Introduction
This supplement is intended to be used alongside Doug Seymour’s ProTrak Basics Manual (PTBM). All references (Chapter, Step, Figure and Appendix) are to those in Doug's PTBM. The goal is to clarify the effects of changes made to ProTrak from version 304 to version 348 (the most used new version).

It is intended to use the PTBM as a base modified by this document. Only areas which have changes will be discussed here. Some minor screen shot changes may not be mentioned. In most entries here the specific altered text is shown in underlined italics. Entire new text is not marked.

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Forward
Page ix  **Second paragraph**  Change to read:
This manual has been updated to ProTrak build 348 with a release date of April 4th 2017 (1).

Page ix  **Footnote 1**  Change to read:
It is important that you have the correct version of ProTrak installed.

Chapter 1 – Setting Up the Railroad

Tombstone Data

Page 1-1  **Step 1**  The window in Figure 1-1 does not appear in ProTrak v348. You will go directly to the window shown in Figure 1-2 for Step 2

Delete the second sentence in Step 1. Delete Figure 1-1.

Page 1-1  **Step 2**  Change Step 2 to read:

2. You will be presented with the first of two windows where you will record information about the railroad. Figure 1-2 shows this window.

Pages 1-4, 5  **Steps 7 & 8**  Add the following paragraph after Step 8.

In the "Operate on another Railroad" window (Figures 1-4 and 1-5) there is now a third button, "Delete home railroad". Its function is self-explanatory. We will not use this button.
Chapter 2 – Setting Up Stations

Fast Clock Settings
ProTrak now uses the term "System-time Clock" in place of "Fast Clock". All PTBM references to "Fast Clock" will now be "System-time Clock", except the one in step 5.

Page 2-1  Topic heading  Change the “Fast Clock Settings” to “System-time Clock Settings”

Page 2-1  Intro & Step 1  Change the words “Fast Clock” to “System-time Clock”, 2 locations

Page 2-2, 3  Figure 2-1 & 2-2  Replace Figure 2-1 with the following:
Also Figure 2-2 will look the same but with the data entered. The new "Calculate Clock Ratio" button is for use with advanced operations (continuous operations?) and will not be used here.

Page 2-2  Step 2  Replace Step 2 with the following:

2. To bring up the "System-time Clock Settings" window, click on "Signals" on the ProTrak toolbar, then choose "System-time clock settings" from the dropdown list.

Page 2-2  Step 6  Modify step 6.
Step 6 should refer to the "System-time Clock Settings" window and instead of clicking "OK" you will click the "Apply" button.
Other Stations

Page 2-11  **Second paragraph**

The column to ignore, "Milepost" is the fourth from last and we are not currently concerned with any of the last 4 columns.

Page 2-11  **Last paragraph**

Modify the second sentence as follows and add the Comment on elevation data at the end of the paragraph:

Double clicking on entry 2 will open the "Changing station: 2 of: 6" window, since we just deleted the extra station.

Comment on elevation data

For both the "interval" and "at Station" ProTrak will ensure the distance, average grade and 'west' end elevation are consistent. This can result in previously entered values (especially distance) being changed. Ensure all 3 are correct before continuing.

Page 2-12, 13  **Step 6**

Change the words “Fast Clock” to “System-time Clock”, 4 locations

Remember Fast Clock is now called System-time Clock.
Chapter 3 - Setting Up Staging Tracks
No corrections.

Chapter 4 - Setting Up A Main Yard

Actonvale Yard

Page 4-4  **Step 13**  Change the second to last sentence to read:
Note that the maximum number of “blocks” of cars in any one track is 3.

Page 4-5  **Step 14**  Add the following to Step 14
The "Cars setoff" and "Cars classified" columns show yard operations data and their values do not affect our setup. The "Show All Push-to Data" button changes the window to show detailed operations data which again does not affect us.

Note: These columns would also be in Figure 4-1

Page 4-6  **Figure 4-4**  Replace Figure 4-4 with the following:

![Figure 4-4](image-url)
Chapter 5 – Setting Up Trains

Setting the Number of Trains

Page 5-1, 3  Figures 5-1 & 5-4  Comment

It is okay if numbers in this window do not match your data as long as the ending value for Train jobs is 2.

Two Through Traffic Trains

Page 5-6  Mislabeled Steps 10 and 11  Renumber steps

Starting with the second Paragraph that begins "We’ve got the two ends of..."
The paragraphs should be numbered as follows:

10. We’ve got the two ends of the train’s travel, but need to establish one more thing. We also need to change the yard where the cars are to be delivered and/or picked up. Click on the 2nd “Yard Blocking” (tt) data field. The center panel should now show six “Possible Train Yardsidings”. The first of these should be “ACT-Yd”. Double-click on this and the 2nd “Yard blocking” data field will be updated to read “ACT-Yd”.

11. Below the “Terminal station” data field is the control for when the train runs, the “Departure at ... on” (tt) data fields. We’ll leave the time in the “Departure at” portion at “1:01 AM” and the “on” portion at “Daily”. (If your version does not default to these values, adjust the values to make them agree.)

For now, we’ll leave the balance of the data fields unchanged (2). As we get further along we’ll look at some of them and make some changes.

Figure 5-8 shows what your finished window should look like. (The information in the center panel may be different depending on what data field your cursor is placed in).
Line-Up

Page 5-8  after Figure 5-9  After Figure 5-9 and the sentence 'Again, click on "OK" ' insert the following new paragraph and Figure 5-9a:

After clicking "OK" in the "Some trains do not run today" message window or if you did not have it open you may see the "Lineup is current" message window. Click "Yes" to force the new line-up.

![Figure 5-9a](attachment:Line-up.png)

A Train Reporting Location

Page 5-16  Step 3  Add new step 3d as follows:

d. The right panel disappeared. It will reappear when we click on data fields that have selection lists.
Chapter 6 – Setting Up Customers

Customers at Actonvale

Page 6-5

Figure 6-4
Replace Figure 6-4 with the following:

![ProTrak Program Options]

---

Page 6-5

Step 11b
Replace Step 11b with the following:

b. You may see a check in the box following the statement “Long lists index to last opened list item” (right-hand panel of the window, "ProTrak Program Options" section, top item). This causes windows such as the “Customers and Loading Points” window to remain unchanged until such time as the window is closed and re-opened.

Page 6-25
Before Step 1
Insert process heading just before step 1. "Deleting Unneeded Customers".

Page 9
Chapter 7 – Setting Up Freight Cars

Setting the Default Yard

Under Setting the Default Yard before Step 1, add 2 paragraphs as follows:

Additionally in chapter 6 we created two special customers, a weigh scale and a reporting point. These customers have spot codes ending in specific characters, "y" for the reporting point and "z" for the weigh scale. There are other special spot codes which we will not be using, at least for now. To prevent unexpected events we will turn off 3 of these in Step 5 below.

Both the default yard and the special spot code status are set in the same window.

Replace Figure 7-1 with the following:

Note: There are now options for multiple home railroads and secondary default yard, neither of which will be used.

![Image of the user interface for setting defaults and special spots.](image-url)
Step 3

3. If you look at the “An empty freight car’s default destination” data field, you may see “ACT-Yd”. If “ACT-Yd” is not displayed, click on the dropdown arrow beside the data field and select “ACT-Yd” from the list. Figure 7-3 shows the window after this change.

Figure 7-3

Step 4

4. Similarly, the data field “A passenger car’s default location” should be set to “ACT-01” if it is not already set to that. Remember that the passenger station is always track 01. (For now, we can ignore the remainder of the items in this window.)
Page 7-3  **Step 5**  Replace step 5 with new steps 5 and 6 as follows:

5. In the upper right panel (labeled "Special spot codes") there are 8 listings. Four of these can be enabled or disabled. We want to turn off 3 of these. Click on the "No" radio button for the first three of these:

- "x", cleaning track used
- "r", RIP track used
- "r", car repair shop used

The fourth ("z", weigh scales in use) should have "Yes" selected.

6. Once completing the changes your window should match Figure 7-3a. For now, we can ignore the remainder of the items in this window. Click on “Apply” to finalize the changes. The “SPOT or ZTS (Zone/Track/Spot) Code Formats” window will close and we can continue.

Page 7-3  **New Figure 7-3a**  After new Step 6 Insert figure 7-3a as follows:

---

**Figure 7-3a**
Adding Cars

The numbered arrows in are in error and should appear as shown here. Replace Figure 7-14a with the following:

![Figure 7-14a](image)

Page 7-15  Step 16  Add the following sentence to Step 16:

The "Return Empty To" data field could be blank or show "PRO car distributor" or "Home road via connections".

Chapter 8 – Setting Up Waybills and Car-orders

Waybills

Page 8-5  Step 2d  Change the first 2 sentences as follows. The button "Show waybills in use" is incorrect.

d. The button “Show ordered waybills” will show which waybills are in use in car-orders. When you click on the “Show ordered waybills” button, the second column will indicate show which waybills are in use by displaying ‘Ordered’ or ‘OCS’.
Page 8-6  **Step 3**  Step 3 should refer to Figure 8-2. Replace the second sentence with the following:

Refer back to Fig. 8-2, if you clicked on the “Show ordered waybills” button close the window and reopen it (see Step 1 above). We’ll be adjusting the shipper, the consignee, the type of car required, the load/commodity and the shipping options.

Page 8-7  **Figure 8-4**  Replace Figure 8-4 with the image below:

The only change is the line marked as "New". We will not be changing this entry. This "New" line also will appear in Figures 8-5, 8-6, 8-8, 8-9, 8-10 and any "Uniform Bill of Lading: Not Negotiable: xx of: yy" window. Only the new Figures 8-8a and 8-10 will be shown here.

![Figure 8-4 Image]

**Figure 8-4**
Step 10, Fig. 8-8a Add the following to step 10 including new Figure 8-8a

A new data field labeled "Shipper is on railroad" (tt) will appear below the "Shipper siding number" data field. This allows you to restrict what cars can be loaded for this BoL by their reporting marks. We will leave this field blank. Your window should now look like Figure 8-8a.

Editor’s Note: Doug mentions this on page 8-16, but we felt it important to mention it here where it will first be seen.

Step 22 Add the following sentence to the end of step 22.

Remember we will leave the "Car is cleaned at customer" unchecked.
Replace Figure 8-10 with the following:
Car-orders
Page 8-35  **Figure 8-33**  Replace Figure 8-33 with the following, to only show the 9 customers we have.

![Figure 8-33](image)

Page 8-37  **Figure 8-36**  Replace Figure 8-36 with the following, to correct arrows for steps 9 and 10.

![Figure 8-36](image)
Replace Figure 8-41 with the following, to only show the 9 customers we have.

**Figure 8-41**

| No. | Firm name          | City/State | Sidings name | SPOT   | Capacity | Occ | Cars | Switching train | Blank | Blk#
|-----|--------------------|------------|--------------|--------|----------|-----|-----|-----------------|-------|-------
| 1   | Acorn Vale Station| Acorn Vale |              | ACT-01 | 5 PAV    | 1.0 |     |                 |       |       |
| 2   | Weigh scale       | Acorn Vale | weight scale | ACT08z | Cars: 2 | 0.0 | 202 | 22              |       |       |
| 3   | Team track        | Acorn Vale | team track   | ACT-14 | Cars: 4 | 0.0 | 202 | 19              |       |       |
| 4   | Twin State Fruit  | Acorn Vale | door spot    | ACT17a | Cars: 1 | 1.0 | none | 202             | F-2   |       |
| 5   | Twin State Fruit  | Acorn Vale | platform loading | ACT17b | Cars: 1 | 0.0 | none | 202             | F-6   |       |
| 6   | ACT Yard          | Acorn Vale |             | ACT-Yd | 5 tracks |     |     |                 |       |       |
| 7   | Wilson & Sons Scrap Metal | Beavick | scrap iron | /40 21 | BEER+11 | Cars: 1 | 0.0 | 2 for 3 cars | 202 | 22 |
| 8   | North Star Eng. Ltd | Beavick | reporting point | BEER-10 | Cars: 4 | 0.0 | 4   | 202             | 32    |       |
| 9   | reporting point   | Beavick    | reporting point | BEER03 | reporting point |     |     |                 |       |       |

**Figure 8-41**

Page 8-41, 42 **Step 19.**

Move Step 19 to after the second paragraph on page 8-42 (begins “ProTrak has calculated...”), so that the “Car-orders: Customers and Loading Points” window is still open as you read the information in the first 2 paragraphs.
Chapter 9 – First Operating Session

Operating Session On Paper Only

Page 9-9  **Figure 9-7** Figure 9-7 now appears as shown here. It now includes a line describing the unusual situation in which "No" would be selected.

Page 9-9  **2nd Figure 9-7** The second figure on the page is incorrectly labeled as Figure 9-7, relabel it "Figure 9-8"

Page 9-12  **Figure 9-11** Replace Figure 9-11 as follows. This corrects the step number references.

---

**Figure 9-7**

---

**Figure 9-11**
Steps 14.a - e. Change steps 14.a through e to the following:

a. If you are using “computer dates” then “Today’s date is” the date the Daily Summary was last run, not today’s actual date. Step 18 will show you how this can be changed.

b. “The weather is” is also self-explanatory. Steps 20 and 21 will show you how this can be changed.

c. “Dispatching is by” describes how the trains are dispatched. Steps 20 and 22 will show you how this can be changed.

d. “For session” is the session number for the current session. ProTrak automatically increments this number when the end-of-session process is run. We’ll talk about the end-of-session process later. You can reset the session counter to any value between 1 and the value shown and we’ll look at how to do that in Step 19.

e. The following items that have been counted or computed by ProTrak using data you’ve previously entered:

i. “The cars in each train” – this is a count of all cars divided by the number of trains

ii. “Stations and profile” – this was obtained from the station data you entered in Chapter 2 (See Figure 2-11)

iii. “Switching assignments” is related to the number of trains that will run during the session.

iv. “Customers and Yards” – this is a count of all customers, which includes yards, reporting points, stations and special spots. We defined these in Chapters 4 and 6.

v. “The cars” – this was obtained from the car data you entered in Chapter 7 (See Figure 7-33) but shows only the active cars

vi. “Train connections” – this was obtained from the train data you entered in Chapter 5.

Step 14.h. Add new step 14.h. as follows:

h. "Operations Mode" will show "Session Mode". This indicates we are using traditional operating sessions. ProTrak now allows for advanced operations in Daily and Continuous modes, both are beyond the scope of this manual. The Operations Mode is set in the ProTrak Program Options window (Files->ProTrak program Options, Housekeeping). Always leave this set to Session Mode.
Step 15, Fig 9-12a  Replace Step 15 with new Step 15 and insert new Figure 9-12a as follows (note: Figure 9-12 will be after new Step 15 and Figure 9-12a)

15. To exit the “Loading railroad data” window, click on “Continue”. Depending on what changes have been made you may see the window shown in Figure 9-12a. This indicates ProTrak needs to update its car routing files and we will click on the "Yes" button.

![Initialize car setoff points? dialog]

Figure 9-12a

Your ProTrak main window will now be the "ProTrak Operations on ProTrak Demonstrator" window. One of the things that you should notice is that the ProTrak toolbar has now changed. We'll refer to this new toolbar as the ProTrak Operations Toolbar and in future we'll refer to the toolbar that is displayed when we're not in operations as the ProTrak Standard Toolbar. This will hopefully minimize confusion. The second thing to notice is the display of a clock on the screen as shown in Figure 9-12. This shows the “current” time – the System-time Clock time.

Step 16  Change the first sentence in step 16 to reference step 14 as follows:

16. We can change a number of items relating to the operating conditions on the railroad, some of which were described in step 14.
Figure 9-17

Replace Figure 9-17 as follows. This corrects the step number references.

Figure 9-11

Page 9-17  **Step 21**  Change the first sentence in step 21 to reference step 14b as follows:

16. The item we looked at in *step 14b* was “The weather today is”.

Page 22
Step 22

Change the first sentence in step 22 to reference step 14c as follows:

16. The item we looked at in step 14c was “Dispatching is by”.

Step 4

Add the following to the end of step 4:

The window title now includes the prefix "Print Switchlist: ..." This is because we opened the window from the Switchlist->Print a Switchlist menu option. For example, if we had opened the "Current Trains in Lineup, ..." Window from the Train Movements->Report Train Location menu option the prefix would be "Reporting Trains: ...". The significance of the prefix is that it tells you what action will occur if you double click on the line for a train. Other actions are possible using the buttons on the bottom left of the window (see step 12 below).

Figure 9-18

Replace Figure 9-18 with the following:

![Figure 9-18](image1)

Figure 9-19

Replace Figure 9-19 with the following:

![Figure 9-19](image2)
Page 9-20  **Step 7b**  
Replace Step 7b with the following:

b. Three buttons at the bottom of the window, “Train List” (18), “Report” and "Mark train closed" have been disabled.

Page 9-20  **Footnote 17**  
Replace Footnote 17 with the following:

17 When you look at the printed switchlist, you will see that it shows today's month and *day*. If you look back at Figure 9-14, you will see in the section marked “Operating Date” that there are two check boxes marked "Use computer Month ... Day". These are both checked. The reason for printing the real month and day is that if you have more than one copy of a switchlist, you can determine which is the most current. This may happen if you continue to run sessions as "Monday" and don't destroy older copies of the switchlist(s).

Page 9-21  **Step 8c and 8u**  
Add the following to the end of both Step 8c and Step 8u:

In newer versions of ProTrak the entry in the footer will be "NEW SWITCHLIST Pickup at: ..."

Page 9-21  **Step 8d**  
Add the following to the end of Step 8d:

In newer versions of ProTrak the entry for "Throttle" may be changed to a "Consist #" entry.

Page 9-23  **Step 9d**  
Add the following to the end of Step 9d:

If your switchlist has the entry for "Consist #" its value is based on assigned locomotives, which we have not done.

Page 9-23  **Step 9e**  
Add the following to the end of Step 9e:

The clearance # format is dd-zzz (2 digit day and 3 digit sequential number) and may not be the same as in the examples.

Page 9-23  **Step 9f**  
Add Point 8n to the list of points at the start.
Page 9-24  **Step 13**  Replace step 13 with the following:

13. Here’s where we can decide if the train needs to be re-reported.
   a. As indicated in para 10, examine the cars listed in the right hand panel of Figure 9-20 to make sure they match those in your train. In our case there is one car listed.
   b. Clicking on the “Train list” button at the bottom of the window will cause the switchlist to be printed. This switchlist can be found as Figure G-2 in Appendix G.
   c. Additionally, you may see the message shown in Figure 9-20a. We will normally not print this list, so click "No". If you want to see the printout it is okay to click "Yes", however we will not discuss it here.
   d. An examination of the switchlist shows the car to be a GSVR gondola consigned to Willsons. At this point we could simply click on “Close” and go back to the “Current Trains Line-up…” window, but so that you understand the process, we'll proceed as if there were cars in the train.

Page 9-25  **Figure 9-20a**  Insert the following as new Figure 9-20a:

![Figure 9-20a](image)

**Figure 9-20a**

**Train Movements**

Page 9-28  **Steps 1a, b & c**  Replace steps 1a & b with the following:

a. First, the “Report” button and "Train List" button have switched places – with "Report" now on the extreme left side rather than towards the middle. This signifies that we are working with Train Reporting, rather than Printing Switchlists.

b. Since we haven't selected a train yet all of the buttons with the exception of the “Close” button are disabled. This includes the third button - “Mark train closed”, which we not use at this point.

c. Also, the prefix now shows "Reporting trains: ..."
**Figure 9-26**
Replace Figure 9-26 with the following:

![Figure 9-26](image)

**Route Cars at Yards & Customers**

**Figure 9-30**
Note: The window title will include the prefix "Preview Switchlist: ..."

**Footnote 28**
Replace Footnote 28 with the following:

28 Notice that this window looks familiar. The key to determining that this is the switchlist preview version of the "Current Train in Line-up..." window is the "Preview Switchlist: ..." prefix and that only one button appears at the bottom of the window – “Switchlist”

**Figure 9-33**
Replace Figure 9-33 with the following:

![Figure 9-33](image)
Step 12
Change the first sentence to the following:
As you can see in Figure 9-33, there are three options — “Close”, "Advance List" and "Report" ("Advance List" will preview the switchlist, in this case for 202 at ACT-Yd).

Step 14
Change Step 14 to the following:
14. Let’s go back and look at the “Reporting Movements” window for train 202. Double click on train 202 and the “Reporting Movements” window will re-open. As you can see, once we reported train 202, the “Advance List” button at the bottom of the left hand panel of the "Reporting movements" window is now labeled “Train List” and allows us to preview the switchlist for train 202 at this point in its travel. Go ahead and click on it if you want. It is similar to the one that we viewed in Figure 9-31. If you viewed the switchlist, click on “Close” to close the “Preview a Switchlist” window.

Step 15
Add the following to the end of step 15:
Remember from steps 3 and 4 above (pages 9-29, 30) you will need to "Print Cutlist and Classify" when the "Classify or Hold" window appears.

Update the railroad for the next session

Step 3b
Add the following to step 3b, between the first and second sentences:
If the "Reports to print" dropdown is not visible, ensure the "Complete update, ..." radio button in the lower portion is selected.

Step 3c
Add the following paragraph to step 3c:
A new button "Reset trains, to origin ..." opens a new window that allows you to wholly or partially undo the session and is also an advanced topic that we will not cover here.

Chapter 10 – Next Operating Sessions

Session 27
Add the following to the end of step 6:
If you see the "Initialize car setoff points?" window (see Figure 9-12a), click "Yes" to ensure car routing files are correct.
Step 8  Change the number of the step to "7a."

After new Step 7a.  Insert new Step 8 and Figures 10-3a through 10-3f as follows (to page 32):

8. While not common ProTrak can occasionally lose track of a car’s location and routing, these are called lost cars. ProTrak will 'move' lost cars to the default yard (ACT-Yd) even though they are likely not physically there, except in the case of cars just added to ProTrak which are initially treated as lost cars, despite being correctly located at the default yard. Fortunately ProTrak has a way to identify lost cars and a way to correct their location.

a. It is a good idea (but not required) to check for lost cars as you start a session and here is how.

i. On the ProTrak Operations Toolbar, click on “Yardmaster” then select “Show classified cars” from the dropdown list. This opens the "Cars Classified and Routed Today" window.

ii. In the lower right click on the "Default Yard Cars" button to open the "Cars moved to the Default Yard" window (Figure 10-3a). Most, if not all of our cars will be listed since when we enter a car it will initially be placed in the default yard. To sort the list, click on the column header.

![Figure 10-3a](image-url)
iii. Click on the "Print list" button to print the list. You can save the printouts and compare them to new ones to look for repeated car routing problems.

iv. None of our listed cars should be in the wrong location, but if any were we would mark the printout with their correct location.

v. Let's clear the list so future cars moved to the default yard will be obvious. First click on any line in the window to enable the 2 "Clear" buttons (which were initially disabled. Then click on the "Clear entire list" button to clear all entries.

vi. Close both the "Cars moved to the Default Yard" and "Cars Classified and Routed Today" windows.

b. As noted while we do not need to correct any of our cars, ProTrak allows us to make changes. The process is presented here if you need it in the future.

i. On the ProTrak Operations Toolbar, click on “Exceptions” then select “Query car status” from the dropdown list. This opens the "Query car status" window (Figure 10-3b).

![Figure 10-3b](image.png)

ii. Enter the car number in the "Car number ..." data field, in most cases only the last 3 digits will be needed to identify a unique car. For this example we will enter "004" and click on the "Enter" button and the window will change as shown in Figure 10-3c.
iii. Click on the "Yes" radio button to select the car, changing the window as shown in Figure 10-3d. Should multiple cars match the entered data a dropdown to choose the correct car will be displayed. If none of the cars are correct, still click on "yes" and then just click the "OK" button and restart the process with the correct car number.

iv. This window allows you to override ProTrak's status and routing for the car, USE WITH CAUTION. To make any changes click on the "Query car status" window menu bar entry "Change". This opens the drop down in Figure 10-3e.
v. Generally the options that **do not** begin with the word "Change" are safe to use if you want to do what it says. For example "Complete loading" will tell ProTrak that the car is loaded and ready for pickup despite ProTrak's loading timer still having time remaining.

vi. With care you can be reasonably safe using the "Change location" and "Change Waybill" options. Changing the waybill allows you to remove a waybill (enter zero) or assign a specific waybill to a car. The concern is having a car loaded with a commodity that does not match the new waybill or any load if the waybill is removed.

vii. If you change either the next yard or destination, you are overriding ProTrak's routing of the car and can have unpredictable results. Changing these is not recommended.

viii. For our example to change the current location, click on the dropdown menu option "Change Location" and the window will change as shown in Figure 10-3f. Use the "New location" dropdown to select the correct location for the car and you will be returned to the window as in Figure 10-3d but with the new location listed. We will leave "ACT-Yd" set as it is correct.
ix. Click the "OK" button to complete editing the car and return to the ProTrak Operations window.

c. If you made changes, ProTrak needs to update the cars routing. We will discuss this later, but for now the steps without comment are:

i. On the ProTrak Operations Toolbar, click on “Yardmaster” then select “Route cars at Yards & Customers” from the dropdown list.

ii. A progress bar will display and when complete the "Reporting trains ..." window will open. Close the "Reporting trains ..." window.

End of Page 10-4  **End of New Step 8**  This is the end of the new Step 8 displaying lost cars and correcting car location.

Page 10-5  **Step 13**  Change the first words of step 13 as follows:

13. Repeat _step 12_ for each...

Page 10-5  **Step 17**  Add the following to the end of Step17:

As in chapter 9 if you see the "Print Worklist?" window for train 202, we will click "No".
Page 10-6  **Step 20**  

Change Step 20 to the following:

20. Do the following:

   a. Ensure the box beside the “Always operate on “Monday”” data field has been checked. If not, check the box.

   b. Select the "Complete update, ready for..." radio button in the lower portion.

   c. Change the reports to print to “Also print final car status”.

   d. Once the changes have been completed click on “OK”. When the "General Manager's Daily Summary" window is displayed click on "Close".

   e. When the "Financial Summary" window is displayed click on "Close".
Session 27 Analysis

Page 10-8  **Steps 9 to 14** Replace Steps 9, 10 and 11 with the following and delete Steps 12, 13 and 14:

9. **CAUTION** - While there are still two invalid SPOTs (for waybills 20 and 3), we will not correct these. Unfortunately there is a glitch that occurs if you open any of the special waybills for changing. The entries for Consignee city, company and siding number will appear as follows in grey and will not be editable:

   Consignee city becomes Foreman: *Your Name*
   company becomes *PRO Foreman*
   siding number becomes *WRKZON*

   *Your Name* is the name your copy of ProTrak is registered to.
   *PRO* is the reporting marks for your railroad (PRO for the Demonstrator).

   Therefore if you see the "Track material waybill" warning window, **click on "No" or "Cancel" only**

   It is possible that waybills 1 and 2 may not be affected. However do not attempt to change them unless
   - You are sure you have a clean backup of your data in a safe location.
   - You understand how to delete corrupted data and restore the backup.

10. If while using ProTrak, ProTrak identifies data in waybills 1 to 20 as being inconsistent, out of date or in error and gives you an option for ProTrak to correct the data, it is probably okay to allow the correction. Knowing you have a recent backup will make this choice easier.

11. Topic A.4. in Appendix L has information about backups, please note last sentence. Here is a good backup procedure.

   a. Using Windows Explorer (or File Explorer) open your ProTrak system folder (where ProTrak.exe is located)

   b. Identify your railroad data folder (PRO for the Demonstrator (see page 1-2 Step 3c))

   c. Copy and paste (or Drag and Drop copy (not move)) the data folder to a safe location. A USB thumb drive is a good idea. Consider putting the railroad data folder in folder on the thumb drive that identifies when the data is from. For example

      v  ThumbDrive (E:)
      v  ProTrak data backup
      v  After session 27 - 2021-02-15
      >  PRO
Page 10-9  Figure 10-7  Delete Figure 10-7.
Page 10-9  Step 15  Change the number of Step 15 to Step 12.

Session 28
Page 10-11  Figure 10-8  Replace Figure 10-8 with the following:

![Image of ProTrak Basics Manual - Supplement](image)

**Figure 10-8**

Page 10-13  Step 7  Change Step 7 to the following:

7. Remember that the “Always operate on Monday” and “Complete update,...” selections are checked and the report printing selection is set to “Also print final car status”. Click on “OK”.

Page 10-13  Step 8  Add the following to the end of Step 8:

If you do not see this window, that's okay. Go ahead and read through steps 9 to 13 for information (and come back here if you see this window in the future). Then resume with step 14.
**Session 29 Analysis**

Page 10-19  **Step 3a**  Change Step 3a to the following:

a. The two GB cars are shown as loaded with scrap iron *and one has been* setout in ACT-Yd. *It is* ready to be delivered to CHI02s in the next session. *The other is still at BER-11 and should be picked up by train 202 next session.*

Page 10-19  **Step 3b**  Change Step 3b to the following:

b. There is one empty car in the staging tracks *(in train CHSL) with destination CHI02s* and will be unloaded/loaded at the start of the next session. *In some cases like this the destination could show “999-Yd” which is a generic reference to a car’s home yard where the home yard is off-line.*

Page 10-20  **Step 3c**  Change Step 3c to the following:

c. There *is one car, an FBC* in ACT-Yd which *is* slated to be delivered to *a customer* during the next session.

**Summary**

Page 10-30  **Summary**  Add the following to the Summary:

Remember the specific car movements for your railroad may be different, however the general movements should be similar.

**Chapter 11 – More Car-orders and Opr. Sessions**

**Establishing a Timetable**

Page 11-10  **Step 8**  Replace Step 8 with the following:

8. Leaving ACT-Yd heading to East Staging, train “SLCH” travels 15” (point 5) plus 225” (point 2) for a total of 240”.

*Then train SLCH will travel 60” around the reverse loop (point 4) to reach the clearance point for its staging track and be ready to depart next session as train CHSL. This will be shown on our string diagram as a horizontal line at East Staging.*

*The total travel from ACT-Yd to staging will be 300”*

Page 11-10  **Step 11**  Replace Step 11 with the following:

11. The distance from ACT-Yd to East Staging is 240”. Using our calculations of 60 minutes for 60”, we see that it will take *4 hours for train SLCH to reach East Staging at 7:26 am.* It will then transit the 60” reverse loop in 1 hour to complete the balance of the journey, meaning it will arrive at the *exit from East Staging at 8:26 am.*
Replace Step 13 including the train data with the following:

13. We’ve done “SLCH” but we need to do the same calculations for each of the other 3 through trains. *Remember the extra 60" reversing loop is at west staging for westbound trains and at east staging for eastbound trains.* Here’s what I calculated:

<table>
<thead>
<tr>
<th>Train</th>
<th>Depart</th>
<th>Arrive</th>
<th>Depart</th>
<th>Arrive</th>
<th>Depart</th>
<th>Arrive</th>
<th>Depart</th>
<th>Arrive</th>
</tr>
</thead>
<tbody>
<tr>
<td>“SLCH”</td>
<td>West Staging</td>
<td>Actonvale</td>
<td>West Staging</td>
<td>Actonvale</td>
<td>West Staging</td>
<td>East Staging</td>
<td>End of reverse loop</td>
<td>1:01 am</td>
</tr>
<tr>
<td></td>
<td>1:01 am</td>
<td>2:26 am</td>
<td>3:26 am</td>
<td>7:26 am</td>
<td>8:26 am</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“CHSL”</td>
<td>East Staging</td>
<td>Actonvale</td>
<td>East Staging</td>
<td>Actonvale</td>
<td>West Staging</td>
<td>End of reverse loop</td>
<td>9:00 am</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2:00 pm</td>
<td>3:25 pm</td>
<td>4:25 pm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“SENY”</td>
<td>West Staging</td>
<td>Actonvale</td>
<td>West Staging</td>
<td>Actonvale</td>
<td>East Staging</td>
<td>End of reverse loop</td>
<td>2:30 pm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3:55 pm</td>
<td>8:55 pm</td>
<td>9:55 pm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“NYSE”</td>
<td>East Staging</td>
<td>Actonvale</td>
<td>West Staging</td>
<td>End of reverse loop</td>
<td>4:00 am</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8:00 am</td>
<td>9:00 am</td>
<td>10:25 am</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11:25 am</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Step 17**

Replace the timetable in step 17 with the following.

<table>
<thead>
<tr>
<th>Read Down</th>
<th>Train</th>
<th>Read Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLCH</td>
<td>202</td>
<td></td>
</tr>
<tr>
<td>SENY</td>
<td>Reverse Loop End</td>
<td>202</td>
</tr>
<tr>
<td></td>
<td>West Staging</td>
<td>NYSE</td>
</tr>
<tr>
<td></td>
<td>Actonvale</td>
<td>CHSL</td>
</tr>
<tr>
<td>1:01 am</td>
<td>Dp Ar 11:25 am</td>
<td>11:25 am</td>
</tr>
<tr>
<td>2:26 pm</td>
<td>Ar 10:25 am</td>
<td>10:25 am</td>
</tr>
<tr>
<td>3:26 am</td>
<td>Dp 9:00 am</td>
<td>9:00 am</td>
</tr>
<tr>
<td>4:55 pm</td>
<td>Ar 12:00 pm</td>
<td>12:00 am</td>
</tr>
<tr>
<td></td>
<td>3:00 pm</td>
<td>3:00 am</td>
</tr>
<tr>
<td></td>
<td>8:30 am</td>
<td>8:30 am</td>
</tr>
<tr>
<td></td>
<td>Berwick</td>
<td>10:30 am</td>
</tr>
<tr>
<td></td>
<td>JT Junction</td>
<td>10:30 am</td>
</tr>
<tr>
<td></td>
<td>Castle Rock</td>
<td></td>
</tr>
<tr>
<td>7:26 am</td>
<td>Ar 4:00 am</td>
<td>4:00 am</td>
</tr>
<tr>
<td>8:26 am</td>
<td>Dp 9:00 am</td>
<td>9:00 am</td>
</tr>
<tr>
<td></td>
<td>Reverse Loop End</td>
<td></td>
</tr>
</tbody>
</table>

**After Step 24c**

Appendix K corrections.

The timetables and figures in Appendix K had numerous error/corrections. New figures K1 through K-8 are shown under Appendix K below.

**Revising the Timetable**

Note All Corrections are based on the revised Appendix K figures shown below.

**Step 2**

Replace Step 4 with the following:

2. Next, look at trains 202 and NYSE. These two trains are currently scheduled to meet on the single track section between Berwick and Actonvale; again this is a problem.

**Step 4**

Replace the last sentence of Step 4 with the following:

I see that occurring at 6:30 am.

**Step 5**

Replace the second sentence of Step 5 with the following:

I see that occurring at 5:30 am.
Step 7

7. We now need to go back and adjust the timings for trains NYSE and 202 on our timetable (8), and again plot our timetable on a string diagram. Train NYSE will depart EAS at 5:30 am, arrive at ACT at 9:30 am, depart ACT at 10:30 am, arrive at WST at 11:55 am and finish transiting the reverse loop at 12:55 pm. Train 202 will depart ACT at 6:00 am, arrive at BER at 7:30 am, depart BER at 9:30 am and arrive at ACT at 11:00 am.

Step 8

8. *It looks like we have also avoided any problem with trains NYSE and 202 at Actonvale*. Train CHSL is now due to depart Actonvale at 11:00 am leaving the yard clear before train 202 is due to arrive at 11:30 am.

Step 11

11. Currently, train CHSL departs East Staging at 9:00 am, arrives at Actonvale at 1:00 pm, spends 1 hour switching Actonvale then departs at 2:00 pm arriving at West Staging at 3:25 pm and finishes transiting the reverse loop at 4:25 pm. Similarly, train SENY departs West Staging at 2:30 pm and arrives at Actonvale at 3:55 pm. We could hold train CHSL at Actonvale until train SENY arrives. Let’s change train CHSL’s schedule to say that it waits to depart Actonvale at 4:30 pm and arrives at West Staging at 5:55 pm and finishes its run at 6:55 pm. Let’s go back to our timetable and change those times.

Step 3

Change the list of actions to the following:

<table>
<thead>
<tr>
<th>Time</th>
<th>Train</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00 am</td>
<td>SLCH</td>
<td>print 1st switchlist</td>
</tr>
<tr>
<td>2:30 am</td>
<td>SLCH</td>
<td>report at ACT</td>
</tr>
<tr>
<td>3:30 am</td>
<td>SLCH</td>
<td>print 2nd switchlist</td>
</tr>
<tr>
<td>5:30 am</td>
<td>NYSE</td>
<td>print 1st switchlist</td>
</tr>
<tr>
<td>6:00 am</td>
<td>202</td>
<td>report at ACT before leaving</td>
</tr>
<tr>
<td>6:00 am</td>
<td>202</td>
<td>print 1st switchlist</td>
</tr>
</tbody>
</table>

and so on.

Chapter 12 – Add Castle Rock and Run Sessions

Adjusting the Timetable

Before Step 6

In the train 202 distance and travel time chart change the "BER exit to JT Junction" Travel Time to 30 min (4th line).
Page 12-22  **Step 6**  
Replace Step 6 with the following:

6. Train 202 runs from ACT Yd to Berwick, on to Castle Rock, back to Berwick and finally back to ACT Yd.
   
   a) ACT Yd to BER (far end) 45 min.
   b) Local work at Berwick 45 min.
   c) BER to CAS (far end) 50 min.
   d) Local work at Castle Rock 2 hrs.
   e) CAS to BER 50 min.
   f) Local work at Berwick 45 min.
   g) BER to ACT Yd 45 min.

Page 12-23  **Before Step 7**  
Appendix K corrections.

The timetables and figures in Appendix K had numerous error/corrections. New figures K1 through K-8 are shown under Appendix K below.

Note  All Corrections are based on the revised Appendix K figures shown below.

Page 12-23  **Step 8**  
Replace Step 8 with the following:

8. Once we have the “String Diagram” completed, we can see that while all trains will meet at a station train NYSE has 2 issues. First, it violates Rule 91 (see footnote 7 on page 11-15) with train SLCH at East Staging. Second, while not a violation the timing with train 202 at Berwick is very close. Two minor changes will eliminate both issues. Delaying train NYSE’s departure time from East Staging until 5:45 am will meet Rule 91 with train SLCH. Then allowing train 202 to work Berwick for 1 hour will minimize the chance for conflict with the revised NYSE schedule.

**Changing Train Departure Times**

Page 12-23  **Step 2**  
At the bottom of the page replace Step 2 with the following:

2. Double click on train “NYSE” and change the departure time to read 5:45 am. Click on OK to make the change permanent.
Scheduling Using ProTrak

Page 12-24  **SLCH Schedule**  Replace the third paragraph that begins with "In this section we'll..." with the following:

Using ProTrak version 348 some odd behavior has been observed when scheduling on the string diagram. Therefore we will schedule using the timetable mode and look at the string diagram to identify conflicts. If you desire to try scheduling on the string diagram PTBM chapter 12 unmodified by this supplement covers the process well although schedule times may be different (14).

Page 12-24  **SLCH Schedule**  Change the "Arrive  East Staging Exit" time to 5:14 am.

Page 12-26  **Step 3**  After the line "again rounded to 4 minutes." add the following paragraph and Step 4:

ProTrak does not allow for a separate entry for the reverse loop travel time so we will include the 60" loop distance in our arrival at staging distance when verifying times.

4. The 1 hour fast clock working time at ACT-Yd is 10 minutes actual time (1 hr. / 6 fast clock ratio = 0.1667 hr. = 10 min.)

String Diagram Scheduling

Timetable Scheduling

Deleting a train from the ProTrak Scheduler

Page 12-26 to 44  Delete the entirety of the sections "String Diagram Scheduling", "Timetable Scheduling" and "Deleting a train from the ProTrak Scheduler" and Figures 12-12 through 12-26.

Page 12-26  **New sections**  In place of the material deleted above insert new sections "Scheduling SLCH on the Timetable" and "Scheduling the other trains" as follows (Here through page 62):

Scheduling SLCH on the Timetable

1. On the ProTrak Standard toolbar click on “Scheduling” then select “Train Time Table Schedules” from the dropdown list. A window like the one shown in Figure 12-12 will appear.
2. We need to select the train to edit. Click on the dropdown arrow beside the “Select Train to Schedule” data field and select “Symbol SLCH” from the list. A window like Figure 12-13 will appear. Only the departure from STL03s is shown in the Arrival/Departure Time list.
3. Next we need to build the schedule for SLCH. Double click on Actonvale in the right hand panel to enter it as our next stop. Actonvale will now appear in the editing fields under the Arrival/Departure Times list. See Figure 12-14. You will note ProTrak has entered times for arrival and departure and is asking if there is a stop at this station.

If you do not see Actonvale in the right hand panel your right hand panel is probably displaying the staging tracks. To fix this click the "All stations" radio button at the bottom of the panel and Actonvale should now show in the list.

![Figure 12-14](image)

If you see the "Invalid station" window (Figure 12-14a) and there are no apparent errors in the station list try closing and reopening the scheduling window. To do this click the "Cancel" button in the lower left corner, then click the "Close" button and reopen the schedule from the ProTrak menu bar.

![Figure 12-14a](image)
4. Since the times are correct for our schedule we can click on "Station stop?" "Yes" since we will stop here for the indicated 10 minutes. The window will change to that shown in Figure 12-15. If we were to click on "Station stop?" "No" ProTrak would have entered Actonvale into the time table with only a departure time. This is useful to show the times at stations where no work is done or delay a train’s departure to prevent a later conflict.

![Figure 12-15](image)

5. It is important at this point to note that there are two separate “Cancel” buttons in the window – one immediately below the “Station/Arrival/Departure” data fields and one at the bottom left corner of the window. These perform different functions:
   a. The “Cancel” under the “Station/Arrival/Departure” data fields cancels the changes made to the selected station (For want of a better name we’ll call this button the “Station Cancel” button).
   b. The “Cancel” button at the bottom left of the window cancels all changes that have been made to any of the stations and/or arrival and departure times (we’ll call it the “Train Cancel” button).

6. We can now click on the "Save Stop" button to enter Actonvale into the timetable with the 10 minute stop we want. The result is shown in Figure 12-16.
7. Now let's enter the last stop at CHI02s. At the bottom of the right hand panel click on the "Staging" radio button to display staging tracks. Then double click on CHI02s to select our destination. This will immediately enter the final stop into our timetable as shown in Figure 12-17.
8. While this looks good the arrival time at Chicago is not what we want. To edit this double click on the third line of the timetable in the center pane. This will bring up Chicago, IL up for editing below the Arrival/Departure Times as shown in Figure 12-18

![Figure 12-18](image)

9. The new buttons shown in Figure 12-18 are used as follows:
   a. “Cancel” does what the name would imply – it cancels the editing process and clears the data in the Station/Arrival/Departure data fields. At this point you could select a different station to edit.
   b. “Erase” allows you to remove the station selected completely from that train’s schedule and all the stations that follow. For example, if we were to double-click on Actonvale and use the “erase” function to remove Actonvale from the schedule of train SLCH, we would not only remove Actonvale but also Chicago.

10. To change the arrival time to our calculated 1:16 am, click in the arrival time data field. As soon as you click in the “Arrival” data field, the buttons change to read “Cancel” and “Save” (See Figure 12-19). The “Cancel” is as previously described and the “Save” functions as the “Save stop” did in Step 6 above.
Back to the task at hand, change the time in the “Arrival” data field to 1:16 am then click on the “Save” button below the “Departure” data field. You should see the data in the “Arrival/Departure Times” window updated as shown in Figure 12-20.
12. Note that in the case of an intermediate station like Actonvale, if you need to change both the arrival and the departure time for that station, you must change each time separately then save the change before making the change to the other time. First, you would need to double-click on the station, change the departure time in the edit window below the list of stations, click on the “Save stop” button to save the departure time change. Then back in the Arrival/Departure Times panel, double-click on the same station again, change the arrival time in the edit window then again click on the “Save” button to save the arrival time.

13. Once you have entered the schedule as desired, you must click on the “OK” button in the bottom right corner of the “Train schedules” window to make the changes permanent. If you change a time of arrival for example, click on the “Save” button then click on the “X” to close the window, the changes made will not be saved. This is as if you had clicked on the “Save” button but then clicked on the “Train Cancel” button. The same situation applies to the “Save stop” button for changes of departure times. Go ahead and click the "OK" button and you will be returned to the "Train schedules" window (see Figure 12-12).

14. Now let's look at the schedule on the string diagram. There are 2 ways to access the string diagram.

a. From the "Train schedules" window (see Figure 12-12) click the "Schedule directly on String diagram" button.

b. On the ProTrak Menu click on "Scheduling", then from the dropdown click on "Create string diagram". This opens the "Which subdivision" window (Figure 12-21) where you select the subdivision to view. As we have only one subdivision we will select it by double clicking on it.

Either method results in opening the "Creating string diagram: subdivisions in Middle" window as shown in Figure 12-22

![Figure 12-21]
15. Let’s take a look at the “Creating string diagram...” window.

   a. Our window should show a graph of the schedule we entered for SLCH as a nearly vertical blue line.

   For the purposes of the discussions here, the term “the graph” is used to refer to the area where the train schedule lines are drawn. This is the grid area to the right of the station names, below the words "PLANNED MOVEMENT OF TRAINS" and above the time of day figures at the bottom of the window. You can see vertically the graph is broken into a series of dark and light sections. The dark sections represent the distance at a station (or staging track) and the light sections represent the distance between stations. To the left of each of the dark sections is the name of the station that section represents. As you can see, not all the sections are the same height since each section’s height is based upon the values that we set up in the "Distance between clearance points” data fields for each of the stations (see Chapter 2). Looking at the graph, the section for Castle
Rock is higher than the section for Berwick since the distances between clearance points at the station in Berwick is 25 inches while the distance at Castle Rock is 30 inches. These sections help you establish where the mouse pointer is when you are working with the graph.

b. On the toolbar of the “Creating string diagram...” window there are six controls (only 4 are currently visible), as follows (from left to right):

i. The “Show up to Class” data field allows us to selectively view classes of trains \(^{(17)}\). Suppose we want to eliminate conflicts for our passenger trains first then add the through freights, then the local ‘turns’, we can do this by assigning our passenger trains as, say Class 1, the through freights as Class 3, then all other trains as Class X. By choosing to show up to Class 1 trains, we can view just the passenger trains. On the second pass we can add the through freights, ensuring they fit in around the passenger schedule, and on the third pass, add the last of the trains.

ii. Next is a data field labeled “Working on train” with a dropdown arrow beside the data field. Click on the dropdown arrow and you will see a list of all currently established trains. Selecting a train here will open that train for scheduling directly on the string diagram, which we will not do. When open for editing the trains graph will be draw in magenta and have small circles at each scheduled time. If you open a train here that does not have a schedule ProTrak will immediately create a one for the train and draw the graph. The times are calculated by ProTrak using the data we entered when we established the train, when we set up the stations and when we set up the fast clock ratio. ProTrak defaults all station stops to 10 minutes.

iii. The “Save current train” button will only be visible if you have a train open for scheduling and allows you to save any changes you have made.

iv. The “Got Time” indicator, also only visible if a train is open for scheduling, indicates whether you have ‘grabbed’ the line representing a train’s schedule to move it.

v. The “At station” data field is managed by ProTrak. If your mouse pointer is on the graph and is between the two horizontal lines for a station, the “At station” data field will display the name of the station. If it is on the graph but not in the area just described it will show the distance, in inches, from the most easterly \(^{(18)}\) point of the railroad. In our case this is the most easterly point of East...
Staging. If your mouse pointer is off the graph the “At station” data field will display the value shown when it left the graph.

vi. The “New time” data field is also managed by ProTrak and displays the time your mouse pointer is pointing at. If you are editing a station, this time will change as you move the lines.

c. In the graph portion of the window, the lines representing the train you are working on are shown in magenta. Other trains are shown in blue.¹⁹

d. For now we’ll ignore the controls on the bottom line of the window.

16. If we look at the line that ProTrak has drawn which graphically represents train SLCH’s schedule we can see a number of things;

a. Train SLCH is scheduled to leave West Staging at 1:01 am. We can check the time by moving the mouse pointer to the end of the line in the West Staging area. The time where the mouse pointer is pointed is displayed in the data field labeled “New time” which appears at the right hand end of the top toolbar in the “Creating string diagram…” window.

b. Train SLCH is scheduled to arrive at Actonvale at 1:02 am. If you put your mouse pointer on the leftmost end of the line at Actonvale you should see that the “New Time” data field shows 1:02 am.

c. Train SLCH is scheduled to depart Actonvale at 1:12 am. Again you can confirm the shown times by placing your mouse pointer on the rightmost end of the line at Actonvale.

d. There is no station stop at Berwick.

e. There is a station stop at Castle Rock.

f. Train SLCH is scheduled to arrive at East Staging at 1:16 am.

It is of note that accurately reading times is difficult due to the small difference between each minute.

Deleting a train from the ProTrak Scheduler

17. Other than seeing our time table graphically and checking for conflicts there is one action we can only perform on the string diagram, completely delete a trains schedule from ProTrak. You may need to remove a train from the scheduler, either because you have eliminated the train, or because you’ve got the schedule for an existing train all messed up and you want to start again. To show how this works we will create and then delete a schedule for train NYSE.

a. Click on the "Working on train" dropdown arrow and you will see a list of all currently established trains. From the list select train NYSE.
ProTrak will immediately draw a schedule for train NYSE on the graph in the window (see Figure 12-23).

Figure 12-23

b. You will note this schedule does not match the timetable for NYSE, this is why we are not scheduling directly on the string diagram. However it is okay for this demonstration of deleting a schedule. You will also note the previously hidden toolbar controls "Save current train" and "Got time" are now visible.

c. Click on the "Save current train" button. The NYSE graph color changes to blue and its schedule has been saved.

d. Now let's delete the NYSE schedule. Again click on the "Working on train" dropdown arrow select train NYSE. The NYSE graph will again be shown in magenta, indicating it is open for editing.

If you want to try editing the NYSE schedule here, go ahead but don't save any changes. When you are done go to the next step regardless of what the NYSE schedule looks like.
e. Press the "Delete" key on your computer keyboard and a window like the one shown in Figure 12-24 will appear.

![Delete schedule window](image)

**Figure 12-24**

f. Click on “Yes” and the entry for train “NYSE” will be removed from the **ProTrak scheduler only**. You will note that the train still exists in the lineup of trains so we can re-enter it into the ProTrak scheduler.

g. In general the procedure to delete a train from the scheduler is restated here:

i. Open the "Creating string diagram" window (see Figure 12-22) using either Scheduling/Create string diagram from the ProTrak menu or the "Schedule directly on String diagram" button from the "Train schedules" window.

ii. Using the dropdown arrow beside the “Working on train” data field, select the train to delete.

iii. Press the “Delete” key on your computer keyboard and the "Delete schedule" window will appear (see Figure 12-24).

iv. Click on “Yes” and the entry for the train will be been removed from the ProTrak scheduler only.

18. We are done with the string diagram for now so click the "Close" button at the bottom of the window.

**Scheduling the other trains**

1. To complete our scheduling we need to create schedules for the four remaining trains. To begin open the scheduler (Scheduling / Train Time Table Schedules [Train schedules]). We will begin with train SENY since it has the same scheduling intervals as train SLCH.

2. Use the "Select Train to Schedule" dropdown to select train SENY. This will open train SENY for scheduling and the window will be similar to Figure 12-13 except the Train Symbol will be SENY with a 2:30 pm Call time.

3. Add the stop at Actonvale arriving at 2:31 pm and departing at 2:41 pm.
a. Double click on Actonvale in the right hand panel to place Actonvale in the station stop editing fields. The Train schedules window should now appear as in Figure 12-25

![Train schedules window](image)

**Figure 12-25**

b. You will note the calculated times are 1 minute later than we want. To fix this will take 2 steps (see previous step 12). First click in the Departure time data field and change it to be 2:31 pm. Then click the "Save Stop" button. Your window should now look like Figure 12-25a.
c. Next to fix the arrival time, double click on Actonvale in the Arrival/Departure times panel to return it to the station stop editing fields. Then click in the Arrival time data field and change it to 2:31 pm. Save the change by clicking the "Save" button.

4. Enter the final arrival in east staging (NYC01s) at 2:45 pm by clicking "Show Staging" and then double clicking NYC01s in the right hand panel.

5. Correct this arrival time to be 2:45 pm as in step 3c above. The final schedule is shown in Figure 12-26.
Figure 12-26

6. Click "OK" to save the schedule for SENY

7. Trains CHSL and NYSE will have the same time intervals as follows:
   - East staging to ACT-Yd 240 inches 4 minutes
   - Stop time at ACT-Yd 10 minutes
   - ACT-Yd to West staging 145 inches 2 minutes (1.8 rounded up)
     (including reversing loop)

8. Now enter the schedules for trains CHSL and NYSE by following the procedures in steps 2 through 6 above with the intervals in step 7. Final schedules are shown in Figure 12-26a for CHSL and Figure 12-26b for NYSE. Make sure to click the "OK" button each time to save the schedule.
Figure 12-26a

![Image showing a section of a train schedule and arrival/departure times.](image)

Figure 12-26b

![Image showing another section of a train schedule and arrival/departure times.](image)
9. Finally we will enter the schedule for train 202 using the following schedule.

- **Depart Actonvale**: 6:00 am
- **ACT-Yd to Berwick (far end)**: 90 inches, 1.12 min, 6:01 am
- **Work at Berwick**: 7.5 min, 6:09 am
- **Berwick to Castle Rock**: 100 inches, 1.25 min, 6:10 am
- **Work at Castle Rock**: 20 min, 6:30 am
- **Castle Rock to Berwick**: 100 inches, 1.25 min, 6:31 am
- **Work at Berwick**: 7.5 min, 6:39 am
- **Berwick to ACT-Yd**: 90 inches, 1.12 min, 6:40 am

10. The final train 202 schedule is shown in Figure 12-26c. Make sure to click the "OK" button to save the schedule.

![Figure 12-26c](image)

11. Now we can check the string diagram for any conflicts. Click the "Schedule directly on String diagram" button opening the "Creating string diagram" window shown in Figure 12-26d.
12. As you can see trains NYSE and 202 are departing ACT-Yd at nearly the same time 5:58 am and 6:00 am respectively. While they are moving in different directions there could be conflict at the yard entrance. An easy solution would be to delay train 202 by 5 minutes. This would eliminate all ProTrak scheduling concerns and if you check Figure K-8 in Appendix K will not result in any conflicts on that diagram either.

13. To make the changes to train 202, we must first change its call time, then reenter its schedule. Close the "Creating string diagram:" window.

14. Open train 202 for editing (Scheduling / Establish Train jobs and yarding [Listing of train jobs]). Double click on the entry for train 202 (line 3) to open the "Changing train: 3 of: 5" window.
15. Click in the "Departure at" data field and the warning window shown in Figure 12-26e will open. This warning lets you know that we will delete our existing schedule for the train. Unfortunately, while following suggestion 1 (changing the schedule directly on the string diagram) will correctly change the departure time it will also introduce other unwanted changes and fixing those will require deleting and reentering the schedule. So, answer "Yes" here to open the "Departure Time" editing window. Set the time to 6:05 am and click "OK" to save the time. Then click "OK" to save the changes to the train and close the "Changing train..." window.

![Figure 12-26e]

16. Now open train 202 for timetable editing (Scheduling / Train Time Table Schedules [Train schedules] -> Select Train to Schedule/202) and reenter the schedule using the times from step 9 above after adjusting them to 5 minutes later. You may find the schedule has not been erased, in which case you can just edit the times.

If the schedule was not erased but you prefer reentering it over editing, you can delete the schedule as follows.

a. Double click on the second line (20) in the "Arrival/Departure Times" panel, Berwick in this case.

b. Click the "Erase" button below the Station "Arrival" data field. This will remove line 2 and all following lines from the schedule.

17. Save the schedule changes and check the string diagram to confirm there are now no conflicts. Figure 12-26f shows the new time table and Figure 12-26g is the revised string diagram.
18. Let's run some more sessions, so close any open windows.

The affected footnotes remain unchanged and are reproduced here for clarity.

17 Note that the String Diagram classes of trains here do not reflect prototype train classes.

18 If your railroad is north/south oriented, this is the most northerly point.

19 Other colors that appear on string diagrams are red for switching trains and green for passenger trains.

20 Why the 2nd entry? As you will see if you try, you cannot edit the initial starting point nor the time. These two items are taken from the “Origin Station” and “Departure at” data fields shown in the “Changing train... window” (see chapter 5)

End of Page 12-26   End of New sections
This is the end of the new sections
"Scheduling SLCH on the Timetable"
“Deleting a train from the ProTrak Scheduler”
and "Scheduling the other trains"

Chapter 13 – Basic Passenger Train Operations

Additional Passenger Stations

Page 13-2  Figure 13-1  Note: For the ACT-01 entry the "Switching train" column will show "1 platform"

Page 13-5  Figure 13-4  Note: For the three passenger station entries the "Switching train" column will show "1 platform"

Setting the Default Location for Passenger Cars

Page 13-7  Step 3  Change the last phrase in parentheses to:
(entry 34 in the list of special tracks)

Page 13-8  Above Figure 13-7  Change the paragraph beginning "All of the remaining ..." as follows:

All of the remaining fields can be left unchanged. When entering the data ProTrak adds the "Coach yard home railroads" data fields and should have entered PRO as the "Owner railroad". Figure 13-7 shows what the “Changing Customer....” window should look like.
Replace figure 13-7 with the following:

![Figure 13-7](image_url)
Figure 13-8

Replace figure 13-8 with the following:

![Figure 13-8](image_url)
Adding Passenger Cars

Page 13-13  **Figure 13-11**  Replace figure 13-11 with the following:

![ProTrak basics manual - supplement](image)

**Adding a Passenger Train**

Page 13-19  **Step 18**  Add the following sentence to the end of Step 18:

ProTrak may have removed the entry from the "Coach yard home railroads", "Owner railroad" data field, this is okay.
**Scheduling the Passenger Train**

Page 13-19, 20 **Steps 1 - 6**  
Delete existing Step 1 through Step 6.

Page 13-20 **Figure 13-18**  
Delete existing Figure 13-18.

Page 13-19 **Step 1, 2**  
Insert new Steps 1 and 2 as follows:

1. On the ProTrak Standard Toolbar click on “Scheduling” then select “Train Time Table Schedules” from the dropdown list.

2. The “Train schedules” window is now displayed. Select "Symbol 100/101" from the "Select Train to Schedule" data field. Figure 13-18 shows how the window should now appear. ProTrak is now ready for us to enter the schedule for train 100/101.

Page 13-20 **Figure 13-18**  
Insert new Figure 13-18 as follows:

![Figure 13-18]

Page 13-21 **Figure 13-19**  
Delete existing Figure 13-19.

Page 13-21 **Step 7**  
Change the step number to "3" and change the second to last sentence as follows:

From Actonvale to West Staging *takes 2 minutes* (remember the train has to go around the loop).

Page 13-21 **Step 8**  
Change the number of the step to "4".

Page 13-22 **Step 9**  
Change the number of the step to "5".

Page 66
Page 13-22 **New Step 5**  
In the table change the "West Stg" arrival time to "7:11 am".

Page 13-22 **Step 10**  
Change the number of the step to "6" and delete the sentence below the table that begins “We can now use the values...”

Page 13-22-24 **Step 11 to 13**  
Delete steps 11 through 13.

Page 13-22-24 **Fig. 13-20, 21**  

Page 13-22 **New Steps & Figures**  
Insert new Steps 7 through 9 and new Figures 13-19 through 13-21 (to page 72).

7. We can now enter the schedule for train 100/101. In the "Train schedules" window perform the following.
   a. Double click on Berwick in the right panel to bring it to the "Arrival/Departure Times" editing fields (see Figure 13-19). ProTrak has assigned the arrival time we want, however we must adjust the departure time.

   ![Figure 13-19](image_url)

   **Figure 13-19**

   b. In the "Departure" data field change the time to "7:03 AM". Then click on the "Save stop" button (which becomes visible when you click in the data field) to enter the Berwick stop into the schedule. The schedule will now look like Figure 13-20 (only the upper portion of the window where data is located is shown).
c. Now add Actonvale with a 5 minute stop using the same procedure.

d. At the next stop, West Staging, the train will wait until 5:30 pm before departing. This is still a normal stop, so let's enter it. First we need to select the correct location. Remember when we set up the train it went to St. Louis so we need to use that location not the model location of West Staging. In the right hand panel click on the "Show Staging" radio button, then double click on STL03s. As Figure 13-20a shows we will need to edit both the arrival and departure times.
e. First we will change the departure time to "5:30 PM" and then click on the "Save button", the same as we did for the other stops above.

f. Then in the "Arrival/Departure Times" panel double click on the "St Louis" entry to bring it back to the editing panel, as shown in Figure 13-20b.

![Figure 13-20b](image)

Now change the arrival time to "7:11 AM" and click on the "Save" button. The result is shown in Figure 13-20c.

![Figure 13-20c](image)

g. Enter the Actonvale and Berwick stops using the data from the table in step 6 above. Remember to switch the right hand panel back to "All stations" using the radio button. The resulting schedule is shown in Figure 13-20d.
i. It is now time to enter the last stop at Castle Rock. This begins the same by double clicking on Castle Rock in the right hand pane, but his time ProTrak recognizes it is our termination station so it just enters the station and arrival time in the schedule, see Figure 13-20e. We can see that the time is correct, if it needed correcting we would have double clicked on the schedule entry to make the change as in step 7f above.

Figure 13-20e
j. Remember that once you have made all the changes you must click on the "OK" button in the bottom right corner of the window to permanently accept all of the changes. Do this now and you will be returned to the "Select Train to schedule" version of the "Train schedules" window as in Figure 13-20f.

![Figure 13-20f](image)

8. Now let's see how the train 100/101 schedule fits with our other trains. Click on the "Schedule directly on String diagram" button to display the string diagram. The result should look like Figure 13-21.

Remember changing a schedule here can cause errors, so do not edit any schedules on the string diagram.

![Figure 13-21](image)
9. Train 100/101 shows up as a green line and has no conflicts. We can close the "Creating string diagram” window.

End of Page 13-22  **End of New Steps & Figures**

This is the end of new Steps 7 through 9 and new Figures 13-19 through 13-21.

**Assigning Passenger Cars to the Train**

Page 13-25  **Step 2**  Add the following sentence, steps 2a to 2d and Figure 13-23a to the existing step 2

If your "Cars in train" list has any cars listed (including freight cars) it indicates that system files did not properly update. The following steps 2a to 2c will correct this.

a. Click on "Close" to close the "Assigning passenger cars" window.

b. On the ProTrak Standard toolbar, click on “Help” then select “Emergency reset” from the dropdown list to open the "Emergency Reset" window shown in Figure 13-23a.

c. Click on the "Run FP" button in the middle left side of the window. This causes ProTrak to run the file pre-processor to correct the train files. You will see a process window and when complete both windows will close. ProTrak uses the same process when you start operations.

d. Return to step 1 above to reopen the "Assigning passenger cars"

**Figure 13-23a**
Printing Schedules and String Diagrams

Page 13-28  **Step 4**  Add the following notes to step 4

Note: The arrival time at St Louis shown as 7:13 AM in Figure G-32 will be 7:11 AM in our data. When printing in actual minutes and seconds the origin station departure time prints as "0:00". We are unaware of the reason or a way to correct this. Other times appear to be correct.

Page 13-28  **Step 6**  Add the following note to step 6

Note: After printing the string diagram the right hand side of the "Creating string diagram" window may be cutoff, hiding the "Close" button. Since we make no changes to schedules here you can close this window using the upper right corner system close window "x".
Passenger Car Waybills

Figure 13-30

Replace Figure 13-30 with the following:
Replace Figure 13-31 with the following:

![Figure 13-31](image)
Replace Figure 13-32 with the following:

![ProTrak Basics Manual - Supplement](image)

**Figure 13-32**

Page 13-36  **Step 14**  Add the following note to step 14.

Note: The remaining data fields should be left blank. They would be used if we had Pullman or other RR passenger cars or were concerned with financial modeling.
Passenger Ops Switchlists

Page 13-39, 40  **Step 2**  Replace step 2 with the following:

2. Start “Operations” as you did for a freight train, then from the ProTrak Operations Toolbar select “Switchlist” and choose “Print a Switchlist” from the dropdown list. Single click on train 100 then click on the “Switchlist” button at the bottom of the window; alternately, you may double-click on train 100. *A copy of the "Conductors Passenger Service Report" (the passenger ops version of a switchlist) is included in Appendix G as Figure G-31. Currently you can see a "Switchlist Preview" that is the same format as for a freight train from the "Reporting Movements“ window that is used to report the train at each location. Note, selecting a passenger train and clicking "Train List" in the "Reporting trains: Current Trains...” window will directly print the "Conductors Passenger Service Report".*

Page 13-40  **Step 3**  Change the third line to read "for freight trains."

Work Notes

Page 13-47  **Step 2**  Replace step 2 with the following:

2. As noted in the preamble to this section, Work Notes currently do not print on a passenger train’s “switchlist”; **but since Train 202 is scheduled to work in Castle Rock until shortly before Train 100/101 departs for Actonvale, we can add an alert in a Work Note to Train 202’s switchlist.** Double click on train 202 and a window like Figure 13-42 will appear.

Page 13-49  **Steps 5 and 6**  Replace steps 5 and 6 with the following:

5. Insert the text **"If delayed, ensure Main track is clear prior to 7:00 am"** in the “Notes: Train...” data field then click on the “Save Notes” button at the bottom right of the “Work Notes for...” window (see Figure 13-44). **This will open another area below the first note line. In this area enter “for the departure of Train 100” and again click on the “Save Notes” button. It was necessary to enter the note on 2 lines since ProTrak will not word wrap a long line (you need to see the entire text displayed in the data field).**

6. The note we entered has now been saved and will be printed on the switchlist for Train 202 at Castle Rock. **Again, another area has opened below the note we just entered. This allows us, if required, to add additional notes.** We might need to add another note if, for instance, we had to restrict where the locomotives could go (similar to what we described in the preamble). We won’t add any more notes at this time.
Appendix K - Timetables

Note: The following changes replace Appendix K in its entirety.

Timetable 1

Page K-1  **Figure K-1**  Replace Figure K-1 with the following.

Note: Corrected to properly account for the staging reverse loops.

**Timetable 1**

<table>
<thead>
<tr>
<th>Read Down</th>
<th>Train</th>
<th>Read Up</th>
<th>202</th>
<th>NYSE</th>
<th>CHSL</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLCH</td>
<td>SENY</td>
<td>202</td>
<td>Reverse Loop End</td>
<td>Ar</td>
<td>11:25 am</td>
</tr>
<tr>
<td>1:01 am</td>
<td>2:30 pm</td>
<td>Dp</td>
<td>West Staging</td>
<td>Ar</td>
<td>10:25 am</td>
</tr>
<tr>
<td>2:26 am</td>
<td>3:55 pm</td>
<td>Ar</td>
<td>Actonvale</td>
<td>Dp</td>
<td>9:00 am</td>
</tr>
<tr>
<td>3:26 am</td>
<td>4:55 pm</td>
<td>7:00 am</td>
<td>Dp</td>
<td>Ar</td>
<td>12:00 am</td>
</tr>
<tr>
<td>8:30 am</td>
<td>Ar</td>
<td>Berwick</td>
<td>Dp</td>
<td>10:30 am</td>
<td></td>
</tr>
<tr>
<td>8:26 am</td>
<td>9:55 pm</td>
<td>Ar</td>
<td>Reverse Loop End</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7:26 am</td>
<td>8:55 pm</td>
<td>Ar</td>
<td>East Staging</td>
<td>Dp</td>
<td>4:00 am</td>
</tr>
<tr>
<td>8:26 am</td>
<td>9:55 pm</td>
<td>Ar</td>
<td>Reverse Loop End</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure K-1

Page K-2  **Figure K-2**  Replace Figure K-2 with the image from the following page (page 79).

Note: The string lines for several trains have been adjusted to the correct arrival and departure times and staging reverse loops.
Timetable 1 – String Diagram

Figure K-2
Timetable 1 - Revised Timetable

Replace Figure K-3 with the following.

Note: Corrected to properly account for the staging reverse loops.

Timetable 1 - Revised Timetable

<table>
<thead>
<tr>
<th>Read Down</th>
<th>Train</th>
<th>Read Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLCH</td>
<td>202</td>
<td>NYSE</td>
</tr>
<tr>
<td>SENY</td>
<td>Reverse Loop</td>
<td>12:55 pm</td>
</tr>
<tr>
<td>1:01 am</td>
<td>West Staging</td>
<td>Ar 11:55 am</td>
</tr>
<tr>
<td>2:26 am</td>
<td>Actonvale</td>
<td>Dp 10:30 am</td>
</tr>
<tr>
<td>3:26 am</td>
<td>Berwick</td>
<td>Ar 11:00 pm</td>
</tr>
<tr>
<td>7:30 am</td>
<td>JT Junction</td>
<td>Dp 9:30 am</td>
</tr>
<tr>
<td>7:26 am</td>
<td>East Staging</td>
<td>Dp 5:30 am</td>
</tr>
<tr>
<td>8:26 am</td>
<td>Reverse Loop</td>
<td></td>
</tr>
</tbody>
</table>

Figure K-3

Replace Figure K-4 with the image from the following page (page 81).

Note: The string lines for several trains have been adjusted to the correct arrival and departure times.
Timetable 1 Revised – String Diagram

Figure K-4
Timetable 2

Page K-5  **Figure K-5** Replace Figure K-5 with the following.

Note: Corrected for train 202 distances and revised Timetable 1 times.

**Timetable 2**

<table>
<thead>
<tr>
<th>Read Down</th>
<th>Train</th>
<th>Read Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLCH</td>
<td>Reverse Loop End</td>
<td>202</td>
</tr>
<tr>
<td>SENY</td>
<td></td>
<td>NYSE</td>
</tr>
<tr>
<td>1:01 am</td>
<td>Dp</td>
<td>Ar</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>West Staging</td>
<td>9:43 am</td>
</tr>
<tr>
<td>1:44 am</td>
<td>Ar</td>
<td>9:13 am</td>
</tr>
<tr>
<td>3:13 pm</td>
<td>Actonvale</td>
<td>12:43 pm</td>
</tr>
<tr>
<td>2:44 am</td>
<td>Dp</td>
<td>8:30 am</td>
</tr>
<tr>
<td>4:13 pm</td>
<td>Ar</td>
<td>12:00 pm</td>
</tr>
<tr>
<td>6:00 am</td>
<td>12:40 pm</td>
<td></td>
</tr>
<tr>
<td>6:45 am</td>
<td>Berwick</td>
<td>7:30 am</td>
</tr>
<tr>
<td>7:30 am</td>
<td>Dp</td>
<td>11:00 am</td>
</tr>
<tr>
<td>8:20 am</td>
<td>JT Junction</td>
<td></td>
</tr>
<tr>
<td>10:20 am</td>
<td>Ar</td>
<td></td>
</tr>
<tr>
<td>4:44 am</td>
<td>11:55 am</td>
<td></td>
</tr>
<tr>
<td>6:13 pm</td>
<td>Castle Rock</td>
<td></td>
</tr>
<tr>
<td>5:30 am</td>
<td>East Staging</td>
<td></td>
</tr>
<tr>
<td>5:14 am</td>
<td>Ar</td>
<td></td>
</tr>
<tr>
<td>6:43 pm</td>
<td>Reverse Loop End</td>
<td></td>
</tr>
</tbody>
</table>

**Figure K-5**

Page K-6  **Figure K-6** Replace Figure K-6 with the image from the following page (page 83).

Note: The string lines for several trains have been adjusted to the correct arrival and departure times.
Timetable 2

Figure K-6
**Timetable 2 - Revised Timetable**

Page K-7  **Figure K-7**  Replace Figure K-7 with the following.

Note: Corrected for train 202 distances and revised Timetable 1 times.

**Timetable 2 - Revised Timetable**

<table>
<thead>
<tr>
<th>Read Down</th>
<th>Train</th>
<th>Read Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLCH</td>
<td>SENY</td>
<td>202</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reverse Loop End</td>
</tr>
<tr>
<td>1:01 am</td>
<td>2:30 pm</td>
<td>Dp</td>
</tr>
<tr>
<td>1:44 am</td>
<td>3:13 pm</td>
<td>Ar</td>
</tr>
<tr>
<td>2:44 am</td>
<td>4:13 pm</td>
<td>6:00 am</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6:45 am</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7:45 am</td>
</tr>
<tr>
<td>8:35 am</td>
<td>Ar</td>
<td>JT Junction</td>
</tr>
<tr>
<td>4:44 am</td>
<td>6:13 pm</td>
<td>Ar</td>
</tr>
<tr>
<td>5:14 am</td>
<td>6:43 pm</td>
<td>Ar</td>
</tr>
</tbody>
</table>

**Figure K-7**

Page K-8  **Figure K-8**  Replace Figure K-8 with the image from the following page (page 85).

Note: The string lines for several trains have been adjusted to the correct arrival and departure times.
Timetable 2 Revised – String Diagram

Figure K-8