshop Assembly
AS2_VARS Line #2 Assembly
WA2_VARS Line #2 Woodshop Assembly
AS3_VARS Line #3 Assembly
WA3_VARS Line #3 Woodshop Assembly
SCHEDULE PROGRAM FILES

MENU

- SCHEDULE
  - SCHOOSE
  - STRTBOAT
  - HEADINGS
  - ROWLOOP

- LAMENTRY
  - NSSERT

- EDLAM
  - LCHOOSE
  - NSSERT

- PRINTLAM
  - LCHOOSE

- CHGSFORM
  - SCHOOSE
  - NSSERT

- RAKENTRY
  - NSSERT

- EDRAK
  - RCHOOSE
  - NSSERT

- PRINTRAK
  - RCHOOSE

Presents main menu.

Creates assembly schedules from lamination schedules in database.

Facilitates entry of a new lamination schedule.

Facilitates editing and viewing of lamination schedules.

Prints lamination schedule--master copy.

Allows the user to make changes in schedule format by editing station names and roll times.

Facilitates the entry of records in the rack list.

Facilitates editing and viewing of rack lists.

Prints rack list.
1 ************** MAIN MENU PROGRAM **************
2 *
3 menu.prg
4 *
5 *
6 ****************** MAIN MENU ******************
7 *
8 SET TALK OFF
9 SET ECHO OFF
10 SET DEVICE TO SCREEN
11 SET CONFIRM ON
12 SET BELL OFF
13 *
14 DO WHILE .T.
15 ********************
16 *
17 Print Menu Screen
18 *
19 ******************
20 CLEAR ALL
21 RESTORE FROM LAMDATE.SHERADDITIVE
22 RESTORE FROM RAXDATE.SHERADDITIVE
23 CLOSE ALL
24 CLEAR
25 @0,0 SAY REPLICATE(CH(205),79)
26 @2,20 SAY "MAIN MENU"
27 @4,10 SAY "Current Lamination Schedule: " + DTOC(DATDATE)
28 @5,0 SAY REPLICATE(CH(205),79)
29 @7,6 SAY "(S) Print SCHEDULE (Assembly or Woodshop Assembly)"
30 @9,6 SAY "(N) Enter NEW Lamination Schedule"
31 @10,6 SAY "(E) EDIT and View Existing Lamination Schedule"
32 @11,6 SAY "(P) PRINT Lamination Schedule"
33 @13,6 SAY "(F) Change Standard Schedule FORMAT"
34 @15,6 SAY "(K) Rack List Options"
35 @17,6 SAY "(Q) QUIT (Return to DOS)"
36 @18,6 SAY "(R) Return to dBASE"
37 @19,5 SAY ""
38 WAIT "Choose Option Letter: " TO OPT
39 DO CASE
40 CASE UPPER(OPT)="S"
41 DO SCHEDULE
42 CASE UPPER(OPT)="N"
43 DO LAMENTRY
44 CASE UPPER(OPT)="E"
45 DO EDLAM
46 CASE UPPER(OPT)="P"
47 DO PRINTLAM
48 CASE UPPER(OPT)="F"
49 DO CHGSPORM
50 CASE UPPER(OPT)="K"
51 do while .T.
52 CLEAR
53 @7,5 SAY "Choose Option: "
54 @9,10 SAY "(W) Enter NEW Rack List"
$10,10 say *(E) EDIT and View Existing Rack List*
$11,10 say *(P) PRINT Rack List*
$12,10 say *(R) RETURN to Main Menu*
$15,10 say "$"  
wait "$" to jl
  do case
    case upper(jl)="E"
      do rakentry
    case upper(jl)="F"
      do edtrak
    case upper(jl)="G"
      do printrak
    case upper(jl)="H"
      exit
  endcase
  enddo
CASE UPPER(OPT)="Q"
$22,5 SAY "$"
WAIT "Do you really want to quit? (Y/N)" TO Y9
IF UPPER(Y9)="Y"
  QUIT
ENDIF
CASE UPPER(OPT)="R"
CLEAR
? "MENU Program has been terminated"
?
? " Enter 'ASSIST' to get Main Menu"
? " Enter 'DO MENU' to restart program"
? " Enter 'QUIT' to exit to DOS"
?
RETURN
ENDCASE
ENDDO
SCHOSE.prg

Chooses appropriate files and variables for a selected schedule (and line number)

Do While .T.

@5,7 SAY "(1) Line #1 Assembly"

@6,7 SAY "(2) Line #1 Woodshop Assembly"

@8,7 SAY "(3) Line #2 Assembly"

@9,7 SAY "(4) Line #2 Woodshop Assembly"

@11,7 SAY "(5) Line #3 Assembly"

@12,7 SAY "(6) Line #3 Woodshop Assembly"

@20,5 SAY "or type <R> to Return to Main Menu"

@17,1 SAY " "

PUBLIC PM1

WAIT " Select Number: " TO PM1

PUBLIC TIMFILE

PUBLIC STAFILE

PUBLIC TITLE

PUBLIC SKIPFILE

PUBLIC COND1

PUBLIC COND2

PUBLIC COND3

PUBLIC EX2

EX2="NO"

CASE PM1=1

TIMFILE="TIM_1_AS"

STAFILE="STA_1_AS"

TITLE="Line 270DA/WE, 250BC -- Assembly Schedule"

SKIPFILE="AS1_VARS.MIM"

COND1="270DA"

COND2="270WE"

COND3="250BC"

EXIT

CASE PM1=2

TIMFILE="TIM_1_MA"

STAFILE="STA_1_MA"

TITLE="Line 270DA/WE, 250BC -- Woodshop Assembly Schedule"

SKIPFILE="WA1_VARS.MIM"

COND1="270DA"

COND2="270WE"

COND3="250BC"

EXIT
CASE PHI=3
  TIXFILE="TIN_2.AI"
  STAFILE="STA_2.AI"
  TITLE="Line 300DA/WE, 290DA -- Assembly Schedule"
  SMFILE="AS2_VARS.MEM"
  COND1="300DA"
  COND2="300WE"
  COND3="290DA"
  EXIT
CASE PHI=4
  TIXFILE="TIN_2.AI"
  STAFILE="STA_2.AI"
  TITLE="Line 300DA/WE, 290DA -- Woodshop Assembly Schedule"
  SMFILE="MA2_VARS.MEM"
  COND1="300DA"
  COND2="300WE"
  COND3="290DA"
  EXIT
CASE PHI=5
  TIXFILE="TIN_3.AI"
  STAFILE="STA_3.AI"
  TITLE="Line 310DA/BC, 310SS -- Assembly Schedule"
  SMFILE="AS3_VARS.MEM"
  COND1="330DA"
  COND2="330BC"
  COND3="310SS"
  EXIT
CASE PHI=6
  TIXFILE="TIN_3.AI"
  STAFILE="STA_3.AI"
  TITLE="Line 310DA/BC, 310SS -- Woodshop Assembly Schedule"
  SMFILE="MA3_VARS.MEM"
  COND1="330DA"
  COND2="330BC"
  COND3="310SS"
  EXIT
CASE UPPER PHI=8
  EX2=yes
  EXIT
  (i.e. SCHEDULE.prg or CRSPORM.prg) to the Menu
OTHERWISE
  LOOP
  (i.e. SCHEDULE.prg or CRSPORM.prg) to the Menu
  * Loops back to DoWhile.T. to await an
  * acceptable response
ENDCASE
ENDDO
return
1 ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** **
2 * CEGSPFMM.prg *
3 * *
4 *
5 * To make changes to standard stations *
6 * or start times on schedule printouts *
7 *
8 ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** **
9 DO WHILE .T.
10 CLEAR
11 j1= "*
12 H[3,5] SAY "Choose Schedule Format to change: "
13 DO SCHOSE
14 IF EK2="YES"
15 EK2="NO"
16 EXIT
17 ENDIF
18 CLEAR
19 H[5,5] SAY "Select Format to Change: "
20 H[7,7] say "(S) Roll times (SIDE headings)"
21 H[7,7] say "(C) Stations (COLUMN headings)"
22 H[10,5] SAY "or type <R> to Return to Main Menu"
23 ?
24 ?
25 WAIT " Make Selection: " to j1
26 DO CASE
27 CASE UPPER(j1)="C"
28 CLEAR
29 USE &START
30 GO TO TOP
31 BROWSE
32 PACK
33 LOOP
34 CASE UPPER(j1)="S"
35 CLEAR
36 USE &TIME
37 GO TO TOP
38 BROWSE
39 PACK
40 LOOP
41 CASE UPPER(j1)="R"
42 EXIT
43 ENDCASE
44 ENDO
45 RETURN
46
1  
2  * * * * * * * * * * * * * * * * * * * * * * * * * * * 
3  *  
4  *  
5  *  
6  "Print Standard Schedule" Option  
7  *  
8  * * * * * * * * * * * * * * * * * * * * * * * * * * * 
9  *  
10 CLEAR ALL  
11 SET DEVICE TO SCREEN  
12 SET TALK OFF  
13 SET ECHO OFF  
14 CLEAR  
15 *  
16 * * * Set initial variables * * *  
17 PUBLIC PRT  
18 PUBLIC MOD  
19 PUBLIC HUL  
20 PRT="OFF"  
21 PUBLIC UPMEM  
22 UPMEM="NO"  
23 *  
24 RESTORE FROM LAMDATES.MEM ADDITIVE  
25 *  
26 *  
27 * * * Build "Print Standard Schedule" Menu * * *  
28 *  
29 DO WHILE .T.  
30 *  
31 CLOSE ALL  
32 CLEAR  
33 @3,5 SAY "Choose Schedule to Print:"  
34 DO SCCHOICE  
35 IF EX2="YES"  
36 EX2="NO"  
37 EXIT  
38 ENDDIF  
39 *  
40 RESTORE FROM 65MEMFILE ADDITIVE  
41 * * * * * * * * * * * * * * * * * * * * * * * * * * *  
42 *  
43 * Build TEMP file of appropriate model numbers  
44 * from lamination schedules  
45 *  
46 * * * * * * * * * * * * * * * * * * * * * * * * * * *  
47 USE TEMP  
48 DELETE ALL  
49 PACK  
50 APPEND FROM LAM1 FOR MODEL=COND1 .OR. MODEL=COND2 .OR. MODEL=COND3  
51 APPEND FROM LAM2 FOR MODEL=COND1 .OR. MODEL=COND2 .OR. MODEL=COND3  
52 APPEND FROM LAM3 FOR MODEL=COND1 .OR. MODEL=COND2 .OR. MODEL=COND3  
53 APPEND FROM LAM4 FOR MODEL=COND1 .OR. MODEL=COND2 .OR. MODEL=COND3  
54 *
55 * **************************************************************
56 *
57 * Program goes to STARTBOAT.prg as a subroutine *
58 *
59 * **************************************************************
60 DO STARTBOAT
61 *
62 * **************************************************************
63 *
64 * Beginning Printing . . . *
65 *
66 * **************************************************************
67 DO While . T.
68 IF UPPER(W21)="Y" .OR. EX2="YES"
69 EXIT
70 ELSE
71 STORE MODEL1 TO MOD
72 STORE HULL1 TO HUL
73 @6,5 SAY "Printing " + trim(TITLE) + " schedule"
74 @8,0 SAY space(80)
75 @10,0 SAY SPACE(80)
76 @16,15 SAY "Be sure to press <ENTER> to ACCEPT OVERWRITE!!!"
77 @17,10 SAY "Failure to do so will result in incorrect data in memory!"
78 SET DEVICE TO PRINT
79 **************************************************************
80 * Program goes to HEADINGS.prg *
81 * to print titles & station names *
82 **************************************************************
83 DO HEADINGS
84 **************************************************************
85 * Program goes to ROWLOOP.prg *
86 * to print rows of schedule *
87 **************************************************************
88 DO ROWLOOP
89 **************************************************************
90 * Storing boat starting next *
91 * schedule & this schedule date *
92 **************************************************************
93 STORE MOD TO MEMMOD
94 STORE HUL TO MEMHUL
95 SELECT TEMP
96 COUNT TO TCOUNT ✺ To avoid moving to EOF
97 IF MARKER+1>T_COUNT
98 INSERT BLANK
99 ENDIF
100 GOTO MARKER+1 ✺ Moving to start boat for next
101 STORE MODEL TO MEMMOD ✺ week's schedule and saving as
102 STORE HULL_NO TO MEMHUL ✺ memory variables.
103 STORE SCHEDULE TO MEMDATA
104 SAVE ALL LIKE MEM* TO ASHMEMFILE
105 SET DEVICE TO SCREEN
106 EXIT
107 ENDIF
108 ENDDO
109 *
110 *
111 ENDDD  // This final 'EndDo' ends the schedule menu loop
112 *     This loop is exited only by choosing <F> in the
113 *     Do...Case loop in the SCHOOSE.prg subroutine
114 *
115 RETURN
116
Establishing "Starting Boat" on selected line schedule

CLEAR
PUBLIC SCHEDATE
PUBLIC MODEL1
PUBLIC HULL1
PUBLIC W21
PUBLIC BOATCOUNT
W21="" 
j1=""
LAM1A="LAM2"
LAM1X="LAM3"
SCHDATE=LAMDATE3
DO CASE
CASE SCHDATE=MEDATE "" No Update
MOD=MEMMOD
HULL=MEMHULL
UPDMOD="NO"
CASE SCHDATE=MEDATE
MOD=MEMMOD
HULL=MEMHULL
UPDMOD="YES"
OTHERWISE
W21="R" " Returns to schedule print menu
$2,5 SAY "ERROR!!!! Current lamination schedule is dated earlier "
$3,5 say " than previous schedules!"
RETURN
ENDCASE
PUBLIC ACCOUNT
PUBLIC BCOONNT
USE &LAMX
COUNT TO ACCOUNT
USE &LAMX
COUNT TO BCOUNT
BOATCOUNT=BCOUNT
CLOSE ALL
SELECT 1
USE TEMP
SELECT 2
USE &STATFILE
SELECT 3
USE &TIMFILE
SELECT MOD
LOCATE FOR MODEL=MOD .AND. HULL=HULL

"According to the last schedule printed, the starting boat should be:"
55 IF BOF()
56     #6,1 SAY "This boat is not found in the lamination schedules."
57     j1="Y"
58 ELSE
59     #7,0 say replicate(chr(205),79)
60     #8,5 say "Press <ENTER> to accept " + MOD + " + HULL + " as start boat"
61     #9,10 say "or type (X) to choose other"
62     #10,0 say replicate(chr(205),79)
63     wait " " to j1
64 ENDIF
65 *
66 IF UPPER(j1)="Y"
67     #8,0 SAY SPACE(80)  " covers up previous text
68     #9,0 SAY SPACE(80)  "
69     #10,0 SAY SPACE(80)  "
70     STORE SPACE(6) TO MODEL1
71     STORE SPACE(4) TO HULL1
72     #12,5 SAY "Choose Model and Hull numbers for starting boat:"
73     DO WHILE .T.
74     #14,10 SAY "MODEL: " GET MODEL1
75     #14,26 SAY "HULL: " GET HULL1
76     #16,5 SAY "Or enter blanks to Exit"
77     READ
78     STORE UPPER(MODEL1) TO MODEL1
79     IF MODEL1=" " .AND. HULL1=" 
80         EX2="YES"
81     RETURN
82 ENDIF
83     #12,5 SAY "You have chosen " + MODEL1 + " + HULL1 + SPACE(25)
84     #13,10 SAY ""
85     j2=" 
86     wait " " Is this Correct? (Y/N) " to j2
87     IF UPPER(j2)="N"
88         LOOP
89 ENDIF
90 GOTO TOP
91 LOCATE FOR MODEL=MODEL1 .AND. HULL_NO=HULL1
92 IF .NOT. BOF()
93     EXIT
94 ELSE
95     #12,5 SAY MODEL1 + " + HULL1 + "not found" + SPACE(30)
96 ENDIF
97 ENDOO
98 ELSE
99     STORE MOD TO MODEL1
100     STORE HULL TO HULL1
101 ENDIF
102 *
103 CLEAR
104 # 6,10 SAY "Set Printer to CONDENSED TYPE"
105 # 10,15 SAY "or press <P> to return to Line Schedule menu"
106 # 8,10 SAY " Press <ENTER> when ready . . . . . ."
107 WAIT " " TO W21
108 *
55 @PROW(),1 SAY REPLICATE(" ",TWIDTH)
56 *
57 return
58
PUBLIC MARKER
SELECT TEMP
LOCATE FOR MODEL=MODEL1 .AND. HULL_NO=HULL1   // sets reference point
STORE RECNO() TO MARKER
* Beginning of Row-Loop ..... *
DO WHILE .NOT. BDP()
* Following is first line above model numbers * * * *
@PRG()+1,1 SAY "" + SPACE(9) + "" + SPACE((COLS*10)-1) + ""
* Following is the line printing model numbers * * * *
@PRG()+1,1 SAY "" + SPACE(9) + ""
SELECT TEMP
GOTO MARKER
STORE MODEL TO MODEL1
STORE HULL_NO TO HULL1
STORE 1 TO CC2
DO WHILE CC2<COLS   // loop prints row of model numbers
SELECT ATNAME
GOTO CC2
IF FIRST_WORD=" " .AND. SECOND_WORD=" "
@PRG(),PCOL()+2 SAY SPACE(8)
ELSE
   SELECT TEMP
   @PRG(),PCOL()+2 SAY MODEL + SPACE(2)
ENDIF
SELECT TEMP
PREVREC=RECNO()-1
IF PREVREC<1
MODEL=" "
EXIT
ENDIF
GOTO PREVREC
CC2=CC2+1
ENDDO
* Following is the line printing hull numbers * * * *
@PRG()+1,1 SAY "" + DAY + " " + START_TIME + ""
SELECT TEMP
STORE 1 TO CC2
DO WHILE CC2<COLS
Page 2

55      SELECT &STAFILE
56      GOTO CC2
57      IF FIRST_WORD=" " .AND. SECND_WORD=" "
58          @PROW(),PCOL()+2 SAY SPACE(8)
59      ELSE
60          SELECT TEMP
61          @PROW(),PCOL()+2 SAY HULL_NO + SPACE(4)
62      ENDIF
63      SELECT TEMP
64          PREVREC = RECNO()-1
65          IF PREVREC<1
66               HULL_NO=""
67               EXIT
68          ENDIF
69          GOTO PREVREC
70          CC2=CC2+1
71      ENDDO
72      @PROW(),1 SAY "*
73      * * * * * Following is printing the blank line below hull numbers * * * * *
74      @PROW(),1 SAY "* + SPACE(9) + * + SPACE((COLS*10)-1) +*"
75      *
76      * * * * * Following is the dividing line between time blocks * * * * *
77      @PROW(),1 SAY REPLICATE(" -",TWIDTH)
78      SELECT &TIMEFILE
79      IF RECNO()=ROWS
80          EXIT       ;; Escapes DoWhile.T. Loop (Ends Printout)
81      ELSE
82          SKIP       ;; Sets to next start time on &Timefile
83          MARKER = MARKER + 1       ;; Sets to next boat on TempFile
84      ENDIF
85      SELECT TEMP
86          COUNT TO TCOUNT
87          IF MARKER>TCOUNT
88              GOTO BOTTOM
89          INSERT BLANK
90      ENDIF
91      SELECT &TIMEFILE
92      ENDDO       ;; Goes back to beginning of row-printing DoWhile.T. Loop
93      * * * * * End of Schedule Printout * * * * *
94      EXIT
95      *
96      RETURN
SUBROUTINE TO ALLOW USER TO CHOOSE
FROM EXISTING LAMINATION SCHEDULE
DATES (FOR USE WITHIN HBLAM.PRG OR
PRINTLAM.PRG, ETC.)
55 LAMNOTE=LAMNOTE3
56 EXIT
57 CASE UPPER(JI)="R"
58 EXIT=YES
59 EXIT
60 ENDCASE
61 ENDOO
62 RETURN
63
LAMENTRY.prg

Facilitates entry of new lamination schedule (A choice on Main Menu)

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

11 do while .T.
12 clear
13 @2,5 SAY "Latest Lamination Schedule is dated: "+dtoc(lamdate3)
14 @$4,10 SAY "You have selected to enter a new schedule."
15 @$5,15 SAY "Type <D> to Return to Main Menu"
16 @$6,15 SAY "or press <ENTER> to continue."
17 wait * = to jl
18 if upper(jl)="R"
19 exit
20 endif
21 ndate=dtoc(lamdate3+7)
22 @$5,0 SAY space(80)
23 @$6,15 SAY "New schedule date: "+ ndate
24 jl="*
25 Wait * d Wait is this date correct? (Y/N): * to jl
26 do while upper(jl)="W"
27 store space(8) to ndate
28 @$10,1 SAY "New schedule date: " get ndate
29 read
30 if ctod(nodate)>lamdate3
31 jl="Y" // ndate is acceptable
32 else
33 @$11,21 SAY "New schedule date must be after"+ dtoc(lamdate3)
34 endif
35 enddo
36 use lamx
37 delete all
38 pack
39 append
40 jl="*
41 do while .T.
42 @$14,8 SAY "(If you need to insert a blank record, press <I> at this time)"
43 @$12,1 SAY "*
44 wait * d Would you like to view and/or edit the schedule just entered? (Y/N) * to jl
45 do case
46 case upper(jl)="I"
47 DO INSERT
48 case upper(jl)="T"
49 GOTO TOP
50 case upper(jl)="W"
51 browse
52 case upper(jl)="N"
53 exit
54 otherwise
55 loop
endcase
54 enddo
55 clear
56 $1,3 say "You have just entered records for a new lamination schedule"
57 $2,3 say " for the week starting: "+ ndate
58 $3,3 say space(1)
59 $4,3 say j1=""
60 wait " Is this date correct? (Y/N): " to j1
61 do while upper(j1)="Y"
62 store space(8) to ndate
63 $5,3 say "New schedule date: " get ndate
64 read
65 if ctod(ndate)>laJdate3
66     j1="Y"
67 else
68    $6,10 say "New schedule date must be after + dtoc(laJdate3)
69 endif
70 enddo
71 store laJdate1 to laJdate0
72 store laJdate2 to laJdate1
73 store laJdate3 to laJdate2
74 laJdate3=ctod(ndate)
75 $7,0 say replicate(chr(205),79)
76 $15,0 say replicate(chr(205),79)
77 $9,10 say "WARNING! If you wish to return to the main menu without"
78 $10,10 say " saving this new schedule, you must cancel it by"
79 $11,10 say " typing the letter 'Y' now!"
80 $12,10 say "To SAVE this new lamination schedule, press <ENTER> "
81 $13,10 say j1=""
82 wait " to j1
83 if upper(j1)="Y" " This option cancels changes, returns files and dates
84 restore from laJdates.mem additive
85 else
86     use laJ0
87     delete all
88     pack
89     append from laJ1
90     use laJnote0
91     delete all
92     pack
93     append from laJnote1
94     use laJ0
95     append from laJnote0
96     delete all
97     pack
98     append from laJnote2
99     move lamination schedule records to their
100 updated filenames
101 (i.e. the former LAM3 schedule records can
102 now be found under the LAM2 filename)
103 use laJnote1
104 delete all
105 pack
106 append from laJnote2
107 use laJ2
108 delete all
109 pack
110 append from laJ3
111 use laJnote2
delete all
pack
append from lannote3
use lam3
delete all
pack
append from lamx
use lannote3
delete all
pack
append from lam3 for NT> * *
goto top
count to ntct
\$19,10 say "Be sure press <ENTER> to ACCEPT the OVERWRITE!!"*
\$20,1 say "Failure to do so will result in incorrect dates on lamination schedules!"*
save all like LAM to lamedates.mem
goto top
clear
\$2,5 say "To add notes to the lamination schedule,"
\$8,10 say "(or press (R) to return to the menu)"
\$3,10 say "*
wait " Press <ENTER> to continue * to j1
if upper(j1)="R"
   exit
  endif
else
   if ntct=0
      append
      pack
   else
      browse
      pack
   endif
endif
endif
exit
exit
enddo
return
1 * * * * * * * * * * * * * * * * * * * * * *
2 *
3 * EDLAM.prq *
4 *
5 * Edit Selected Lamination Schedules *
6 *
7 * * * * * * * * * * * * * * * * * * * * * *
8 Do While .T.
9 CLEAR
10 &2,25 say "LAMINATION SCHEDULE"
11 &4,28 SAY "View and Edit"
12 DO CHOOSE
13 IF EXL="YES"
14 EXL="NO"
15 EXIT
16 ENDIF
17 do while .T.
18 CLEAR
19 USE &LAM
20 GOTO TOP
21 &1,1,5 SAY "Please choose from the following options: *
22 &7,10 say "[B] EDIT"
23 &8,10 say "[I] INSERT a blank line"
24 &9,10 SAY "[N] Add/Edt NOTES"
25 &11,10 say "[R] to RETURN to menu"
26 wait * * to iopt
27 do case
28 case upper(iopt)="B"
29 browse
30 pack
31 case upper(iopt)="I"
32 do insert
33 CASE UPPER(iopt)="N"
34 USE &LAMNOTE
35 COUNT TO MTCT
36 GOTO TOP
37 IF MTCT=0
38 APPEND
39 PACK
40 ELSE
41 BROWSE
42 PACK
43 ENDIF
44 USE &LAM
45 case upper(iopt)="R"
46 exit
47 endcase
48 ENDDO
49 ENDDO
50 RETURN
51
1  ***********************************************************************
2 * PRINTLAM.prg *
3 * *
4 * Program to Print Lamination Schedules *
5 * as stored in Database *
6 * *
7 * ***********************************************************************
8 *
9 DO WHILE .T.
10 CLEAR
11 CLEAR
12 #2,25 SAY "LAMINATION SCHEDULE"
13 #4,31 SAY "Print"
14 #5,0 SAY REPLICATE(CHR(205),79)
15 DO LCLOSE
16 IF EX1="YES"
17     EX1="NO"
18 EXIT
19 ENDDIF
20 CLEAR
21 SELECT 2
22 USE MODCOUNT
23 DELETE ALL
24 PACK
25 SELECT 1
26 USE MOD
27 SET DEVICE TO PRINT
28 #2,29 SAY "SEA RAY BOATS - KNOXVILLE"
29 #5,32 SAY "LAMINATION SCHEDULE"
30 #6,37 SAY LAMDAT
31 #7,0 SAY REPLICATE("**",80)
32 CDAY="XXX"
33 *
34 *
35 * The following loop prints records *
36 * in the lamination schedule list *
37 *
38 *
39 DO WHILE .NOT. EOF()
40     IF WKDAY=CDAY
41          #PROM()+1,4 SAY WT
42 ELSE
43     CDAY=WKDAY
44     DO CASE
45         CASE WKDAY="MO"
46             TDAY="MOM"
47         CASE WKDAY="TU"
48             TDAY="TUE"
49         CASE WKDAY="WE"
50             TDAY="WED"
51         CASE WKDAY="TH"
52             TDAY="THU"
53         CASE WKDAY="FR"
54             TDAY="FRI"
55 ENDCASE
56 @PR0W()+2,0 SAY TDAY * * + MT
57 ENDF
58 @PR0W(),6 SAY STR(RECDO(),2)
59 @PR0W(),9 SAY MODEL * * + HULL_NO * * + ENGINE * * + CUSTOMER * * + COLORS
60 SKIP
61 ENDDO
62 GOTO TOP
63 COUNT TO LSTARTS
64 GOTO TOP
65 * * * * * * * * * * * * * * * * * * * * *
66 *
67 * The following prints notes * *
68 *
69 * * * * * * * * * * * * * * * * * * * *
70 *
71 USE 4LAMNOTE
72 COUNT TO NTLP
73 GOTO TOP
74 IF NTLP>0
75 NTLP=1
76 @42, 1 SAY * *
77 DO WHILE .T.
78 @PR0W()+1,5 SAY NOTE
79 IF NTLP=NTCT
80 EXIT
81 ELSE
82 NTLP=NTLP+1
83 SKIP
84 ENDF
85 ENDDO
86 ENDF
87 * * * * * * * * * * * * * * * * * * * *
88 *
89 * The following loop prints model * *
90 * totals at the bottom of the * *
91 * lamination schedule. * *
92 *
93 * * * * * * * * * * * * * * * * * * * *
94 USE 4LAM
95 INDEX ON MODEL TAG MODEL
96 SET INDEX TO 4LAM
97 SET ORDER TO MODEL
98 GOTO TOP
99 DECLARE MCOOUNT[1,2]
100 XM0DE1=MODEL
101 LO=0
102 LOOPCT=0
103 XM0C0UNT=0
104 DO WHILE .T.
105 IF MODEL=XM0DE1
106 XM0C0UNT=XM0C0UNT+1
107 LOOPCT=LOOPCT+1
108 IF LOOPCT<LSTARTS
109 SKIP
110 ELSE LC=LC+1
111 EXIT
112 ENDIF
113 ELSE STORE XMOUNT TO MOUNT[1,2]
114 STORE MODEL TO MOUNT[1,1]
115 SELECT MOCOUNT
116 APPEND FROM ARRAY MOUNT
117 SELECT 1
118 STORE MODEL TO MOUNT
119 MOUNT=1
120 LOOPCT=LOOPCT+1
121 LC=LC+1
122 IF LOOPCT<STARTS
123 SKIP
124 ELSE
125 EXIT
126 ENDIF
127 ENDIF
128 ENDDO
129 ENDDO
130 STORE XMOUNT TO MOUNT[1,2]
131 STORE XMOUNT TO MOUNT[1,1]
132 SELECT MOCOUNT
133 APPEND FROM ARRAY MOUNT
134 *
135 GOTO TOP
136 GOTO TOP
137 LOOPCT=1
138 LOOPCT=1
139 LOOP CT=LOOPCT+1
140 IF LOOPCT<RECT
141 SKIP
142 DO WHILE .T.
143 @PROM(,PCOL()+3 SAY MODEL
144 LOOPCT=LOOPCT+1
145 IF LOOPCT<RECT
146 SKIP
147 ELSE
148 EXIT
149 ENDIF
150 ENDDO
151 GOTO TOP
152 PRINT(2,0) SAY MODEL
153 LOOPCT=1
154 LOOP CT=LOOPCT+1
155 DO WHILE .T.
156 @PROM(,PCOL()+7 SAY SUBSTR(2,0)
157 LOOPCT=LOOPCT+1
158 IF LOOPCT<RECT
159 SKIP
160 ELSE
161 EXIT
162 ENDIF
163 ENDDO
164 *
165 $55,18 SAY "NOTE: - (I/B) = INBOARDS"
166 $FROM(),50 SAY "$LAMSTARTS:  " + STR($LSTARTS,2,0)
167 $56,26 SAY "$V(D) = V-DRIVES"
168 $57,26 SAY "$I(O) = STEROMDRIVES"
169 IF $LAMDATE=$RAKDATE
170 USE $RAK
171 COUNT TO $RCOUNT
172 SET DEVICE TO SCREEN
173 $5,5 SAY "Rack Count = " + STR($RCOUNT,2,0)
174 STORE SPACE(2) TO alt
175 $7,2 SAY "Press <ENTER> to accept, or type different value for rack count: " get alt
176 READ
177 IF ALT=" "
178 ELSE
179 STORE VAL(alt) TO $RCOUNT
180 ENDIF
181 SET DEVICE TO PRINT
182 ELSE
183 SET DEVICE TO SCREEN
184 STORE SPACE(2) TO $RCOUNT
185 $5,5 SAY "Enter Rack Count: " GET $RCOUNT
186 READ
187 STORE VAL($RCOUNT) TO $RCOUNT
188 SET DEVICE TO PRINT
189 ENDIF
190 $FROM(),50 SAY "Rack Count:  " + STR($RCOUNT,2,0)
191 EJECT
192 SET DEVICE TO SCREEN
193 ENDDO
194 RETURN
195
PUBLIC RAK
PUBLIC LAM
PUBLIC RAKDATE
PUBLIC LAMDATE
PUBLIC RAKNOTE
PUBLIC EXl
EXX=NO

7,5 SAY "The following rack lists are available: "
8,9,10 SAY "(1) "& TUC(RAKDATE) + " (Most Recent)"
9,10 SAY "(2) "& TUC(RAKDATE2)
10,10 SAY "(3) "& TUC(RAKDATE1)
11,10 SAY "(4) "& TUC(RAKDATE3)
12,10 SAY "Choose date by pressing 1, 2, 3, or 4, "
13,15,5 SAY " or type <R> to return to Main Menu "

DO WHILE .T.
WAIT " " TO J1
DO CASE
CASE J1="4"
RAK="RACK0"
LAM="LAM0"
RAKDATE=RAKDATE0
LAMDATE=LAMDATE0
RAKNOTE="RAKNOTE0"
EXIT
CASE J1="3"
RAK="RACK1"
LAM="LAM1"
RAKDATE=RAKDATE1
LAMDATE=LAMDATE1
RAKNOTE="RAKNOTE1"
EXIT
CASE J1="2"
RAK="RACK2"
LAM="LAM2"
RAKDATE=RAKDATE2
LAMDATE=LAMDATE2
RAKNOTE="RAKNOTE2"
EXIT
CASE J1="1"
RAK="RACK3"
LAM="LAM3"
RAKDATE=RAKDATE3
LAMDATE=LAMDATE3
RAKNOTE="RAKNOTE3"
55      EXIT
56      CASE UPPER(J1)="H"
57      EX1="YES"
58      EXIT
59      ENDCASE
60      ENDDO
61      RETURN
62
5 * *************** RAKENTRY.prg **********
6 * Facilitates entry of new *
7 * rack list. *
8 * *************** RAKENTRY.prg **********
9 *
10 do while .T.
11 clear
12 $2,5 SAY "Latest Rack List is dated: "+dtoc(rakdate3)
13 $4,10 say "You have selected to enter a new schedule."
14 $5,15 say "Type <Cr> to Return to Main Menu"
15 $6,15 say "or press <ENTER> to continue"
16 wait = "" to jl
17 if upper(jl)="R"
18 exit
19 endif
20 ndate=dtoc(rakdate3+7)
21 $6,0 say space(80)
22 $6,15 say "New schedule date: "+ ndate
23 $14,14 say "Are you sure this is the correct date? (Y/N): " to jl
24 do while upper(jl)="Y"
25 $10,1 say "New schedule date: "+ ndate
26 store space(8) to ndate
27 $10,1 say "New schedule date: "+ ndate
28 read
29 if ctod(ooate)>rakdate3
30 jl="Y" & ndate is acceptable
31 else
32 $11,21 say "New schedule date must be after "+ dtoc(rakdate3)
33 endif
34 enddo
35 use raca
36 delete all
37 pack
38 append
39jl=" "
40 do while .T.
41 $4,8 say "(If you need to insert a blank record, press <Cr> at this time)"
42 $2,1 say "Y"
43 wait = "Would you like to view and/or edit the schedule just entered? (Y/N) " to jl
44 do case
45 case upper(jl)="Y"
46 DO NSERT
47 case upper(jl)="Y"
48 GOTO TOP
49 browse
50 case upper(jl)="Y"
51 exit
52 otherwise
53 loop
54 endcase
55 enddo
56 clear
57 @1,3 say "$You have just entered records for a new rack list,"
58 @2,3 say " for the week starting: "$ ndate
59 @3,3 say space(1)
60 j1=" "
61 Wait "$ Is this date correct? (Y/N): "$ to j1
62 do while upper(j1)="Y"
63 store space(8) to ndate
64 @5,5 say "$New schedule date: "$ get ndate
65 read
66 if ctod(ndate)>rackdate3
67 j1="Y"
68 else
69 $6,10 say "$New schedule date must be after "$ ctod(rackdate3)
70 endif
71 enddo
72 store rackdate1 to rackdate0
73 store rackdate2 to rackdate1
74 store rackdate3 to rackdate2
75 rackdate3=ctod(ndate)
76 @7,0 say replicate(chr(205), 79)
77 @15,0 say replicate(chr(205), 79)
78 $9,10 say "$WARNING! If you wish to return to the main menu without"
79 $10,10 say "$ saving this new schedule, you must cancel it by"
80 $11,10 say "$ typing the letter 'X' now!""
81 $13,10 say "$ To SAVE this new rack list, press <ENTER> "
82 j1=" "
83 wait "$ " to j1
84 if upper(j1)="X" " This option cancels changes, returns files and dates
85 restore from rackdates.mem additive
86 else
87 use rack0
88 delete all
89 pack
90 append from rack1
91 use raknote0
92 delete all
93 pack
94 append from raknote1
95 use rack1 " " Moves rack list records to their
96 delete all " " updated filenames
97 pack " " (i.e. the former RACK3 schedule records can
98 append from rack2 " " now be found under the RACK2 filename)
99 use raknote1
100 delete all
101 pack
102 append from raknote2
103 use rack2
104 delete all
105 pack
106 append from rack3
107 use raknote2
108 delete all
109     pack
110     append from rack3
111     use rack3
112     delete all
113     pack
114     append from rackx
115     use rack3
116     delete all
117     pack
118     append from rack3 for WT>" "
119     goto top
120     count to ntct
121     @19,10 say "Be sure press <ENTER> to ACCEPT the OVERWRITE!!"
122     @20,1 say "Failure to do so will result in incorrect dates on rack lists!"
123     save all like RAK* to rakdates.mem
124     goto top
125     clear
126     @2,5 say "To add notes to the rack list,"
127     @6,10 say "(or press (R) to return to the menu)"
128     @3,10 say ""
129     wait "Press <ENTER> to continue " to jl
130     if upper(jl)=="R"
131       exit
132     else
133       if ntct=0
134         append
135         pack
136       else
137         browse
138         pack
139       endif
140     endif
141     endif
142     exit
143   enddo
144 return
145
1 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  
2 *  
3 *  EditRak.prg  
4 *  
5 *  Edit Selected Rack List  
6 *  
7 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  
8 Do While .T.  
9 CLEAR  
10 @2,30 say "RACK LIST"  
11 @4,28 SAY "View and Edit"  
12 DO RCHOOSE  
13 IF EXI='YES'  
14   EXI='NO'  
15 EXIT  
16 ENDIF  
17 do while .T.  
18 CLEAR  
19 USE &RAK  
20 GO TO TOP  
21 @ 3,5 SAY "Please choose from the following options: "  
22 @7,10 say "(E) EDIT"  
23 @6,10 say "(I) INSERT a blank line"  
24 @9,10 SAY "(N) Add/Edit NOTES"  
25 @11,10 say "(R) to RETURN to menu"  
26 wait ** to iopt  
27 do case  
28   case upper(iopt)='E'  
29      browse  
30      pack  
31   case upper(iopt)='I'  
32       do insert  
33     CASE UPPER(IOPT)='N'  
34       USE &RANKNOTE  
35       COUNT TO WRTCT  
36       GO TO TOP  
37       IF WRTCT=0  
38         APPEND  
39        PACK  
40 ELSE  
41      BROWSE  
42      PACK  
43     ENDIF  
44     USE &RAK  
45     case upper(iopt)='R'  
46       exit  
47 endcase  
48 enddo  
49 ENDDO  
50 RETURN
5
10
15
20
25
30
35
40
45
50

1 * * * * * * * * * * * * * * * *
2 *
3 *   PRINTRAX.prg *
4 *
5 *   Program to Print Rack Lists *
6 *
7 * * * * * * * * * * * * * * * *
8 *
9 DO WHILE .T.
10 CLEAR
11 @2,30 SAY "RACK LIST"
12 @4,31 SAY "Print"
13 @5,0 SAY REPLICATE(CHR(205),79)
14 DO BCHOOSE
15 IF EX1="YES"
16   EX1="NO"
17 EXIT
18 ENDIF
19 CLEAR
20 SELECT 2
21 USE MOOCOUNT
22 DELETE ALL
23 PACK
24 SELECT 1
25 USE GRAX
26 SET DEVICE TO PRINT
27 @4,29 SAY "SEA RAY BOATS - KNOXVILLE"
28 @5,37 SAY "RACK LIST"
29 @6,37 SAY RANDATE
30 @7,0 SAY REPLICATE("*",80)
31 CDAY="XXX"
32 *
33 * The following loop prints records in the rack list *
34 *
35 *
36 *
37 * * * * * * * * * * * * * * * *
38 DO WHILE .NOT. B0P()
39   IF WKDAY=CDAY
40     &PROW()+1,4 SAY WT
41   ELSE
42     CDAY=WKDAY
43     DO CASE
44       CASE WKDAY="M"
45         TDAY="MON"
46       CASE WKDAY="T"
47         TDAY="TUE"
48       CASE WKDAY="W"
49         TDAY="WED"
50       CASE WKDAY="R"
51         TDAY="THU"
52       CASE WKDAY="F"
53         TDAY="FRI"
54       CASE WKDAY="S"
55 TDAY='SAT'
56 OTHERWISE
57 TDAY='SUN'
58 ENDCASE
59 @PRCW(+2,0 SAY TDAY + ' ' + MT
60 ENDF
61 @PRCW(+6 SAY STR(RBCN0[1,0]
62 @PRCW(+9 SAY MODEL + ' ' + HULL_NO + ' ' + CUSTOMER
63 SKIP
64 ENDDO
65 GOTO TOP
66 COUNT TO RCOUNT
67 GOTO TOP
68 * * * * * * * * * * * * * *
69 *
70 The following prints notes *
71 *
72 * * * * * * * * * * * * * *
73 *
74 USE &RAKNOTE
75 COUNT TO NTCT
76 GOTO TOP
77 IF NTCT=0
78 NTLP=1
79 @42,1 SAY **
80 DO WHILE .T.
81 @PRCW(+1,5 SAY NOTE
82 IF NTLP=NTCT
83 EXIT
84 ELSE
85 NTLP=NTLP+1
86 SKIP
87 ENDF
88 ENDDO
89 ENDF
90 * * * * * * * * * * * * * *
91 *
92 The following loop prints model *
93 totals at the bottom of the *
94 rack list. *
95 *
96 * * * * * * * * * * * * * *
97 USE ARAK
98 INDEX ON MODEL TAG MODEL
99 SET INDEX TO ARAK
100 SET ORDER TO MODEL
101 GOTO TOP
102 DECLARE &MCOUNT[1,2]
103 XMODEL=MODEL
104 LC=0
105 LOOPCT=0
106 XMOUNT=0
107 DO WHILE .T.
108 IF MODEL=XMODEL
109  XMOUNT=XMOUNT+1
110  LOOPCT=LOOPCT+1
111  IF LOOPCT<RCOUNT
112     SKIP
113  ELSE
114     LC=LC+1
115     EXIT
116  ENDFP
117  ELSE
118    STORE XMOUNT TO MOUNT[1,2]
119    STORE XMOUNT TO MOUNT[1,1]
120    SELECT MOUNT
121    APPEND FROM ARRAY MOUNT
122    SELECT 1
123    STORE MODEL TO MOUNT
124    XMOUNT=1
125    LOOPCT=LOOPCT+1
126    LC=LC+1
127    IF LOOPCT<RCOUNT
128        SKIP
129    ELSE
130        EXIT
131    ENDFP
132 ENDDO
133 STORE XMOUNT TO MOUNT[1,2]
134 STORE XMOUNT TO MOUNT[1,1]
135 SELECT MOUNT
136 APPEND FROM ARRAY MOUNT
137 *
138 GOTO TOP
139 COUNT TO RECCT
140 GOTO TOP
141 @51,0 SAY MODEL
142 @51,1 SAY MODEL
143 LOOPCT=1
144 SKIP
145 DO WHILE .T.
146   @FROM(),PCOL()+3 SAY MODEL
147   LOOPCT=LOOPCT+1
148   IF LOOPCT<RECCT
149      SKIP
150    ELSE
151      EXIT
152   ENDFP
153 ENDDO
154 GOTO TOP
155 @52,1 SAY STR(SUBTOT,2,0)
156 LOOPCT=1
157 SKIP
158 DO WHILE .T.
159   @FROM(),PCOL()+7 SAY STR(SUBTOT,2,0)
160   LOOPCT=LOOPCT+1
161   IF LOOPCT<RECCT
162      SKIP
163     ELSE
164     EXIT
165     ENDIF
166     ENDDO
167     *
168     IF RAKDATE=LAMDATE
169     USE 4LAM
170     COUNT TO LSTARTS
171     SET DEVICE TO SCREEN
172     #5,5 SAY "Lam Starts = " + STR(LSTARTS,2,0)
173     STORE SPACE(2) TO ALT
174     #7,2 SAY "Press <ENTER> to accept, or type different value for lam starts: "
175     READ
176     IF ALT=" "
177     ELSE
178     STORE VAL(ALT) TO LSTARTS
179     ENDIF
180     SET DEVICE TO PRINT
181 ELSE
182     SET DEVICE TO SCREEN
183     STORE SPACE(2) TO LSTARTS
184     #5,5 SAY "Enter Lam Starts: "
185     READ
186     STORE VAL(LAMSTARTS) TO LSTARTS
187     SET DEVICE TO PRINT
188     ENDIF
189     #55,30 SAY "LAM STARTS: " + STR(LSTARTS,2,0)
190     #56,30 SAY "RACK COUNT: " + STR(RCOUNT,2,0)
191     EJECT
192     SET DEVICE TO SCREEN
193     ENDDO
194     RETURN
195
**INSERT**

This is a module that allows the user to insert a blank record in a file.

**CLEAR SPACE(2) TO IREC**

**COUNT TO ICOUNT**

**DO WHILE .T.**

@7,10 SAY "Please find the record number of the line you wish" 

@6,10 SAY "to follow the blank line:"

@9,10 SAY "*

WAIT

display ALL

@21,15 say "Enter Record Number: " get IREC

READ

DO CASE

CASE IREC=" *

EXIT

CASE VAL(IREC)<ICOUNT OR VAL(IREC)=ICOUNT

GOTO VAL(IREC)

INSERT BLANK BEFORE

OTHERWISE

LOOP

ENDCASE

BROWSE

PACK

EXIT

ENDDO

RETURN