

Appendix L - Questions and Answers

Many questions have been posed to Jim Moir directly, or via the Yahoo ProTrak mail group regarding how to do something in ProTrak. This appendix is an attempt to capture the key questions (or at least the essence of them) that people using this manual may have as they expand their activity in ProTrak. Included are Jim's responses, and also in a few cases responses from members Howard Garner, Jim Brewer, Kelly Regan and Andy Keeney of the Yahoo ProTrak mail group. Joe Brann and John Valle assembled and edited this "Q&A" summary.

In a few instances the same or very similar questions were asked several times. In these cases the reader will find multiple answers under the same question. Some of the answers have been edited to more explicitly identify the ProTrak Standard toolbar name(s) and / or window name(s) that were not present in the original answer. The individual topics have been grouped into more general categories. Keep in mind some questions may relate to other categories as well, the index can help find these.

ProTrak is a living program. Jim Moir is always adding new capabilities and correcting any bugs that are found. As a result some of the details in these answers may change over time. Usually the concept remains valid but menu items and data locations may change a bit. If you see an answer that is confusing, please consider posting your question on the ProTrak group on Yahoo (include a reference to the Appendix L topic number).

List of Questions	Page
A - The ProTrak Interface	L-9
A.1. - What is meant by ProTrak being "customer oriented"?	L-9
A.2. - What happens when installing a ProTrak update?	L-9
A.3. - Is there a way to retrieve lost ProTrak data?	L-10
A.4. - How should I back-up my ProTrak data?.....	L-10
A.5. - How should I enter my data into ProTrak?.....	L-12
A.6. - How do I create a test version of my railroad data?.....	L-13
A.7. - How do I make major revisions to my core railroad?	L-13
A.8. - Why are long lists cutoff when I edit entries near the bottom?.....	L-14
A.9. - Which RR is ProTrak currently using?	L-15
A.10. - Can I install a ProTrak update in mid-session?.....	L-15
A.11. - Is there a fix when 2 similar movements work but a 3 rd does not?....	L-15
A.12. - What is the effect of "Resetting" the Railroad when ProTrak starts?	L-16
A.13. - What is the purpose of "Uncheck for Manual Data Entry"?	L-16
A.14. - How do you update ProTrak under Windows 7.....	L-18
A.15. - Can the After DS folder be used to reset the railroad?	L-18
A.16. - How is ProTrak installed under Windows 8.1?	L-18

B - Subdivisions, Stations, Zones & “Yd” Yards	L-20
B.1. - What does "largest minimum radius" mean?	L-20
B.2. - How do I setup my default yard?	L-20
B.3. - Which Stations will be available on string diagrams?	L-21
B.4. - What is the conversion between milepost miles and inches?	L-21
B.5. - How are stations numbered in ProTrak?	L-21
B.6. - Can two branch lines originate from the same station?	L-22
B.7. - Can I have multiple trains assigned to a yard classification track?	L-23
B.8. - Can you have two Yards in the same Zone?	L-23
B.9. - How is “Passing siding length” measured in double track areas?	L-23
C - Customer Setup	L-24
C.1. - How are SPOT lengths setup for a siding with multiple SPOTs?	L-24
C.2. - Is the Operations SIG industry data available for ProTrak?	L-25
C.3. - How do I number industrial sidings?	L-25
C.4. - How do I set up an industrial area with multiple tracks?	L-27
C.5. - How is “Customer - Siding name/commodity” data field used?	L-28
C.6. - What are paired sidings?	L-28
C.7. - How do “facing point settings” affect operations?	L-29
C.8. - How are facing / trailing point customer restrictions implemented?	L-31
C.9. - How is customer capacity related to “fleet average car length”?	L-32
C.10. - How are Demurrage time and Loading / Unloading time related?	L-33
C.11. - What are prototypical loading and unloading times?	L-33
C.12. - What does the text "<**** problem correct data" indicate?	L-33
C.13. - How will reorganizing customers affect BOLs & Car Orders?	L-34
C.14. - How does the team track designation work?	L-35
C.15. - What does “*>Embargoed” mean in the list of customers?	L-35
D - Special Tracks (RIP, Cleaning & Icing).....	L-37
D.1. - How does a cleaning track function?	L-37
D.2. - How often are cars bad ordered?	L-39
D.3. - How do I setup and operate an icing track?	L-39
D.4. - How are clean out tracks setup?	L-41
D.5. - How are RIP tracks used versus cleaning tracks?	L-42
D.6. - When is a car routed to the Clean Out Track?	L-43
D.7. - How are Switching Trains assigned for Clean Out Track service?	L-43
E - Interchange Tracks	L-44
E.1. - When should I use each type of interchange track?	L-44
E.2. - How do I operate an “interchange track” customer?	L-45
E.3. - How Interchange tracks different from staging tracks?	L-46

F - Train Jobs, Yarding & Timetables	L-47
F.1. - What is done to implement changes to train routing?	L-47
F.2. - How are train reporting location and “y” tracks related?.....	L-47
F.3. - Why does 'Line-up of Train for...' show a '?' for 'Direction'?	L-49
F.4. - How do I set train length limits?	L-49
F.5. - Why does the train length limit in feet change to the default value? ...	L-50
F.6. - When calculating train length, what all is counted?.....	L-51
F.7. - How can switching zones cause a car to not move?.....	L-52
F.8. - Is train blocking specific to each train or common to all?	L-52
F.9. - Where is blocking order shown for switching trains?	L-53
F.10. - How does adding train reporting locations affect operations?.....	L-53
F.11. - How do you setup a local switcher that stays in one town?	L-55
F.12. - Are time table schedules automatically updated?.....	L-57
F.13. - Does the time table schedule control any operations?.....	L-57
F.14. - How can a “light train” movement be setup?.....	L-57
F.15. - Why would a “?” appear in the Train List direction column?	L-59
F.16. - How is a train’s direction of travel determined?.....	L-60
F.17. - How is an Extra train setup & how are cars assigned to it?	L-61
F.18. - What causes a train to be “over length”?	L-62
F.19. - What is the significance of Train Class?	L-63
F.20. - What is a Usual second section, is it the same as a Job Extra?	L-64
F.21. - Can the same set of cars be run multiple times in a session?	L-64
F.22. - How do I delete a train?	L-66
F.23. - When are Alternate Train Symbols used?	L-66
F.24. - Why do train lists show E/W instead of N/S directions?.....	L-67
F.25. - How can I reposition an entire train as a unit?	L-67
F.26. - How can a train be restricted to a specific group of cars?.....	L-68
F.27. - How can the entire train lineup be cleared?.....	L-68
F.28. - How do I recover a train missing after entering operations?	L-69
F.29. - How are extra job trains named	L-69
F.30. - When is the train traffic setting Local Service Option used?	L-70
F.31. - What are the precautions when changing a train name?	L-70
F.32. - Removing Train Schedule.....	L-71
G - Other RR, Gateways & Private Cars	L-72
G.1. - Should private reporting marks be on the private owner list?.....	L-72
G.2. - How do I make a reporting mark one of my “System Roads”?	L-72
G.3. - Can I stop “leased” foreign road cars from returning home?.....	L-72
G.4. - Why is there a railroad named “Unknown Railroad”?	L-73
G.5. - Private Owner and Era change	L-74

H - Car Setup & Data Modification	L-75
H.1. - How do I import car data from another program?	L-75
H.2. - How do I enter car length and how is it measured?.....	L-76
H.3. - Can ProTrak automatically enter NMRA car weights?.....	L-76
H.4. - How does ProTrak handle car weight below NMRA standards?	L-76
H.5. - Why are all my cars listed as "not in service"?	L-77
H.6. - How do I update car locations after changing train symbols?.....	L-78
H.7. - What does "Un-restrict cars" do?.....	L-78
H.8. - What does the designation "999-Yd" mean?	L-79
H.9. - What does "Consignee is" data field = "rte/IC" mean?.....	L-79
H.10. - What is an Agents Pool and does it work?	L-79
H.11. - How do I empty a car at its present location?.....	L-80
H.12. - How is the car location/movement history displayed?	L-81
H.13. - What does WGH mean in the "Rolling Stock (Cars)" window hours column?	L-82
H.14. - What are the possible car locations in ProTrak	L-82
H.15. - What are AAR & UMLER Car Codes?.....	L-83
H.16. - What does Waybill number mean if a car shows "Empty for Load"?	L-83
H.17. - How does ProTrak handle cars with the same car number?	L-84
H.18. - How do I add a new car kind?	L-84
H.19. - How are Car Class and Car Kind related?.....	L-85
H.20. - How are Car Class & Car Kind used in BOLs?.....	L-85
H.21. - What does the location of the BOL in the column mean?.....	L-85
H.22. - When is "De-activate Car" used and what does it do?.....	L-86
H.23. - What are the car restrictions on use codes?.....	L-87
H.24. - What does the contents entry "nty Rule 1/r" mean?	L-87
I - Special Car Issues	L-88
I.1. - How do you handle removable loads for open cars?	L-88
I.2. - How is car weight adjusted if a removable load is used?.....	L-88
I.3. - Can I run a loaded car with idler cars?.....	L-89
I.4. - How does ProTrak assign "Hot Box" status to a car?.....	L-90
I.5. - What is the "Car Service Directive" window for?	L-91
I.6. - How do you clear a car with a "bad bearing" status?	L-92
I.7. - How do "Bad Orders" and "Hotboxes" differ?.....	L-92
I.8. - How can you bad order a car during operations?	L-92
I.9. - Can cars be activated/deactivated for Multiple Era Operations?.....	L-93
I.10. - How are "idler" & "reach" cars different?	L-94
J - Commodities & STCC Codes	L-95
J.1. - When and how do you add STCC codes?	L-95
J.2. - Why does a single commodity have two different STCCs?	L-96

K - Waybills, Bills of Lading & Car-orders L-97

- K.1. - Why are car-orders listed for some but not all consignees?L-97
- K.2. - How do multiple car-orders differ from a block of cars?.....L-97
- K.3. - How do I delete a car-order?L-98
- K.4. - How do I delete waybills and/or car-orders?.....L-99
- K.5. - Can load weight prevent a car being assigned to a waybill?L-100
- K.6. - When should H or HM/HT car kind be used for hopper cars?L-101
- K.7. - How can I differentiate between HT and HM cars for loads?.....L-102
- K.8. - How do "Continuing in transit" waybills work?L-103
- K.9. - How should I setup car-orders for daily deliveries?L-105
- K.10. - Why did my waybill car type change to LCL?L-106
- K.11. - What are the "Waybills/Car- orders not filled" reason codes?.....L-106
- K.12. - What percentage of cars for Monday car-orders is desirable?L-107
- K.13. - How should "Fill to Load" data field changes be made?L-108
- K.14. - Do waybill financial charges affect routing?L-108
- K.15. - How does waybill inside length relate to car length?L-109
- K.16. - Will adding continuing in transit to a BoL affect prior routed cars? .L-109
- K.17. - Do undelivered car-orders build up?.....L-110
- K.18. - What are the Special Waybill Connection codes?L-111
- K.19. - Why is there a Green background on "inside length" data field?L-113
- K.20. - Does ProTrak use car length categories?.....L-113
- K.21. - How does "One Session in X" selection affect BOL usage?L-114
- K.22. - Is there a list of all possible waybills for a specific car?L-115
- K.23. - How is a Targeted Waybill used?L-116

L - Engine Issues..... L-118

- L.1. - Why did I get an "Engines needing maintenance" inquiry?L-118
- L.2. - What causes a "Deactivated" engine status?.....L-118
- L.3. - Why are my locomotives not available to assign to trains?L-119
- L.4. - When should consists be used for assigning power to trains?.....L-119

M - Staging Track Setup & Operations..... L-121

- M.1. - Can a train run to staging and back out in the same session?L-121
- M.2. - How does the "Intermediate Staging" function?L-122
- M.3. - Can I use one staging track for multiple trains?L-122
- M.4. - How do I tell ProTrak which staging track a train is on?.....L-123
- M.5. - How are cars unloaded/loaded in staging?L-125
- M.6. - How do I load cars immediately while the train waits?L-125
- M.7. - How do "Regions" relate to "Staging"?L-126
- M.8. - Can I store a train in staging that does not run every session?.....L-129
- M.9. - When are "Alternate Symbols" used vice connecting trains?L-130
- M.10. - How is overhead traffic setup?L-131
- M.11. - Why are too many cars assigned to overhead traffic?L-132
- M.12. - Why do cars ping-pong from and to staging?.....L-133
- M.13. - Why are cars in staging not getting loaded?L-134
- M.14. - How can a single staging yard serve as two staging yards?L-135

M.15. - How is “Active Staging” used to create a fiddle yard?L-135

N - General Operations L-137

- N.1. - Do I need a dedicated ProTrak Operator?.....L-137
- N.2. - What trains must be run to complete a paper session?.....L-138
- N.3. - How do I make ProTrak operate only on Monday?.....L-138
- N.4. - When do I use “Yardmaster/Route cars at Yards and Customers”?..L-139
- N.5. - What do all the various “mty” terms mean?L-141
- N.6. - How do I determine why a loaded car was not picked up?.....L-141
- N.7. - What does it mean to have “extra cars” in a train?L-143
- N.8. - When is a car an “extra car” and when will it become a pick-up?L-143
- N.9. - What does it mean when a train is “Closed”?L-143
- N.10. - How can I tell if all my cars are loaded?L-144
- N.11. - When and how do I annul a train?L-144
- N.12. - Can cars be routed to a siding already full of cars?.....L-145
- N.13. - What is a typical value for the “Loads/Empties” ratio?.....L-146
- N.14. - What is the Crew change point?.....L-146
- N.15. - Why would current YIS yard be reported as “invalid”?.....L-147
- N.16. - Why are so many cars not delivered with “Reason = Extra Car”? ..L-147
- N.17. - Are ProTrak PC Sessions repeatable?.....L-149
- N.18. - Why is an already delivered car showing up on the next train?L-149
- N.19. - How can yard congestion be reduced?L-150
- N.20. - How does pickups when the train is over length work?L-151
- N.21. - How do I unload a car during and operating session.....L-152
- N.22. - Why are cars not removed from a train using Show cars in trains?L-152
- N.23. - How do I setup Intra-plant moves?L-152
- N.24. - What is a TAG List and how is it used?L-153
- N.25. - How do I find a “Lost car” that is not in a train at a yard?L-153
- N.26. - How do you add extra cars to train (**Caution**)?L-154
- N.27. - What happens when a train is annulled?.....L-155

O - Switchlists, Workorders & Cutlists..... L-156

- O.1. - Are switchlists printed only when trains are at yards?L-156
- O.2. - Can I preview a workorder before printing?.....L-156
- O.3. - Should car moves be done in the order on the switchlist?L-157
- O.4. - Why do switchlists show a 10’ reporting point as “NxtLoc”?L-158
- O.5. - What do the various cutlist messages mean?L-158
- O.6. - On a cutlist, how do “Push to” and “Classify to” differ?.....L-159
- O.7. - What causes “Error in Car Data” on the switchlist?.....L-159
- O.8. - Why does ‘ris’ appear in the switchlist SPOT Field?L-161
- O.9. - Why does a switchlist say “Setoff” on a Through Train?L-161
- O.10. - How can you reprint a Cutlist?.....L-162
- O.11. - What is the usual and default Train Standing Order?.....L-162
- O.12. - What does “X**” in HDG Column on Switchlist indicate?L-163
- O.13. - Which train lists apply during the run of a train?.....L-163

P - Reporting & Classifying Trains	L-166
P.1. - How do I move cars between customers within one town?	L-166
P.2. - Why would you double report at the same location?	L-167
P.3. - Why did I get an “Are cars in train?” inquiry window?	L-167
P.4. - How do I classify a train that is in “Held” status?	L-168
P.5. - When should a train be reported at its originating yard?.....	L-168
P.6. - How do Pending & Cut-off Time affect classification at "Yd" yards?..	L-169
Q - Operations & Post Operation Session Reports	L-171
Q.1. - What do the “Car held/Waybill not filled” reason codes mean?	L-171
Q.2. - Can I print a list of where cars are spotted during operations?.....	L-172
Q.3. - On a cutlist what does the “Hold cars: ...” line mean?.....	L-172
Q.4. - Why would a cutlist have no cars listed?.....	L-172
Q.5. - What is the “Cars assigned to trains” window used for?.....	L-173
Q.6. - What messages flash by during the Daily Summary?	L-174
Q.7. - What does “Car Order not filled, Reason - Sub-Weight” mean?	L-175
Q.8. - What is the purpose of “Edit/Show/Cars needed to meet traffic”?	L-175
Q.9. - How does weigh scaling of cars function?.....	L-175
Q.10. - Why do undelivered car counts differ between alternate listings? ..	L-176
Q.11. - Why are on-screen displays and printouts different?.....	L-177
Q.12. - Is there a way to print the “Waybilled cars not delivered” list?.....	L-178
Q.13. - Where is a count of cars moved in a session displayed?	L-178
Q.14. - What is the function of “Fill tonnage for a train in staging”?.....	L-179
Q.15. - What is the function of “Initialize Foreign cars”?.....	L-179
Q.16. - What is the function of “Substitute for ordered cars”?	L-179
Q.17. - How can you clear HELD status for train not in a yard.....	L-179
R - “y” Track operations.....	L-180
R.1. - How do I prevent exchange/setout of cars at a “y” track?.....	L-180
R.2. - Why are “y” tracks usually set to a 10’ length?	L-180
R.3. - How long should the “y” runaround track be for paired trains?	L-180
R.4. - How do I transfer cars between trains at a “y” track?	L-181
R.5. - How should “y” track options be set?.....	L-183
S - Car Routing Topics.....	L-184
S.1. - How are cars assigned for loading?.....	L-184
S.2. - Will a car be delivered on the day its car-order is for?	L-185
S.3. - Why & how does ProTrak route a bad ordered car for a BoL?	L-185
S.4. - What should I do if cars are not getting to on-line customers?	L-186
S.5. - Why do cars assigned to trains change as a session progresses?...L-187	
S.6. - Why do car positions in a yard change between sessions?.....	L-187
S.7. - How do Staging tracks, Regions and Trains affect car routing?	L-189
S.8. - How can a RSM car be loaded at only certain customers?	L-191
S.9. - How are empty cars routed including using storage yards?	L-192
S.10. - What causes cars to be returned to their default yard?	L-193
S.11. - How can you set up a track to store cars?	L-193

T - Time and Date	L-195
T.1. - How do I control the dates on reports and lists?	L-195
T.2. - What is the significance of customer pull times?.....	L-195
T.3. - How does time pass?.....	L-196
T.4. - How is the Fast Clock used in ProTrak?	L-197
U - Passenger Train Operations.....	L-198
U.1. - Can Road Name be used to determine train assignment?	L-198
U.2. - Are there new load limits on “B” and “M” cars?	L-198
V - Continuous Operations topics	L-199
V.1. - How is train data changed in Continuous Operations?	L-199
V.2. - When can customer, waybill and car-order data be changed?	L-199
W - Turn Train Topics	L-200
W.1. - When is double reporting a turn train at turning point required?	L-200
W.2. - How are switchlists and worklists used for turns.....	L-201
W.3. - How are cars blocked for facing & trailing point customers?	L-203
W.4. - How is a turn with facing point customers run?.....	L-204
W.5. - How is Today’s Conditions/Switching at customer spurs used?	L-204
X - Special Situations and Topics.....	L-205
X.1. - How do ferry operations work?	L-205
X.2. - How do Passenger Operations compare to Freight Operations?	L-205
Index	L-208

A - The ProTrak Interface

A.1. - What is meant by ProTrak being "customer oriented"?

To set up traffic in ProTrak, the order is:

- customers -> customers traffic - > local service trains - > through trains.

In detail...

- Set up the customers served by your railroad. Then work out the traffic (waybills and car-orders) for each customer.
- From that traffic volume, work out how many local service trains you need. That is why the "switching time" is shown in the "Preview work at: xxx-Yd" when in operations. By adding up the total switching time you can figure out how many local-service-trains you need to get the work done in your session duration.
- From the number of local service trains working at "x" ("Yd" and "y") yards and the number of staging destinations (regions), work out the number of through trains you need.

This is what is meant by "customer oriented". The prototype is customer oriented.

Note that this is dead opposite to "train oriented", where the approach is to say: "Let's run X trains, what are they going to do, and how do we find traffic for them".

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### A.2. - What happens when installing a ProTrak update?

**Question:** I installed the Dec 19th version of update 252 and ProTrak now says that my home road is not a valid ProTrak railroad. I imported my home road from version 251. What happened?

**Answer:** Just to clarify, when "installing" an Update version, **all** you are doing is writing a newer version of the program itself, "protrak.exe", over the older version (of a file of the same name).

You make **no** changes to the data. No "import", no nothin'.

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A.3. - Is there a way to retrieve lost ProTrak data?

Question: Is there a way to retrieve my lost ProTrak data?

Answer: There is nothing worse than losing data, and because I have been at this for 35 years, I know the feeling, and I have made sure that ProTrak -above all else- protects data - even when the user tries hard to delete it.

Suppose you **think** your data has disappeared. Here is how you get it back:

1. The data is still there, you probably have just lost the "index" to your data. We need to re-create the "index".
2. With ProTrak, the index is in two files - "Railroad.RS2" and "MiscCal.RS2".
3. To re-create "Railroad.RS2":
 - a. On the ProTrak Standard toolbar click on "File/Import or Find home railroads...".
 - b. Click the button "Find homeroads". Do not click "OK". Think! Read!
 - c. Click "Cancel".
 - d. On the ProTrak Standard toolbar click on "File" and click on "Change home railroad...". This opens the list of ProTrak railroad data folders on your computer. The railroad names don't matter at this point and won't make any sense.
 - e. On the list of folders, under the Folders column, find the folder name of your railroad data. Double-click, and there is your data.

When you completed step 3d, you also re-set "MiscCal.RS2". MiscCal.RS2" lists which folder is the active folder - i.e. which railroad you are working in.

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A.4. - How should I back-up my ProTrak data?

**Question:** Can you please explain the Backup option?

**Answer-1:** On the ProTrak Standard toolbar click on "File/Program options", look at the pane for "Options". If you click the 4th one down "Backup..." the program copies your data files to a new folder before and after the "Daily Summary" runs. The backup data is in folders called "BeforeDS" and "AfterDS". These copies are on your hard-drive, in you railroad data folder under the "Protrak\Protrak" folder.

The idea here was this backup would be used when you want to re-run the "Daily Summary", or the operations session.

**Answer-2:** Update 252 (Monday December 4th, 2006) includes "automatic data backup". It is a user option, selected at "File/Program options". If selected, the automatic update creates two backup copies of your key data.

1. To activate "Automatic data backup", on the ProTrak Standard toolbar click "File/ ProTrak program Options, Housekeeping", then click the checkbox "Automatically backup files before and after Daily Summary". This is presently the 4th option in the "Option" box.
2. When running the "Daily Summary", the program creates two new folders "BeforeDS" and "AfterDS", as sub-folders in your railroad data.
3. Your railroad data from the present state of the operations is copied into "BeforeDS". This is usually the data as it is at the end of an operating session.
4. Your railroad data after the "Daily Summary" (the usual unloading/loading cars, resetting train locations) is copied into "AfterDS".
5. During both copying activities you will see a "progress bar" showing the progress of the copying on the window showing at that moment.
6. To recover the key data, using ProTrak, use the "File/Import home railroad" option on the ProTrak Standard toolbar.

However, this is **not** the recommended way of backing up your data, as it does not remove/copy your ProTrak data from your local hard drive. As 99% of you know, you should copy your data -frequently- onto a CD, a "thumb drive", a floppy (waz zat?), or something else so you have multiple copies of your precious data **off** your local hard drive.

For example, I back up to a CD every time I change/add data. That is one CD. I backup to two other CDs ("Before" and "After"). I often backup to "During" as well. And I have backup CDs of those backup CDs (and backup floppies). And I have copies of data on three other computers. Having used computers since 1967 (auto rally tables) I know I can never have enough data backups.

You can use the Windows-copy routines (recommended) or you can use the ProTrak "File/Export home railroad" routine (which copies key data) by session number.

I use Window's drag-drop on the folder, to a thumb drive.

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A.5. - How should I enter my data into ProTrak?

Question: Did I see a post recently that said that you really don't have to put all of your information into the program at one time? Maybe just do a little at a time like just entering car information? Is that possible?

I see in the recipe book that you can enter car information any time, but I also see that there is a certain order in which it is advisable to enter information. Your thoughts?

Answer: Correct. You can enter data a little at a time.

The idea is to enter data once. The program builds on your earlier data.

For example, "customers" require a "station". So you enter "stations" first, then when you are entering the customer data you just "double-click" from the list of stations which appears in the right-hand pane on the "customer edit" window.

Explanation:

It is generally a good idea to initially enter only a few cars, customers, waybills, car-orders and trains. This allows you to see how things work and more easily identify (and fix) problems. Once cars are moving correctly you can add another 'block of data' to expand operations.

For each 'block of data' you need to enter the data in the logical order so the necessary options are available in the right-hand pane when needed. Generally data is entered in the following order:

- Stations, Staging
- Yards (Yd & y)
- Trains
- Customers
- Cars
- BoLs (Waybills)
- Car Orders

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A.6. - How do I create a test version of my railroad data?

**Question:** I would like to make a "test" version of my railroad; but I'm not 100% certain how to do this; with a "test" version I could play around with changes before deciding if they were worth keeping. I could use some help here.

**Answer:** Here is how I do a test railroad

1. In windows find your ProTrak folder
2. Make a new sub folder with a name like: (RR\_test\_01)
3. Copy the entire railroad (all files and folders) you want to test into the new folder.
4. Open ProTrak and on the ProTrak Standard toolbar click on "File", go to "Import or Find home railroads..."
5. Click on "Find homeroads" - your new railroad should appear.
6. Click CANCEL
7. On the ProTrak Standard toolbar click on "File", then click on "Change home railroad"
8. Choose your test railroad - it will be an exact copy of the railroad you copied.

~~~~~

A.7. - How do I make major revisions to my core railroad?

Question: Now that I have learned a lot more about ProTrak I find I made some mistakes in setting up my core RR. One thing in particular I need to change a subdivision from in line with other subdivisions to a junction off of the North-South direction of the RR. I keep going in circles trying to find a way to do this. Is there a way or do I have to start over? If I have to start over is there a way to import only customers and waybills and car orders as I could still use them. I made a copy of the startup data with all cars, and the core in.

Answer: I'd make a full copy of your present data in a new folder with a new name. On the ProTrak Standard toolbar click on "File", then click on "Import or Find home railroads..." from the drop down list to open the "Import Home Railroad" window. Highlight the name of your railroad in the new folder you just created, and then click on "Cancel". Back again on the ProTrak Standard toolbar click on "File", and then click on "Change home railroad" to open the "Operate to another railroad" window. Highlight your new railroad then click on "Change to

this railroad" and then "OK" Open the railroad and start working on your changes. It will be an exact copy of the railroad you original railroad.

The program knows where the customers are (by station) by the zone code. As long as you keep the same zone code, you can use the same customers, waybills and car-orders.

Stations will have to be created from scratch.

What you may want to do is:

- Create a new subdivision.
- (Re-)create the stations on the new subdivision, using the same zone codes for the new stations (as used on your original railroad).
- For each customer, change the subdivision.

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A.8. - Why are long lists cutoff when I edit entries near the bottom?

**Question:** After editing a customer or car order the customer list cuts off the lower number customers from the 'Customers and Loading Points' window. For example I have 45 customers and after editing customer 39 the list will only show 39 thru 45. Subsequent editing will further limit the list; however canceling the edit window does not affect the list. The lower number customers cannot be accessed again until I exit and restart ProTrak. There is no apparent loss of data but it makes editing customers/car-orders a real hassle.

I'd appreciate any insights the many experienced users can provide.

**Answer-1:** All you have to do is click on the header of the list and the whole list will again be visible with the changes that you have just made. I do this after each data input.

**Answer-2:** Go to "File/program options" and click on the "Use long lists" checkbox.

Some of the data lists get very long in ProTrak, and some users want the long lists to "index" to the same point where they were last working. Other users want the lists to index to item #1 every time, regardless. To satisfy both ideological camps, I added a program option:

1. If you want the lists to index to item #1, click the "Use long lists" checkbox "off".
2. If you want the lists to index to the last item saved, click the "Use long lists" checkbox "on" (check mark showing).

3. If you click "Cancel" on the edit window (after viewing an item), the list will index to the same item you just examined (regardless of long-list setting).
4. If the long list are being used the long list will index with the last item saved at the top of the list window (i.e. #39 in your example). To re-index to item #1, click the "# column header" and the long list will re-index to item #1.

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A.9. - Which RR is ProTrak currently using?

Question: Many of us have several different RR data folders in our ProTrak data folder so that we can easily switch between various ones. Is there a way in which one can find out what RR data folder is currently the one in execution by ProTrak? If not would it be possible to add a highlight on the RR data folder currently under execution on the "Operate on Another Railroad" screen so that when we leave we can easily recall / be reminded of what RR data folder is currently being used by ProTrak when we return to ProTrak?

Answer: If you want to know what data folder you are working from, go to "Help / Emergency Reset". You will see the folder the window at the top.

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A.10. - Can I install a ProTrak update in mid-session?

**Question:** If I am working on a session can an update be applied to ProTrak, or is it best to wait until I complete a session?

**Answer:** I do all the time (upgrade on the fly).

~~~~~

A.11. - Is there a fix when 2 similar movements work but a 3rd does not?

Comment: Using computer paper sessions, I'm still working on the cars needed for each train that handles one LCL car at each station on its run. I have all the loading and unloading times for the LCL cars at the turn freight house set to 5 minutes.

The LCL cars in two trains are working as they should, being placed back in the train before it departs on its return trip.

But I have a problem with the car in the third train.

Suggestion: The only suggestion that I can offer, if you haven't done this already, would be to copy one of the waybills that is working the way you want it to, and change the shipper/consignee to the freight house in question. Select this new, copied waybill in the car-orders for that freight house and run a few sessions to see if it makes any difference.

~~~~~

A.12. - What is the effect of "Resetting" the Railroad when ProTrak starts?

**Question:** What would the effect be of answering, "yes" to the "it appears that you are ... in an operating session. Would you like to reset the railroad?" question?

**Answer:** On/if answering "Yes", the program jumps to the "Help/Emergency Reset" window with the option "Reset all trains to their starting location" selected.

What this does is move trains (with any cars assigned) back to their origin terminal. You must then restage the railroad.

~~~~~

A.13. - What is the purpose of "Uncheck for Manual Data Entry"?

Question: In the center or right-hand pane of all editing windows there is checkbox that is checked and labeled "Uncheck for Manual Data Entry". When and how is the option used?

Answer: All* the data-entry "edit" windows have an "Uncheck for Manual Data Entry" below the right-hand pane. Stations, Staging, Waybills, Customers, and "Cars".

The general idea of entering data in ProTrak was to copy existing data to avoid spelling errors. E.g. same siding number on a Customer and then its related waybills, and then "empty return" of any relevant car. Thus the needed data could be selected (copied) from correct data, as listed in the right hand pane.

And this copying applied to all datafields, for all items. (...With only a few exceptions, such as "car number").

Now, over the years, with all of us using the program, "it became apparent" that allowing "manual" data entry, i.e. not having to copy data from the right hand pane, could - in some circumstances be useful and easier - especially for the more experienced users and operators.

Thus the "Uncheck for Manual Data Entry" appeared (e.g. on "car kind" as we just saw). This "un-check" option is below the right-hand pane because it relates to 'not-copying data from the right-hand pane'.

The idea is you "un"check, then type away in that whatever datafield.

However....

For datafields where the data must be copied from the right-hand pane, for consistency, even if with "un"check selected the program will re-check the checkbox and accept only copied data.

For example, open a customer (the cursor will be on "name").

- click "Uncheck for Manual Data Entry" (the right hand pane goes blank)
- click "Station" - the right-hand pane data re-appears as you must select/copy an existing station name.
- click, again, "Uncheck for Manual Data Entry" - click on the "switching railroad" datafield. No data appears in the right pane, as you can type in any railroad you want.
- click on the "Siding name /commodity" datafield. The list of commodities appears. As usual you can copy data. In this case you also can type in a new commodity (say, "cowbells") and that will be accepted. But, "cowbells" is not added to the list of commodities, as a commodity listed here is just there to remind us what this location is used for.

So.... while the preference in the program is to create data in a preferred order and then, for subsequent items, to copy the previous data, this "Uncheck for Manual Data Entry" option is there to try to provide you with flexibility.

Summary: As you pointed out, the "Uncheck for Manual Data Entry" box appears on most data entry edit windows. Even when Manual Data Entry is not a valid option you are still presented with the option to "Uncheck for Manual Data Entry"

When Manual Data Entry is an option, it is not necessary to "Uncheck for Manual Data Entry" as you can just type what you want in the associated field and it will be accepted.

Sometimes, as in "Car Kind" if you "Uncheck for Manual Data Entry" you are presented with new information and you can still enter any car kind desired in the "Car Kind" field whether the "Uncheck for Manual Data Entry" box is checked or unchecked.

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A.14. - How do you update ProTrak under Windows 7

**Question:** Is there a standard / recommended procedure for updating ProTrak when my operating system is Windows 7?

**Answer:** A good procedure to use is:

1. Re-name the existing "protrak.exe". Say, to something like protrak\_20Nov13.exe" (where 20Nov13 is the date of existing version of the program.
2. Copy the download, the Update Build, into the folder.

This new version, the Update, will now have (inherit) the existing settings.

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A.15. - Can the After DS folder be used to reset the railroad?

Question: Can I use the After DS folder to re-establish the starting point for my current session? If so do I just copy the files in the "After DS" Folder into my main ProTrak data folder overlaying the ones with the same name?

Answer: On the assumption that you have made no desired data changes since the last Daily Summary, then "Yes".

Yes you can copy over the data from the AfterDS folder to the main data folder.

See topic A-4 (How should I back-up my ProTrak data?) for more information.

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A.16. - How is ProTrak installed under Windows 8.1?

**Question:** What are the steps involved in installing ProTrak under Windows 8.1?

**Answer:** For those of you who are interested, here's how it is done.

1. On the original ProTrak cd, right click setup.exe. This gives you a menu. Select "run as administrator."
2. Install ProTrak in the program files (x86) folder.
3. Run ProTrak to register. You get "error 5." Ignore this.
4. In the ProTrak folder on your computer, right click ProTrak.exe. Make sure it is set to run in Windows XP mode.

5. Download the latest uncompressed update and the registration file from the ProTrak website. Put the registration file in the same folder as ProTrak.exe. Be sure to also update the steam loco and geared loco files if you are starting with a version of ProTrak older than 130.

6. Run the update. You are now ready to go.

All of this is very straight-forward except that you must update to the latest version before you can run ProTrak. You cannot run ProTrak and then update, the update must come first.

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B - Subdivisions, Stations, Zones & “Yd” Yards

B.1. - What does "largest minimum radius" mean?

Question: What does "largest minimum radius" mean? On my main line my maximum radius is 35". I also have a John Armstrong "reverting loop" leading down to my staging tracks, and the radius of that loop is 20". Are either of these my "largest minimum" radius?

Answer: The program uses this radius to calculate train dynamics forces. This would be your typical mainline radius, or more conservatively, your minimum mainline radius.

~~~~~

B.2. - How do I setup my default yard?

**Question:** I'm having a heck of a time figuring out how to set up the default yard. Can you help, please?

**Answer:** The default yard is required because ProTrak needs to know where to place new cars, and more importantly, where to place cars when you delete the location where they were. The default yard has other uses as well.

First create a new yard by clicking "Traffic/Yards and Interchanges" on the ProTrak Standard toolbar; and,

1. Click "Edit/New yard"; the "Changing a yard" window opens and "yard type" comes up with the "Yd" option selected;
2. Click on the "City, State/Prov " data field and double click a station from the right hand pane;
3. Click "OK".
4. Click "Close" in the "Yards and Interchanges" window.

Now click on "Administration/SPOT Format and special SPOTs" on the ProTrak Standard toolbar; and,

1. Click on "Unlock" and "Yes";
2. In the pane "Default yard location", in the "A freight car's first location" field select the "Yd" from the dropdown of Yd yards on your railroad.
3. Click "Apply".

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B.3. - Which Stations will be available on string diagrams?

Question: What is the criterion for a station that shows up on the "List of Stations on the core segment" window to also appear on the left hand side of the string diagram?

Answer: The station has to be a place where trains can meet or pass. It is a "length of siding" thing. The minimum siding length is set at "Administration / Minimum siding length".

Check also the "number of tracks under DS control" (Dispatcher Control) for the Station. The number of tracks must be set at 2, or more.

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B.4. - What is the conversion between milepost miles and inches?

**Question:** On the "Stations in core segment of Middle" window there are two columns of interest. One is the "Milepost" column and the adjacent "MP.Inches" column. What is the equation to convert the milepost numerics into inches?

**Answer:** "Scale ratio mile length" / "fast clock ratio".

So for HO "Scale ratio mile length" is 5280 ft./ ~87 = ~ 60 ft.

If the fast clock ratio is 6, then the "smile" is 60 / 6 = 10 ft.

Explanation:

The "smile" keeps the "human fast time scale" = 1 (we work in 1:1 time) consistent with the "model time scale" (which is square root of the distance scale). This means the speed of cars rolling downhill will scale properly to our eyes.

~~~~~

B.5. - How are stations numbered in ProTrak?

Question: Can you please explain how stations are numbered in ProTrak?

Answer: Stations on the "core segment" are numbered "1" to a maximum of "100" (with Build 270. Build 269 and earlier had a maximum number of 50 stations on the core segment.) These stations are in file "Stations.RS2".

Stations in the "other subdivisions" are numbered "1 to "50" in each of the 50 subdivisions (i.e. 1 to 50, 51 to 100, 101 to 150... 2451 to 2500) in the file "Stations.Sub". On displays, the stations are shown as 1 to the maximum

number of stations, with no blanks for un-used station numbers. Of these 2550 can be unique since the first station on each subdivision will be an existing station

The first station on each "other subdivision" is a previously existing station on another subdivision (core or otherwise). So each "other subdivision" has only a maximum of 49 unique stations (#2 to #50).

Thus: $100 + ((50 - 1) * 50) = 100 + 2450 = 2550$, is the maximum number of unique stations.

A station such as "2683, East Alton" is not valid and will not be "saved". Please check the data for "stations on other subdivisions".

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B.6. - Can two branch lines originate from the same station?

**Question:** Is it possible to branch in 2 different directions from a town. For example from St Louis I have a branch line to WoodRiver and a main Line south to Washington and beyond. Right now all of those customers are in a straight line but I would like to make ProTrak show the actual branch. How is this done?

**Answer:** Yes. Two, three, 20,

Two steps:

1. Create a branch line from "The Railroad, Subdivision Junctions, names and Notes". This opens a window listing the subdivisions. Double-click on the second line (or any line, wherever you want the new subdivision to appear in the list of subdivisions). This opens a new window, where you define the subdivision.
2. Enter stations on the subdivision. From "The Railroad/Stations on other subdivisions". Double-click on the line for the subdivision. This opens the "list of stations".
  - "Edit/new" station.
  - Click "No" to add station to end of subdivision. This creates a station called "New#".

Double-click on the "New#" station line, which opens the familiar/usual "Edit station" window. Enter the data.

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B.7. - Can I have multiple trains assigned to a yard classification track?

Question: Do I have to be in Yard Information System (YIS) mode in order to have multiple blocks assigned to a yard track?

Answer: No, Click on "Traffic/Yards and Interchanges" to open the "Yards and Interchanges" window. Click on the yard you are interested in and if you are NOT using YIS, look at the bottom of the list of tracks on the right side of the "Changing a Yard" window and there is a box that you can select the "Maximum number of blocks per yard track".

When you pick a number that is 2 or more, the window will add blocks to each track equal to the number that you selected and you can add trains to those blocks only on the tracks that you want.

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B.8. - Can you have two Yards in the same Zone?

**Question:** Regarding the multiple yards within the GSM zone, GSM-Yd and GSM2Yd, are these considered as separate yards?

**Answer:** Yes, as different as "AAA-Yd" and "ZZZ-Yd". Each yard in the same zone, such as GSM-Yd and GSM2Yd, would be a >separate< reporting location for a train. For a train arriving at each yard (reporting location) there would be a separate cutlist.

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B.9. - How is "Passing siding length" measured in double track areas?

Question: Double track: Somewhere I saw a remark to set the interval between to 0 inches, but how do you measure the passing siding length?

Answer: The program uses a definition of a 'station', for purposes of track length, as a "preceding interval + the length of the passing siding". (A surveyor's definition....) So track is totaled as "interval" + "length of siding" + "interval + "siding length" +

For length of double-track, the interval (distance from previous station) is set to zero. i.e. for double track you have "siding-length + siding-length + siding-length....."

For reasons of program simplicity!! There is no (visible) datafield for where the building is relative to the end of the siding. However the data exists, the variable is called "Offset". Presently in the program "Offset" is set to "Siding Length / 2".

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## C - Customer Setup

C.1. - How are SPOT lengths setup for a siding with multiple SPOTs?

**Question:** I have a track with multiple SPOTs on it. How do I set the track length for each SPOT? Do I specify that each SPOT has a length equal to the total length of the track, or do I divide the track length between each SPOT? If I divide the track length up, do I give each SPOT an equal length or can I give one SPOT more (or less) length than another?

**Answer:**

1. Give track space to each SPOT.
2. Make the individual SPOT length the same as the length of the typical car that will use the spot. (If it is spot for one of those shorty tank cars then I would set the spot length as 35 ft./car. If the spot is for a lumber bulkhead flat then I would use a spot length of 72 ft./car.)
3. Make the total track length the actual track length.
4. If there is insufficient space at one SPOT, the program will borrow space from another SPOT
  - up to the amount of space actually available there; or
  - up to (the spot-track length) less (the typical car length).

The program always leaves enough track length at the SPOT "borrowed from" to SPOT a car of typical length at that SPOT. For borrowing space, the program starts by leaving 60 ft. Then it looks at the number of cars on the track, takes the individual length and if they vary a lot (>10 ft) takes their weighted average length. (This solves the problem of delivery of an 87' car, to a spot which mostly receives 55 or 62 ft cars.)

The program takes into account car-length already spotted at all SPOTs. The 'borrow length' function applies only to SPOTs on the same track.

Here is an example. Let's say you have 3 SPOTs on the same track. Total track length is 180 feet. We assign:

- SPOT "a" as having 45 feet;
- SPOT "b" as having 90 feet; and
- SPOT "f" as having 45 feet.

Two 50-ft cars are directed to come into SPOT "b". ("a" and "f" are empty.) The program will check SPOT "a" and sees that it is minimum length (45 ft) and will **not** borrow space (from "a" or "f").

Now let's change the SPOT lengths to:

- SPOT "a" now has 55 ft;
  - SPOT "b" now has 90 ft; and
  - SPOT "f" now has 45 ft
- Totaling 190 feet.

Two 50-ft cars are directed to come into SPOT "b". ("a" and "f" are empty.) The program will check SPOT "a" and sees that it has 'extra length' and will borrow 10-ft of space, setting out both 50-ft cars - leaving 45 feet in "a" and 45 feet in "f" that could be used later.

This function maximizes the number of cars that can be set out at customers

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C.2. - Is the Operations SIG industry data available for ProTrak?

Question: I was just looking at the operations special interest group's website and saw their list of industries served by rail. I'd like to know if this is the list or database that ProTrak uses, or does ProTrak use a different one?

Answer: The off line customer "industry list" supplied with ProTrak is a separate list, not the OpSig list. I have taken the OpSig lists and converted those lists to "ProTrak format", which you can download from the ProTrak website (www.protrak.cc). See "Customer examples".

I try to keep my own offline customer list down to about 1000 potential shippers/consignees. You can selectively import just a few key industries from the huge catalogues of industries.

Note also, that you can type in a customer name directly into a waybill. The offline customer does not have to be listed in your "Offline customer" list.

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### C.3. - How do I number industrial sidings?

**Question:** According to the Recipe Book if an industry has multiple sidings you just use one siding number in ProTrak and consider that for both sidings. I have a few industries that have an inbound siding and an outbound siding. Is it OK just to designate the outbound siding, for example, with a different siding number?

**Answer-1:** Maybe this will help. The siding number has three parts:

1. The zone
2. The track number
3. An optional spot number.

So the total siding number is: zone-track-spot.

- Zone in the siding number is the "code" (or "shorthand") for the "Station".
- Spot is optional.
- Every separate spur (track) should have its own track number.

For example, if the customer is in zone (station) "AAA" and on track 12, then the siding number is AAA-12.

- If track 12 has a number of spots along it, (for example - doors along a warehouse) then you might have spots "a", "b", and "c". In this case, the siding numbers are AAA12a, AAA12b, and AAA12c. The spots can be entirely different customers. AAA12a could "Jacks Oil" and AAA12b could "Emily's Produce".
- As mentioned, the program will "borrow" track length from one spot on the same track if that will allow setting out another car. However, the program always leaves room for at least one car at the spot "borrowed from".
- As mentioned below, if you want to be sure that there is always the full length available, then you can label the same track with two (or more) different track numbers.

The point is, each location where a car can be placed has to have an address. And the address has to be unique.

In your case, to have separate inbound and outbound tracks at a customer, the siding numbers you put on the waybills controls this. All outbound waybills will have one siding number (say, AAA-14, or say AAA14a) and all inbound waybills will have another siding number (say, AAA-15, or AAA14b).

Lots of ways to do this. The choice is yours

**Answer-2:** Absolutely! In fact, I really encourage you to give all of your customer spots a unique identification number.

Early on, I did not do this. For example, I had a track at the Viscose plant that had 6 different spots. I named these spots VIS-20a, VIS-20b, etc. When you do this, the program "borrows" space, so that it may put a car for VIS-20a at VIS-20b if there was no space at 20a and space was available for 20b. In my case, 20a was a spot for a gondola to be loaded with scrap; in several sessions. I ended up with 6 gons on that track and no other cars.

I then went through all of my customer spots and gave each its own, separate and unique identifier. Now, there is VIS-20, VIS-21, VIS-22, etc.

By all means, use separate identifiers.

~~~~~

C.4. - How do I set up an industrial area with multiple tracks?

Question: I have an ocean port with 9 tracks. This is also the turning point for several locals so I tried making it a "Yd" yard. This does not seem to work. Should each track be a customer or how should I handle this?

Answer-1:

1. Customers:

By "tracks" I take it you mean, "places where there are industries" or "places where cars are spotted to be unloaded to warehouses or ships".

If so, then at a minimum, each track is a "customer". If the customer is a warehouse (or anything which is identifiable as a specific "industry") then you would enter this as a "Customer". Each customer has a unique siding number.

If the track is a place where the cars are loaded/unloaded directly to ships (any commodity would be shipped), then set the track up as a "Customer" called, for example, "Wharf track #3" (or whatever it is).

Waybills are created for the various "customers"; then car-orders are made for those customers.

2. The turning points for locals:

If you create/use a "Yd" yard, then any of the trains that work that "Yd" can exchange cars there --- and a "Yd" has an infinite capacity (can hold any number of cars). The "Yd" yard will work.

An alternative choice, if you have a "capacity" issue (too many cars come visiting), is to use a "y" track. A "y" track has a specific capacity (but otherwise is much like a Yd yard). Create a new "yard", such as PRT02y. I.e. at the "Port" zone, select the "y" track option, enter the track number as "02". Enter the track length, and then click OK.

Route the trains to turn at the "y" track.

Answer-2: This is very much like what I have on the Georgetown Branch. At the end of the branch is a group of industries and 2 team track yards all grouped together to form Georgetown Yard.

What I did was make a "Yd" yard. It is really just the inbound and outbound tracks and the main runaround for the area.

All the other industries and team tracks are served by a switcher that is stationed at Georgetown.

The train arrives and drops off inbound cars in the yard (street tracks) and picks up the outbound cars the switcher has placed on the other street track (yard).

If your local turn does the switching at your port you may want to add another station named EOP (end of Port) and place a y yard 10 feet long.

That way your local train would switch the industries at station PRT (Port) on its way to EOP.

AAA----BBB-----PRT-----EOP
start-----turn
end.

~~~~~

C.5. - How is "Customer - Siding name/commodity" data field used?

**Question:** Can you please explain what if anything I need to enter in this field?

**Answer:** There is no need to enter any commodity in there.

The only reason to enter a commodity is to indicate (to the guy sitting in front of the computer, who has never even looked at the railroad itself) what special unloading apparatus might be there. For example, your tank car unloading pipes... i.e. the "commodity" is just a memory jog for when you are looking at a long list of spots at a customer and are trying to remember which is the warehouse door and which is for a tank car. As such, it is fine to enter "tank car" or "warehouse door".

(Just make sure that the data you enter isn't one of the "reserved words" for this data field. These are listed at the radio button: "Special".)

Howard will note that any spot can receive or ship, and can receive/ship any number of commodities. That commodity data is on the Waybill/BoL to/from this customer spot.

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C.6. - What are paired sidings?

Question: Would you expand/expound a bit on the concept of paired sidings?

Answer: This is a way of making several short customer tracks "into" one long track.

For example, suppose you have a gravel pit, served by 3 tracks. Each track is only 4 to 5 cars long.

- Each track serves the same purpose. In this case, to load out gravel.
- It doesn't matter which track the cars get spotted on.
- It doesn't matter which track the waybills are to/from.

All the tracks are "equivalent".

To set this up (this done within "Customer", i.e. on the ProTrak Standard toolbar click on "Traffic/Customers" to open the "Customers and Loading Points" window.):

- Each track is a "customer" (in ProTrak). Use the same customer name for each track. Same zone (station).
- At the "Siding name / commodity" data field, type in a name. Use the same name for each customer.

That's it.

Waybills and car-orders:

- Done in the usual way.
- The waybills can be to / from any of the "paired sidings".

Switchlist:

- On the Switchlist, the "first" track will be listed, regardless of what the waybill says.
- The Conductor is expected to think about this a bit. He will have to recognize (know, be told) that he is dealing with "paired" or "equivalent" tracks. When his train works this customer, he could find cars to pull on any of the tracks. He will pull each track in turn, and build the outbound block in list/standing order.

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### C.7. - How do "facing point settings" affect operations?

**Question:** The biggest problem from my standpoint is that the switchlist wants to work all customers both out and back. Are there any alternatives?

**Answer:**

1. ProTrak allows you to set which customers are switched by which trains.

If you have a "one-direction" switching train (as opposed to a "turn"), you can set the switching-work to switch only the trailing point customers. This would be

done by selecting only the trailing point customers (by omitting the facing point customers). In other words, the "facing point" setting has no meaning, and is not relevant, to a one-direction switching train.

2. The "switch facing point customers" setting is only relevant to a switching-train that is a turn.
3. Suppose we have some customers along the route of a switching-train.
  - The train works from A to B and back to A.
  - Customers F1 and F3 have points that face towards A, and therefore are "facing points switches" when the train is moving from A to B.
  - Customers T2 and T4 have points that face towards B, and therefore are "trailing points switches" when the train is moving from A to B.
  - Customers F1, T2, F3 and T4 are assigned to be worked by the train.
  - Customers F1 and F3 are set to be switched "Facing point switch, switched by turn on return trip"
  - Customers T2 and T4 are set to be switched "Trailing point switch, or switched in either direction"
  - On "Today's Operating Conditions" we have selected, in the Switching pane, "At customer spurs, switching is done by turn" - "for facing points on return only."
4. Let's move the train from A to B, and report it at B.
  - Cars for T2 and T4 are setoff and picked up.
  - Cars for F1 and F3 are not set off and are not picked up.
  - We print a 2nd switchlist.
5. Now, let's move the train from B to A, and report it at A.
  - All the cars for T2 and T4 have been previously worked, and no work is called for on the second switchlist.
  - Cars for F1 and F3, being now trailing point switches, are setoff and picked up.

Notes:

- There is a "facing point setting" for each individual customer
- There is a "for the whole railroad, today", "facing point setting".
- The facing-point switch "check" is only active for a customer if both settings are selected.
- The two settings interact, giving four possible facing/trailing-switching scenarios.

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C.8. - How are facing / trailing point customer restrictions implemented?

Comment:

A) In ProTrak, the concept of facing/trailing point is a "restrictive", not "permissive". That is:

- 1. The customer is restricted from being switched by the "facing point selection".
- 2. It is not necessary to set anything to have a customer switched (the permissive).

A customer will be switched (taking into account the trailing/facing setting), unless restricted. Only the facing point setting is restrictive.

Because this is a "restrictive" setting (not a permissive setting), there is no need for a "permissive double-ended-siding" option (i.e. a setting to permit switching the double-ended siding in either direction). As such, the "trailing-point setting" is actually a "switch in either direction setting".

B) Facing point only applies to turns. It makes no sense for a single direction train... in that case the facing-point customer would be switched by the "other side" job/train, running in the opposite direction.

Let's follow a turn (runs west then back east):

- 1. On its outbound leg it switches the trailing point customers (points facing west, spur facing east).
 - Pickups are made and as well as setoffs; these customers are fully served.
- 2. The train turns at its turning point and heads back east.
- 3. On the inbound leg, the facing point customers are served. Pickups and setoffs.

Customers there were trailing point (facing west) outbound are now 'facing' point; but because they were fully served on the outbound leg there should be no work to do at the outbound-trailing-point customers.

C) The "global facing point setting" is there to allow a single turn-off knob, for that session, if the operators are such that things have to be kept simple.

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C.9. - How is customer capacity related to "fleet average car length"?

**Comment:**

Note on customer capacity...

The customer >capacity in cars< (a) is the "track length in feet" divided by the "fleet average car length".

The occupancy (b), reported in cars, is based on actual track length occupied as calculated from the cars presently occupying that location.

It is quite possible for (b) (in "number of cars") to exceed (a).

The program uses the track length in feet to determine if another car can be placed.

**Question:** Divided by the "fleet average car length". Do we humble users have access to what this value is?

**Answer:** "Edit/Show/Show car fleet statistics". Choose your search criteria (just accept the default of "2") and click OK. Second item down (at the bottom). This procedure calculates the "average car length" and stores it in your data.

The "average car length" data is used at three locations:

- The default train length in feet based on cars (which you can override);
- On the list of customers, showing the approximate customer capacity (feet of cars is actually used);
- On car-orders, to show the approximate "demand" for siding space. (But again, actual demand is based on the present (the point-in-time occupancy in feet.)

For the record, you have access to 99% of the databases in the program and can modify those 99%.

One database you do not have access to is the "Rule 14 contaminating commodities", which is listed by specific commodity, or in later eras by various ranges of STCC. This database is fixed and I modify this database as required.

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C.10. - How are Demurrage time and Loading / Unloading time related?

Question-1: What is the difference between the "Demurrage free time" field as shown in the Uniform Bill of Lading window and the "Currently loading/unloading in" field on the Customer window.

Answer-1: The time on the "waybill" window applies only to that one waybill. I.e. to a car 'using' that waybill.

The time on the "customer" window applies to all cars placed at that customer.

Comment: Car-orders. With a car-order every day (Monday, Monday, Monday, ...) you get a new car ordered into that spot each session (day).

To get a car ordered in every 3 days (72 hours, or 3 sessions), you should set the "waybill frequency" to match; set it to "One session in three".

Question-2: So am I correct that in order to have a car *remain* spotted at a specific SPOT for three sessions I set the customer loading / unloading time to 72 hours AND set the WB frequency to "One session in 3"?

Answer-2: Yes

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C.11. - What are prototypical loading and unloading times?

**Question:** What are the prototypical times for loading and unloading cars?

**Answer:** Open either a "Customer" or a "Waybill". Click on the "unloading time" datafield or the "demurrage" datafield. Note the data in the right-hand pane.

ProTrak has the data built in.

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C.12. - What does the text "<**** problem correct data" indicate?

Question 1: I opened the "Customers & Loading Points Screen" and then clicked on the "Show all Switching Trains" icon on the lower tool bar. This opened the "Switching Trains Assigned to Customers" screen. For two spots I found "<**** problem correct data". I noticed that the likely cause was that the Primary train number was not the same as the train number shown in the Listed 1 column. How do I make the change to have the train shown in the Listed 1 column be the same as the Primary train?

Answer 1A: Open the customer spot and select (reselect) the primary switching train you want to serve the customer

Answer 1B: There is a data file for the "primary switching train", for a customer, and a second data file for the "secondary switching trains" for that customer. The primary switching train is listed as the first train in the secondary file. If the primary and secondary get out-of-sync, then this listing shows the "Problem" message.

The program assumes the primary train is the data you want and inserts the actual primary train symbol in the list of secondary trains.

Answer 1C: Click on the problem customer. This opens the Changing Customer screen. Just click OK and then YES

Question 2: How often do you suggest that we look at the Switching Train Assigned to Customers screen?

Answer 2: Only occasionally. Perhaps when there are changes in customers (add, delete), or a change in the customer's local-service train.

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C.13. - How will reorganizing customers affect BOLs & Car Orders?

**Question-1:** Will reorganizing the list of customers mess up the customer car orders?

**Answer-1:** If you move a single customer, using the "Edit/Move customer" menu, the program re-organizes the car-orders... and any secondary switching trains. Same, if you use the "Edit/Sort/Sort on-line customers/..." for each option.

**Question-2:** I moved customers within the list so the customer spots were in the correct order within each zone. Could this be done better?

**Answer-2:** "Edit/Sort/Sort on-line customers/Sort on Station and track spot order" does the same thing.

Waybills and secondary switching trains are re-sorted.

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C.14. - How does the team track designation work?

Question: How does the "t" team track designation work?

Answer 1: The "t" spot, or "team track", is to allow multiple customers - by name -to use the same siding-number.

Previously, if you tried to use the same siding-number for a second customer you got a message saying "This siding-number is already in use. Select another siding-number."

If you use the "t" spot code in a siding number you can have "Lucerne Cheese", "Robin Hood Ammunition" and "SwanCo Bagged Products", as separate listed customers, all with the same siding-number. In this case SWN51t.

To use the "t", simply put "t" after the track number. In the example above, you would enter "51t" in the track number datafield.

Answer 2: Please recall that a siding number is 6-characters, maximum. The track number uses 2 of those digits/characters. The optional spot code would use one character, leaving a maximum of three characters for the zone code. The general format is AAA-## or AAA##a. Or "A-##" or "AA-##a"

The program has allowed only one, two or three character zone-codes for a verry long time.

Not only that, the program checks (in several places) for 1-digit track numbers, and if it finds one converts it to a two-digit track number. e.g. "1" becomes "01".

Four-character zone-codes mess up everything

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C.15. - What does "\*\*>Embargoed" mean in the list of customers?

**Question:** I noticed in my list of customers that several spots are shown ">embargoed. What does this annotation mean?

**Answer:** The "embargo" option allows one to:

- prevent car movements to a customer and/or
- prevent car-orders to a customer.

The embargo on car-movements is set at the "list of customers". There is a button at the bottom of the list of customers.

The embargo on car-orders is set at the "list of online-customers car-orders". There is a button at the bottom of the list.

One or both options may have been selected, so you need to check both lists. Select the customer showing "embargo" and click the button, which now shows "Clear Embargo".

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The purpose of EMBARGO is

- to temporarily prevent routing cars to a customer with, say, a broken access switch
- to temporarily prevent car-orders, for a few sessions, if a customer is presently overwhelmed with cars.

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## D - Special Tracks (RIP, Cleaning & Icing)

D.1. - How does a cleaning track function?

**Question-1:** How do I know that a car is assigned to the cleaning track (or the weigh scale for that matter)?

**Answer-1:** The destination is the "x" or "r" track.

**Question-2:** "Cleaning and rip" applies only to boxcars, most gons and some reefers. The list is in the era-specific Interchange Rule 1. If these low quality cars go to staging, are they automatically cleaned before arriving back on the layout??

**Answer-2:** Yes, foreign road cars are assumed to have been cleaned somewhere out there while in staging.

Home road cars may, or may not, be cleaned. The interchange rules require that cars offered in interchange be clean and free of dunnage. The home road should be cleaning cars outbound and the "other railroad" should be offering clean inbound cars. But it doesn't always happen.

**Question-3:** How do I fix the existing cars whose quality has degraded?

**Answer 3:** As you know:

- A "X" quality car is a "dirty A" car.
- A "Y" quality car is a "dirty B" car.
- A "Z" quality car is a "dirty C" car.

If "Clean" is turned off, the X, Y, Z car-quality doesn't matter

If "Clean" is turned on, the X, Y, Z cars are sent to cleaning.

(Answer is "It doesn't matter".)

**Question-4:** With the feature turned off, will "X" cars in fact be loaded with a waybill that wants "A" quality??

**Answer-4:** Answering your question as asked? then "Yes. "An X-car can be loaded with an A-quality waybill."

Actually, this routine having been refined over the past 24 years is a good deal more complicated, but bottom line is that the program always looks to find a car. For example, the program looks for "A" and "X" cars, then looks for "B" and "C" cars (and even "K" cars). If the car is less than desired quality the cars is sent to rip.

**Question-5:** I had set up two cleaning tracks via the regular way in "Traffic/Scales, rip and clean Tracks", then turned the feature on in "Administration / SPOT Format and special SPOTs" and I haven't had one boxcar, reefer, tank car or stock car visit either one of them in the normal course of events.

**Answer-5:**

1. Tank cars are not sent to clean or rip.
2. Stock cars are not sent to clean or rip.
3. Meat loading reefers are not sent to clean or rip.
4. Only boxcars, some gons, and some reefers are sent to clean or rip.
5. There are only two settings:
  - a. The clean track siding number must have a suffix of "x"
  - b. You must turn on the "Use clean" in Admin.
6. As well, you need to assign a switching train to the clean track (just like any other customer).

The program will use up to 10 cleaning tracks. It routes a car to the closest cleaning track (using the station "zone").

There is no limit to the number of cars that will be sent to clean. They stay there 8 hours.

There is a limit to the number of cars sent to the rip track. They stay there 1 session.

**Question-6:** Does the same thing happen for clean out cars i.e. the program directs them to the appropriate track automatically?

**Answer-6:** Yes, if they need cleaning.

**Question-7:** Are these cars assigned to a "pool"? i.e. Are they assigned to a specific commodity or loading location? Are these private-reporting-marks cars?

**Answer-7:** If so they are not sent to the railroad's cleaning track. It is assumed that the loading point has a cleaning facility and cleaning is done there. Use Howard's approach to set up a "shipper's cleaning track".

As mentioned before, an "X"-quality will **not** prevent the car from being loaded. The program treats an "X"-quality as an "A" car for loading.

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D.2. - How often are cars bad ordered?

Question: Can someone tell me if there is a variable or setting that determines how often cars go bad order?

Answer: "Waybill loading":

- Boxcars, reefers and some gons are subject to Interchange Rule #1 where cars are "graded" as to quality: to "A", "B", "C" ("D" for gons) (or "K" and "U").
- Waybills, in terms of the commodity, require a minimum grade of car loading. e.g. Newsprint requires an "A" graded car (water tight, no holes...)
- Waybills also "wear out" a car. A "B" waybill (rough freight) will degrade an "A" car down to a "B" car. As well, once you reach 100 sessions, the cars start to "de-grade" or "wear out" on their own (a 'rule' in the ProTrak operations game).

If you have an "A" waybill for loading, and all the "A" grade cars are already loaded, but there are some "C" (or "B") cars sitting empty, the program will assign the load to a "C" or "B" car, but first send the car to the RIP track for repair/coopering up to "A" grade standards. (If you have a RIP track, and if you make the RIP track function active at "Administration/SPOT format and Special Spots".) Cars being sent to the RIP for this upgrading are assigned "Bad Order", with contents showing as "mty bad order".

Once the car moves through the RIP track (24 hours), the car is routed to the shipper.

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D.3. - How do I setup and operate an icing track?

**Question-1:** How can I get my RBs to go to the icing track? All my RBs come from off line to my only yard then go out on locals to different towns. I want to ice all loaded RBs at the icing track in the yard before they go out to the industries.

**Answer-1:** "Continuing in transit". On the waybill.

1. Set up a waybill that directs an empty car to the icing track (siding numbers will be "from icing" to "local customer"), then
2. A second waybill that directs the loaded car from one of the local industries (siding numbers will be from "local customer" to "ultimate destination").
3. Make the first waybill (to icing) call the second waybill on its "Continuing in transit" data field. (Second waybill "Continuing in transit" is left blank or zero.)

4. Now for the customer in waybill #2: at car-orders (at "Traffic/Car-orders to online customers"), call the first waybill as a car-order.
5. Repeat steps 1 to 4 for each online local customer who receives an iced reefer.

What will happen is that the first waybill will be called as a car-order, to icing. The empty will get moved to icing. After icing is complete, the second waybill will be called (automatically by the program) and the car will be moved to the local customer. After loading there, the car will be directed to its final (ultimate) destination. There it will be made empty.

The program contains an automatic feature to move **loaded** reefers to icing, if they need it. In this case, the reefer is already loaded (in staging) and is just making its way across your railroad (to an online customer or to staging). Your railroad is just providing icing services at your online icing station.

Have a look at a waybill for a "RS" (or RSM, etc.). The data field "Perishable handling" will now list possible icing, ventilation and heating services. If you select one of the refrigeration handlings, the (ice-bunker reefer) car will be directed to icing. The time at icing is automatically controlled by the program (matching historical data). Once iced (in minutes to an hour depending on train and era), the car is released for further movement.

The program contains a check to limit the number of cars going to icing, to prevent the icing station from being overwhelmed.

**Question-2:** How does it know where to find the icing place? Do I have to make a customer with a code and does it have to be worded with the right wording (ice house, icing platform) or something else?

**Answer-2:** Use "Special".

Set up a new customer by clicking on "Traffic" on the ProTrak Standard Toolbar, then select "Customers" from the drop down list to open the "Customers and Loading Points" window. On the ProTrak Standard Toolbar click on "Edit/New On-line customer" to open the "Changing Customer: X of: Y" window. Give the new customer the usual station and siding number data.

Then click on the "Siding name/commodity" data field. At the lower right of the window, click on the "Special" radio button. Double click on the selection "Icing track". That makes this customer an "icing track".

Click "OK" to save all your data.

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D.4. - How are clean out tracks setup?

Question: I'd also like to include a clean out track; again could you please describe?

Answer: Simple (within the program ;)

- Activate the "global control" at Admin/Special spots". Click the "Yes" radio button for "Use clean track".
- Set up one or more "clean tracks" at "Traffic/Scales rip and clean tracks". (via the usual "Edit/New" procedure.)

Cars that come inbound with loads, that are re-assigned to loading outbound, will get directed to the nearest clean track. Also, cars that come inbound with loads that are being sent home via a staging track assigned to another railroad (direct interchange) will get directed to the nearest clean track.

That is, the traffic to your clean tracks very much depends on the traffic and the settings for your staging tracks.

The volume can be large. I have had to add dedicated cleaning tracks for some customers, which are tracks within the same 'zone' as that customer.

Cleaning occurs in 8 hours. I.e. 8 hours after the car is set out, the car becomes available - if the clock is on. Otherwise "next session".

It is probably more realistic to time the working of the track to match shift changes. That way all the cars on the clean track become available at the same time.

Functionally, the clean track was usually 'tipped' to one side to allow wash water to drain from the car. Dunnage and other debris would be piled around - preOSHA and on railroads lesser than N&W it might be just scattered about.

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D.5. - How are RIP tracks used versus cleaning tracks?

**Question:** I looked at the Freight car list... There are 10 cars presently assigned to the GRT, seven of which are destined for DTI89r, the Gresham rip track. No cars in Ribo Yard are being directed to the Ribo rip. Any thoughts on what I can look at?

**Answer:** "Clean"ing is a local affair. Rip is quite different from "clean".

In this program, the "RIP" is considered the "car repair shop or facility". The thought is that these are major facilities ---- system-wide facilities. The program recognizes up two "car repairs shops" (Rip) on the entire railroad.

You must have the "rip track" option turned on, and you have to have at least one "r" track somewhere, or nothing happens.

Cars are routed to Rip in two ways in the program:

- a) During car-order/waybill assignment;
- b) By examining the unfilled (non-assigned) car-orders/waybills and looking for lower quality cars that could be upgraded to fill the car-order.

"a" is for cars not being cleaned; and so will involve mostly "K" quality cars.

"b" takes "C" and/or "B" cars and upgrades them to "A" quality if needed (or whatever the car-order/waybill requires).

"b" requires that there be "non-assigned car-orders/waybills".

Cars will be routed from all over the railroad to the central major car-repair facility.

The maximum number of cars routed to Rip, at any one Daily Summary, is equivalent to the total of the length of the Rip tracks. If track #1 gets filled/assigned cars, then cars are directed to the secondary Rip track (another program assumption - major and minor car repair facilities).

If the train-connections to Rip are "non-ideal", you could get oodles of (many more) cars being routed to Rip.

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D.6. - When is a car routed to the Clean Out Track?

Question: When do cars get sent to a clean out track presuming that the Clean Out Track is enabled in ProTrak?

Answer: A car gets cleaned on being assigned to >be loaded<. Not after unloading.

Empty -> assigned a waybill -> cleaning (if necessary) -> placed for loading -> loaded movement -> unloaded

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D.7. - How are Switching Trains assigned for Clean Out Track service?

**Question:** How does the Switching Train specification for the Clean Out track and the switching train specification for the customer interact?

**Answer:** They don't.

If you want the cleaning-track for a customer to be served by the same local-service train then both "customers" should be served by the same train.

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E - Interchange Tracks

E.1. - When should I use each type of interchange track?

Question: While adding inbound cars to my interchange track I wanted to have one through train northbound and one southbound from each railroad stop at this customer.

- CINS trains work GUT-50
- B&O/RI trains work GUT-60

Since I want to have two separate trains switch this customer I can place the first train number in the switching train for the customer; but am not quite sure how to add the other switching train. Can you please address setting up these customers for more than one train and railroad?

Answer-1: You don't.

You are modeling both railroads. You want to use the "designated interchange tracks" for this kind of movement. The basic definition (in ProTrak) of the interchange tracks is:

1. If you have trains of both railroads working the interchange, use the "designated interchange tracks".
2. If only one railroad works the interchange (the "other railroad" is not modeled), set the interchange up as a customer and assign car-orders.

You have both CINS and B&O trains working this interchange. Use the "designated interchange tracks", assigning them as "reporting locations" for the trains that work these interchange tracks.

Answer-2: There are two "types" of interchanges in ProTrak.

1. One type is for exchanging cars/trains between railroads. These are the "designated interchange" tracks, originally labeled as track numbers "96, 97, 98 and 99".
2. The other type is where there is no "other actual train from the foreign railroad". This type, which is a form of customer and has waybills/ car-orders/waybills, must not use the designated interchange track numbers.

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E.2. - How do I operate an "interchange track" customer?

**Question-1:** I'm making the interchange track a customer (GUT-60) rather than a 98 or 99 interchange track. Since this is a customer, it means that I have to create and setup car orders for each inbound and outbound car to the interchange track. Is this correct?

**Answer-1:** You do have to create car-orders, but not for every car.

Rather than "cars" it might be better to think in terms of "shipments".

- You have shipments that originate "somewhere out there, on the "other side" of this interchange. These would be car-orders originating at this "customer / interchange".
- You have shipments that terminate at this interchange. The destination siding number of this shipment/waybill is the interchange / customer siding number. The car-order may, or may not, be made from this interchange / customer. (Recall that if both the shipper and consignee are online customers, that shipper will make the car-order.)

**Question-2:** Should I make just enough outbound car orders to equal the inbounds or can I make extra outbounds to make sure that all the cars on the track are picked up?

**Answer-2:** Not necessary, no more than it is with any other customer. The program will treat this interchange just like any other customer.

- If the shipment is inbound (and the car becomes empty), the program will route the empty outbound.
- If the shipment is outbound, the program will route an empty to the interchange for "loading".

You will have a realistic blend of empties and loads going through the interchange in both directions.

I think you do not want to force all the movements through the interchange to all loads.

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E.3. - How Interchange tracks different from staging tracks?

Question: How do I decide whether to use interchanges or staging tracks?

Answer: Think of your railroad this way....

- Draw an imaginary circle about the world you want to model in detail
- Note each connection going through this circle to outside, each leads to at least one staging track
- Depending on the level of detail (for the _traffic_) at each of those connections, you might decide to further sub-divide that connection into several staging tracks e.g. "towards Portland" might be subdivided into "B&M staging to Portland" and "MeC staging to Waterville or Bangor".
- Within your circle, note where your railroad connects with another railroad; those become interchanges. On the other side of the interchange to the foreign railroad you may have either a) staging or you may have b) "another subdivision" (within ProTrak).
- The rest of the world within the circle is a station on your railroad.

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## F - Train Jobs, Yarding & Timetables

F.1. - What is done to implement changes to train routing?

**Question:** I wanted to print some lists of the train lineup and blocking for tonight's session. Before this session started, I modified the routing of several trains. When I printed the "Train Lineup" and the "Train Blocking, Staging and Yard Tracks" lists, it still shows the old lineup info.

Anyone know why it wouldn't be showing the new routing? Know what else I can check or what I should do to get it to show the correct routing?

**Answer:** ProTrak allows you to have a Lineup for all 7 days of the week. This means that the program has to keep **two** separate files: a file that "contains all the possible trains", and a second file that "contains Today's line-up of today's trains".

When you edit the data for a train, the program is necessarily editing the file "that contains all the possible trains". You need to transfer the new data into the file that contains "Today's line-up of today's trains". You do by clicking on "Scheduling / Line-up of trains" on the ProTrak Standard toolbar to open the "Listing Train Lineup" window.

Answer "Yes" to the two questions about creating a new Line-up.

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F.2. - How are train reporting location and "y" tracks related?

Question: I don't understand the train reporting location. Is this where siding numbers "y" are assigned?

Answer: You may not need any "y" tracks. A "y" track is used only for a special purpose.

Typically a through train works: staging to yard to staging, and you would enter "yard sidings" (reporting points) as

1. "AAA01s"
2. "DDD-Yd", and
3. "PPP23s".

Typically a switching train (a train that serves online customers) might work: yard to yard and you would enter "yard sidings" (reporting points) as:

1. "BBB-Yd"
2. "DDD-Yd".

However if the switching train works out to a town without a yard ("Yd") then you need some sort of "reporting location" at that town. You could enter:

1. "BBB-Yd"
2. "CCC01y"
3. "BBB-Yd".

Notes:

1. It is unlikely that a "y" track would be an origin, or terminal. A "y" track is mostly used as reporting location where a local turns.
2. CCC01y must be previously created as a "customer" at "Traffic/Yard or Interchanges"

A "train reporting location" is:

1. A yard ("Yd"), interchange or staging track where a train originates or terminates;
2. It is also any location (yard) where the train exchanges cars with other trains;
3. It is also the limit of any switching/local-service zone for a switching train.

For example, suppose a switching train leaves the town "BBB" and runs over to town "DDD" switching its assigned customers along the way. (The train will continue on to EEE and FFF and switch customers there too.) You want to report (to the computer) that the switching work in BBB, CCC and DDD has been done. You do this by reporting the train at "DDD".

- You set up the origin at "BBB-Yd";
- You set the second reporting location as "DDD-Yd";
- You set the third reporting location as "EEE-Yd"; and,
- You set up the terminal as "FFF-Yd".

When you report the train at "DDD-Yd" all the customers (in the computer) between "BBB" and "DDD" (and at DDD) are "switched". When you report the train at "EEE-Yd" all the customers (in the computer) between "DDD" and "EEE" (and at EEE) are "switched".

Not every town needs a reporting location (even if it has customers). You set a train's reporting locations, dividing the railroad into switching zones. The zone being a convenient amount of work, for one switchlist.

Note: A "Yd" is a yard of unlimited capacity. A "y" track has a specified length. If a "y" is made short, then it may be too short to work as a location where trains can exchange cars. If you want trains to exchange cars at a "y" track, and are running into problems, the first thing to try is make the "y" track very long

(maybe much longer than it is physically), because, physically you can pull cars, to another track, then place cars on the "y" track.

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F.3. - Why does 'Line-up of Train for...' show a '?' for 'Direction'?

**Question:** Why does a "?" appear under the "Direction" column on the "Line-up of Trains for Monday..." window, for trains which are otherwise fully entered / scheduled?

**Answer:** Check the "Subdivision Notes", for the subdivision the train originates on. On standard menu click on "The Railroad/Subdivision Junctions, names and notes" select the subdivision and click "OK". Check the "Timetable direction" for that subdivision.

The program can't resolve the initial train direction based on the station order and the timetable direction on that sub.

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F.4. - How do I set train length limits?

Question-1: I have the train length for my yard jobs that switch local industries set at twenty cars. When I go to switchlists there are never more than 10 cars showing. Anything above ten cars show as extras. Is there something else influencing how many cars show on the switchlist?

Answer-1:

1. Check the maximum train length setting.
 - a. For Build 271, and earlier, on the ProTrak Standard toolbar click on "Transportation/Today's Operating Conditions". In the "Train Length" pane on that window, there is data field called "Maximum length of any train is"...
 - b. For Build 272, and later, check that the maximum train length, for this train, in "feet" is adequate. The "number of cars" setting and the "Length in feet" are initially connected by the average car length, but can be set to be completely independent of each other.
2. (This one is doubtful in your case, because this is about yard jobs.) Do you have motive power assigned to your trains? If so, the program checks for tractive effort (TE), comparing train resistance to locomotive TE. If the train resistance exceeds TE, then cars are dropped until the locomotive can pull the train.
 - This shows on the switchlist, under the Dynamics section. If TE is just over R, then cars may have been set off.

Question-2: I have tried to set my train length higher; but I consistently have trains stuck at 13 cars or lower. Even when I try to add cars to a train, I am prevented from going above 13. Is there any correlation with train length and the longest siding, longest yard track or staging track?

Answer-2: Nope.

The three controls on train length are:

1. The setting for the individual train length (on the train edit window) :
 - a. in "number of cars";
 - b. by "maximum length in feet" (Build 272 and later).
2. The available locomotive TE as compared to the train's resistance (on the maximum grade to the next reporting location). This is active only if a locomotive has been assigned to that individual train.
3. For Build 271 and earlier, the "global" setting at "Transportation/Today's Operating Conditions". This setting does not exist for Build 272 and later, in which maximum train length is set only at the train edit window for that train.

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F.5. - Why does the train length limit in feet change to the default value?

**Question:** The train length in feet still reverts back to the default as soon as operations is entered resulting in cars being dumped from train even though train is not at max cars. Why is this?

**Answer:** New line-up not formed.

- The data is entered in what is the "list of trains". Operations is using today's line-up (different list).

Two things:

- Make sure you click "Yes" to form a new line-up even if the program thinks it found no changes.
- Make sure the new line-up displays. If the line-up list doesn't display, click "Scheduling/Line-up" a second time.

What with the new railroad here, I am now doing operations constantly. I have train length limits set at from 12 cars up to 25 cars. Lengths are set from 624 feet to 1365 feet. Tonnages are set from 1020 tons to 2145 tons. All trains are working to the various limits.

Please note that on the switchlist preview window, the item that is limiting train length now is shown on a red'ish background.

For example,

- If the length in feet is limiting, the "Total feet" is shown with the red'ish backdrop.

To make things easier, you can enter a calculation in the length and tonnage datafields.

- For example in the 'length' data field you could enter " $= 10 * 43$ ".

Say you have set the maximum number of cars to 15. You want the equivalent maximum length in feet, for 50-ft cars (which are 54 ft. over couplers).

- " $= 15 * 54$ ", then <Tab> or <mouse> to next data field.
- That is: the "equals sign", the number of cars, the "times" (or "asterisk") and the car over-coupler length.

Same with tonnage. For example, you might use:

- " $= 15 * 133$ " for 100-ton cars (loaded)
- " $= 15 * 110$ " for 70-ton cars
- " $= 15 * 85$ " for 50-ton cars.
- Or lesser weights for a mix of loaded and empty cars.

Or if you want 'length' and 'tonnage' to have no effect just enter large numbers in the length or tonnage data fields. 10,000 ft. and 10,000 tons will do it.

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F.6. - When calculating train length, what all is counted?

Question: Do engines (such as an ABA or ABBA) and cabooses (C&O used two on their wayfreights) not count towards train length??

Answer: The locomotive and caboose(s) count to the train length in feet, but not to the "car count".

The program allows for two cabooses.

The units and caboose are kept in a separate data file. For the original method of assigning units/caboose directly to a train, "slots" 1 to 10 in that file are for the units and slots 11 and 12 are for the caboose(s). For the DCC (consist) method, up 16 units can be assigned to the consist, and two cabooses.

The program totals the consist length, and adds the caboose length. That is the base length. The "cars length" is added to that until the car-count or the total train length is exceeded.

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F.7. - How can switching zones cause a car to not move?

**Question:** Can you please explain why a switching train is not picking some of my cars up?

**Answer:** Before picking up a car at a customer, the program checks to see if the customer is in the next "switching zone". The switching zone extends from the present train location to the next reporting location.

For example, suppose a car is at "DDD-10", and the train assigned to this customer works "AAA-Yd" to "CCC-Yd", then back to "AAA-Yd". The train never travels to zone "DDD". The program will not pick up cars at "DDD", **even** if the train is assigned to work customers in "DDD".

The program allows you to improperly assign customers to a train outside the train's working area. It is up to you to make sure the train travels through the customer's zone.

If cars assigned to the train do not "pick up" on clicking "Report" this is an indication that the zone/train-work is not correct. On the ProTrak Standard tool bar click on "Edit/Show/Show switching trains", then check the list of stations to make sure the customer is at or between the assigned switching train's reporting locations.

For example, suppose a car is at customer "SPG-29", and the train works "RIG-Yd". SPR" is not in zone "RIG" and the cars will not be picked up.

To make the cars move (on another train) on the Operations toolbar click on "Exceptions/Show cars in trains", and then click on the train header (in this case SPRGWK). The cars will be dumped from the train and re-routed correctly.

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F.8. - Is train blocking specific to each train or common to all?

Question: Do blocks of cars only hold for a particular train or is it true that once I use block 1 for one train I don't use block 1 for any other train regardless of whether it is a completely different type of train?

Answer: No, blocks are simply the relative blocking order for each train. Each train has its own block number from 1 to 99.

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F.9. - Where is blocking order shown for switching trains?

**Question:** Is what is shown in Edit>Show Switching Trains listing the ORDER that ProTrak uses to block cars in the trains?

**Answer:** Yes.

Also, use this list to check for missing customers. If there are duplicates (there is a check for that in "Customers"), then the second duplicate will not be shown.

**Comment:** You have full control of how local service (switching) trains are blocked (by the program). If your trains are not being blocked properly, then I would suggest you need to re-visit your data.

1. Station order: the program takes this order from your list of stations.
2. If you want the cars listed engine-to-caboose order, select that at "File/Program options". Under the options pane...
3. Cars in switching trains are blocked according to the various "Customer" "Cars blocked at" data field.

That's the first cut.

Other subsequent blocking is applied to a train, according the options you have selected at "Administration/Enhanced switchlist features".

1. The "loads and car kind" applies the usual restrictions.
2. The "E/L" will place all empties at the rear of a train.
3. "Block train for stringlining..." will look at e.g. light (or long, or long-short combinations) cars and re-block them, as necessary:
  - towards the rear of the train;
  - towards the middle of the train if there is a helper (option).
  - The "Spiral factor" increases the safety factor applied to stringlining.

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F.10. - How does adding train reporting locations affect operations?

Question: It appears that switchlists are only printed at locations declared to be yards, nothing in between - is that correct?

Answer: Switchlists are printed at train "reporting locations".

While there is an advantage in having lots of reporting locations, so you can refresh switchlists often... There is an "other side" to having too many reporting locations...

Recall, also, that every time you declare a "train reporting location", you are telling the program to create a "block". By "block" we mean a "destination block of cars". The program implicitly creates blocks, one block for every train for every train reporting location. Each of those blocks requires a yard classification track (in an ideal world).

- For all trains, the originating "train-reporting-location" does not create a block. The cars are already in the train.
- If the train originates in staging, the second "train-reporting-location" does not create a block; the block is a "setout" only.
- If the train originates online, then the second "train-reporting-location" does create a block

So if we have 20 staging-to-Yard-to-staging trains, all going to different locations, there will be 20 blocks created. And somewhere on your railroad you need 20 classification tracks.

Similarly, if you also have 6 switching trains, and you set them as each having 5 reporting locations, then there will be $(5 - 1) * 6 = 24$ blocks created. But if you reduce the "train-reporting-locations" for each train down to 2 (start and end points), then there will be $(2 - 1) * 6 = 6$ blocks created. That is a difference from 24 down to 6 classification tracks.

So you have to balance the "need for refreshing the switchlist" with the "need for classification tracks".

Now there are ways around needing lot of classification tracks, for both types of trains:

- For through trains, we can group destinations in staging by "region number". 1 region = 1 classification track;
- For switching trains, we use yard trimming.

For switching trains, you could establish >1< classification track for a switching train (which may have many "train reporting locations", and therefore many "blocks"). Your yard crew pushes all the cars for these multiple blocks into that 1 track. Then after all the cars are assembled on that one track, the yard crew then "trims" that track so the train is properly blocked for destination switching.

This is the power of "trimming" - it saves on classification tracks.

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F.11. - How do you setup a local switcher that stays in one town?

**Question 1:** How do you set up a switching train that never leaves a town? Do you make a reporting point somewhere in the town and treat it as a turn?

**Answer1:** Essentially yes, set up a "Yd" or a small "y" yard, then schedule the train to only work the ONE yard. This will mean that it could run several times during the day, as cars arrive in town or are ready to leave from the customer. You will also have to set up the relevant customers with this as the switching train.

I use this type of train for two purposes. One is to switch the customers associated with a large yard, such as the freight house, coal delivery track to the coal tower, RIP track, etc. The train is then associated with the large "Yd" and all the customers are within the switching area.

The other is to pick up and distribute cars that are left in a "set-off" small "y" yard by a passing thru freight.

Both work well.

**Question 2:** When does "adjacent zone switching" apply?

**Answer 2:** The "adjacent zone" switching applies if:

- a single zone local switcher (works only "AAA-Yd")
- the adjacent zone is the next station in the list of stations
- the customer in the adjacent zone is worked by "the 'next door' single zone switcher".

**Question 3:** How does one characterize Local Customer Switching?

**Answer 3:** Local customer switching practice:

As we all know, prototype practice follows several local switching service patterns, such as:

1. A one-directional train that switches all customers between its origin station and terminal station
2. A one-directional train that switches only specific customers between its origin station and terminal station, leaving other customers to a second, or other, trains to service
3. A one-directional train that switches all customers at only specific stations, between its origin station and terminal station
4. A turn, which switches all customers between its origin station and terminal station

5. A turn, which switches trailing point customers on the outbound and what were facing point customers on the return leg
6. A turn with the switching pattern as in (2) or (3), or as in (4) or (5).

The choice is one of balancing cost of service (more train miles) versus speed of delivery (getting/keeping the traffic) or distance and density of traffic.

ProTrak allows you to emulate any of these switching patterns.

And... the financial parts of ProTrak can help guide the selection.

Intrinsic to the working of a switching pattern (in ProTrak) is the concept of what could be called a "customer switching zone", which is "the customers, served by a train, located between the service train's previous and present reporting locations". Only cars at customers that are both a) served by the service train and b) within the "customer switching zone" are setoff or picked up. All other cars either remain on the train or remain standing at the customer.

This method works fine for the switching patterns noted above.

However for a single-station switcher, an extension was requested to allow the single-station switcher to switch a "near-by" station zone. For example, the C&NE has St Johnsbury (STJ) and closely to the east, East St Johnsbury (ESJ). It makes sense to allow the SJ switcher (SJXX) to also serve ESJ.

Previously, with SJXX having reporting locations

1. STJ-"Yd"
2. STJ-"Yd"

customers at ESJ would not be served (ESJ is not between STJ and STJ).

The Update just posted (1/21/2014) allows for ESJ to be 'seen' as being within the "customer switching zone at STJ". To make this happen:

- have customers at ESJ served by train SJXX
- make sure that the station East St Johnsbury is adjacent to St Johnsbury in the list of stations, either +1 or -1 station.

The program will include the adjacent zone ESJ in the "customer switching zone" for STJ.

This works only for single-station switchers (service trains with one or two (same zone) reporting locations)

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F.12. - Are time table schedules automatically updated?

Question: If I modify / correct / update either an interval or station length under "The Railroad/Stations on the xyz Division" do the times on any of my existing Train Time Table Schedules get automatically updated?

Answer: No. For good reason.

The main problem, about automatically adjusting the schedule to account for changes in length, is "interaction" with other trains. It is easy (within the program) to simply re-calculate the schedule, for a change in length, but the odds are that this will cause a conflict (meet or pass) with another train. To avoid the possibility of overlooking an interaction, the whole schedule should be re-calculated.

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F.13. - Does the time table schedule control any operations?

**Question:** CP 38 is supposed to turn at Toronto staging, change to CP 37, change its waybills in each car (...etc.)

However, when I look at the time table for CP 38/37, it has 3 "next stations" entered on the sheet after the terminating station (Detr01), all with the same time. So, it appears that the schedule is determining the turning point and the change of the WB's, not the yard/staging blocking of the train.

**Answer:** This assumption is not correct. For the record, the "time table schedule" is not a "control" within the program. The time table is simply 'advice' for you to use.

The train reporting locations are **the control** on turning points, waybill unloading/re- loading etc...

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F.14. - How can a "light train" movement be setup?

Question-1: I was trying to make a light train movement from one yard to another to preposition some motive power for a train that runs later in the day. How do you make a light train movement?

Answer-1: "Train movements/Call an extra" is what I use. Assign the power and caboose. Move the extra without clicking "Yardmaster/Route cars..."

For locations where a "light power" move commonly originates, I put in a unique "y" track that is used only as the origin of light power moves. Then it doesn't

matter what the car routings are (or if "Yardmaster/Route cars..." runs or gets clicked), because there will never be cars sitting at that origin location.

Question-2: What would happen if you set up a train and excluded all car types from it?

Answer-2: Hmm, that might work Jim. We could have a one-way train leave from NCT02y then the returning train (different symbol) with no car types would only return with the loco and caboose. Good idea. Thanks,

Question-3: We can schedule an extra as you have suggested, but this has to be done every session... Is there any other way to accomplish the same thing, without having to run the extra?

Answer-3: If the move is a "usual move", why not set up a train-job that moves the light power? With the same basic idea as the "extra", with its unique origin location...?

Question-4: Why can't a train be listed with zero cars?

Answer-4: Because it has no meaning.

The program -presently- has no general "light engine move" function. I can see the utility of adding such a function. This would be different from the "light helper return" function.

In the mean time you can duplicate a "light engine move" by doing what I mentioned earlier;

- a. Use the "call extra" option, `_or_`
- b. Set up a train that originates at a unique location.

You wanted to schedule, permanently, a train to do light power moves. To do this:

- a. Identify the zone where light engine moves would commonly originate;
- b. Set up a "y" track at that zone;
- c. Have `_no_` other trains work at that location. (Just light power moves *originate*.)

Then

- d. Set up a train that originates at that location. The "number of cars" setting for a train does not matter.

***Notes:

- If there are no cars at that location, no cars will be assigned to the train.

- If only light moves originate at that location, no cars can be routed to that location (there is no train inbound to the location). There will never be cars at that location.

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F.15. - Why would a "?" appear in the Train List direction column?

**Question:** What does a "?" in the direction column indicate?

**Answer:** The "?" means something! It means a >fatal< error in the data and you must not ignore it.

On the "list of trains" window, there is a column that is headed "E/W" (or N/S). {If your railroad is set (by you) to run East/West then the column is headed "E/W".} For each train this column must show "East", "West" or "Local". It must **not** show "?".

What does it mean? The "?" means the program could \*not\* resolve the train direction. The reason for that is that the train's origin or destination stations do not match the stations in one of the:

- "list of stations" (on the core), or
- "list of stations" on the "other subdivisions"), or
- a station at a staging junction.

Why does this matter?

The same station data is used for the car routing. So, the program will not be able to route cars to those (non-listed) destinations.

As well when:

- scheduling a train on the string diagram; or
- using the on-screen dispatching train-sheet; or
- using the CTC,

the program will not recognize the train.

What's the problem?

Usually a station name has been changed, for example, from "Bowling Green" to "Bowling Green, KY" (these are not the same location) >>> without changing the train (origin or destination) stations, and/or the "staging track junction" stations.

How to correct?

The Recipe Book, and The Manual, both recommend an order for setting up your railroad: stations-> then staging, then -> trains.

If you make changes, you should carefully check and change the other references to all the staging and train-related station names, re-following the recommended procedures. The program does make some of these changes automatically, but you should still check.

If you see a "?", you must go through your data and correct it. Please--- do not even try to use the string diagram until all the "?" are resolved.

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F.16. - How is a train's direction of travel determined?

Question: I have a train that is traveling the correct direction west to east (East St. Louis to Toledo) but it says that it is traveling east to west on the train jobs listing of jobs. My train number is 96 and I am traveling on the NKP Cloverleaf 3rd sub to the 2nd sub., these are both subdivisions. My core segment is the LE&W from Peoria to Buffalo. Just can't seem to find a way to switch the direction on the train jobs listing.

Answer: The train direction is determined in the "edit train jobs" window, when you click the "OK" button. At "Scheduling/Establish train jobs..."

The data being used is the "list of stations", the core subdivision compass direction, the subdivision compass direction, and the train's first and last reporting locations.

For jobs that work on "Other subdivisions" the direction is determined by the compass direction of the subdivision, on which the train starts (its initial reporting location).

So,

- Look at the train's first reporting location. Which subdivision is that station on?
- Check that subdivision - at "The Railroad/Subdivision Junctions, names and notes"
- 4th data field from top.

Other situations

If the train starts on the "core" and terminates on a subdivision, the compass direction of the terminating subdivision governs.

If the train works only the core, the first station is always "East" (or "North"). That list can be flipped.

If the train works only on the one subdivision, the order of the stations, and the compass direction of that sub, govern.

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F.17. - How is an Extra train setup & how are cars assigned to it?

**Question-1:** Today I thought about running an extra train as a turn to the interchange track, assigning the 11 stranded cars there to the extra, and pulling most of the cars back to my main yard at Riverside. I have never set up and ran an extra so that is the basis for my questions.

Per PTBM Appendix L Q&A F.14 it looks like I need to first set up a reporting point such as MN-02y. Is that correct?

**Answer-1:** Yes, if the turning point is to be in the "MN" zone.

**Question-2:** If so, then I presume the routing for the extra turn would be RVS-Yd, MN-02y, RVS-Yd, correct?

**Answer-2:** Yes, that routing would work. You could also set the extra train up simply as:

1. MN-02y
2. RVS-Yd.

That would avoid the possibility of any cars being to >to< MN.

**Question-3:** Can I run an engine and caboose light from RVS-Yd to MN-02y?

**Answer-3:** Yes

**Question-4:** If so then what do I do when I report the extra train at MN-02y to get some of the 11 cars assigned to the return leg of the extra turn?

**Answer-4:** Cars get switched, at a customer, by a train only if the train is assigned to work those customers. An extra will not work a customer directly.

To get those cars from MN-11, you need to move them using Exceptions / Query car status, from MN-11 to MN-02y. Once the cars are at MN-02y, the extra-train can get the cars assigned (using "Yardmaster/Route cars at Yards & Customers").

To move the cars:

1. Click on "Exceptions" / "Query car status" on the Operations tool bar and find one of the cars
2. Click on "Change" (top left of Query window), and click on "Change Location"
3. At the bottom of the Query car status window, on the "Change in routing" dropdown, select/click on MN-02y.

The instant that you click on the dropdown the new location is saved, and a routing is calculated.

Check the car-consist of the extra train at "Reporting train location", and select the extra train. Note the car-consist in the right hand panel. If the car is not there, click "Yardmaster/Route cars at Yards & Customers".

Then repeat this for the other cars as you wish.

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F.18. - What causes a train to be "over length"?

Question: What causes a train to be "over length"?

Answer: The cars are extra (in this case) at Springfield because the train is over length. Over length can be by:

1. tons
2. feet
3. car count.

Exit operations and for the train (train edit window), check the right hand pane. Check the "tons" field. In your case it should be over "2000".

Suggestion: Enter the value as " $= 25 * 90$ " (in the datafield) and tab to another datafield. The program calculates the value 2250. The 25 is the number of cars _in_ the train; the 90 is the average gross weight of one car (180,000 lbs.). Your era most cars are about 169,000 maximum gross weight (see the car edit screen), so you could use 85 instead of 90.

You can check why the train is over length on the "on-screen switchlist". If the train is limited by "tons" the total tons datafield (Train total weight) background will be "not white".

Similarly, if total-car-count or length-in-feet are the reasons, the "Total Cars" or the "Total train length" background will be yellow or reddish.

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F.19. - What is the significance of Train Class?

**Question:** The Class designation for ALL my trains on the "Changing Train: X of Y" screen is X, which the tool tip says is "Extra". What significance does the X have?

**Answer:** The train class, in ProTrak, is used on the "string diagram" ....

The program has classes 1, 2, 3, 4, 5; and X and W. All in time table sense of "class".

- 1. X is extra (time table sense), may be listed as a "usual job" with a usual call time. But it may run at any time.
- 2. W is work train (essential feature that sets it apart is that it can run in both directions, between limits.) It may be listed as a "usual job" with a usual call time.

The string diagram editor (at Howard's suggestion) can be worked (scheduled) by class.

- 1. Only first (1) class trains, then once those are scheduled
- 2. Add the second (2) class train around the first class trains' schedules
- 3. Then the third class, then the 4th class, then any 5th class;
- 4. Then fit in the "X" class (which frequently are your local-service switchers).

Usually (from my experience, working on track capacity problems)

- 1. The priority through trains are "scheduled" first.
- 2. Then the merchandise trains
- 3. Then any switching (local service trains). It is preferred to run these from 7am (daylight hours) as much as possible.

A trick on setting up a string diagram is to run the through trains as much as possible at night, leaving a "hole" in the track capacity from 7 am to 5pm.

- 1. The locals are run between 7 and 5 (daylight hours), and
- 2. In the summer track maintenance season, this same "hole" is used for track maintenance.

This way the through trains can run at the same service all year without re-scheduling.

The "X" has no effect (zero effect) on car routing.

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F.20. - What is a Usual second section, is it the same as a Job Extra?

Question: Can you please explain what a "Usual second section" is, and is it similar to an extra job?

Answer: The "Usual second section" is an exact copy of the primary job. The symbol is changed, but this "Usual second section" job is a separate train. Being a separate listing, the second section can be assigned cars separately from the primary train.

However, the switching assignments are a function of the "customer", so any local service work (assigned to the primary train job) is not assigned to a "Usual second section" job. However, you could go into each customer and assign work, as a "secondary switching train".

So, "No" creating a "Usual second section" job is not the same as secondary switching train.

The "call job extra" is yet a different flavor. The job extra does include the switching assignments. But it "replaces" the original job in the lineup, and so does not have separate car assignments. (I.e. the 'slot' is "shared"...)

For completeness in explanation....

Also, the Usual second section job, when setup, does not "inherit" any scheduled "doubling of hills". That has to be added back in when the "Usual second section" job is "edited".

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F.21. - Can the same set of cars be run multiple times in a session?

**Question:** Does anyone have ideas how we could configure ProTrak to let us run the same equipment and cars more than once in a session? For example: PFE1W departs staging and travels to another staging area, turns and becomes PFE1E. Upon returning to the origin, the train becomes PFE2W and departs again westward to the other staging area. Upon arriving there, the train turns and becomes PFE2E. This train is a permanent consist called the *Pacific Fruit Express*, and we'd like to run it four times in a session (two times each direction).

**Answer:** "Alternate symbols". PFE1W/1E, PFE2W/2E....

The "Alternate symbols" option was added, originally, for commuter trains. The concept here was that commuter trains have the same equipment, which runs many times a day with the same reporting locations. The only train-descriptive that changes is the symbol.

For example train "921/922" might start in the east, running west to its terminal point, then return to the east terminal. Then, later on the same day the equipment runs as "923/924". This can repeat (in ProTrak) for up to a total of 15 symbols - 30 if you use the "/" notation for a job that turns. That is, one "job description" can represent 30 trains.

The keys are the same reporting locations, and on the same day, (with the same equipment).

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Related option:

The "Call extra job" is similar. However, "Alternative symbols" allows for scheduling in advance the subsequent symbols. The symbols can be chosen. "Call extra job" creates a new symbols based on the original job symbol, being of the form "2-symbol". E.g. if the original job is "PTE", the first "Call extra job" will have the symbol "2-PTE", the third will have the symbol "3-PTE" (....up to 9-PTE").

The "Call extra job" option is intended for occasional use (being an unscheduled train that will not appear on the string-diagram and as such cannot be guaranteed 'track-time'. The DS needs to check.).

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Other uses:

Intermodal trains, with fixed equipment (cars) are a good candidate for using "Alternate symbols", provided the alternatedly-symboled trains all run on the same day.

Other unit trains, with fixed equipment (cars), also are a good candidate for using "Alternate symbols".

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Not yet tried:

In theory, any job, that it is scheduled to repeat many times a day, should work. But I haven't tried this. Sure would like to hear if anyone has?

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F.22. - How do I delete a train?

**Question:** If I want to remove all traces of a train, do I need to first remove it from the Scheduler, then delete it from the Train line up? If I delete trains, do I have any worries about indexes or getting things out of sync?

**Answer:** Background:

1. Train data is kept in the files "TrainLIB.RTO" and "TrainExtendedLib.RTO".
2. Line-up (train) data is kept in the file "TrainLU.RTO", plus there is a lineup file for each day of the week.
3. The line-up data is what appears during Operations.

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4. New data is always entered in the "Lib" files ("TrainLIB.RTO").
5. The data is transferred, and appears, in the line-up files only if a new line-up is created. Only the trains that run that day appear in the line-up.

To answer your questions....

- 1) When data is deleted, it is deleted from the "TrainLIB.RTO" and "TrainExtendedLib.RTO" files.

When you delete a train, you will likely be prompted to create a new lineup, or it is done in the background automatically.

- 2) The "Lib" and "LU" files are indexed together by the train symbol. There is no worry about deleting (or adding) a train.

You may have noticed that if you change a train symbol (and other data stays the same) the program asks you if the "new symbol" is the same train (job) as the "old symbol."

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F.23. - When are Alternate Train Symbols used?

**Question:** In Scheduling, what does "Alternate Train Symbols" do?

**Answer:** Think commuter trains that shuttle back and forth all day, with the same equipment. Only the train number changes.

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F.24. - Why do train lists show E/W instead of N/S directions?

Question: In Scheduling/Show Train Yard to Yard Connections, the diagram I get says that Red Lines are Eastbound and Green Lines are westbound, but my RR runs N/S. Is this just a printing shortcut or do I have something wrong somewhere.

Similarly, in Scheduling/Print Jobs/Procedures Directory, I printed one of my passenger trains and it stated it ran East to West but it does not - it runs North-South. Anything to worry about here?

Answer: The east-west was the original program default. The program only recently (10 years ago?) learned about north-south.....

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F.25. - How can I reposition an entire train as a unit?

**Question:** Is there a way to move the entire train as a whole?

**Answer-1:** {Assuming that the train is at its origin terminal}

For the train question, ("Scheduling/Establish train jobs....)", then select the train.

Click on the data field "Yard blocking", #1. Select the new location from the right hand pane (double-click). Click "OK". Line-up is updated.

I.e. you are changing the origin terminal for a train.

For a turn, change both origin and terminal reporting points.

**Answer-2:** The car >locations< stay the same (i.e. the train). The car destinations (which are waybill-determined) also stay the same.

However if you run the FP at Help/Emergency Reset, "FP" button (File Preprocessor) the cars' "Next Location" corrects to the next yard for that train and the car is re-routed when the train reaches that point.

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F.26. - How can a train be restricted to a specific group of cars?

Question: I have a mill at one end of the layout that requests car loads of wheat. I have a staging track at the other end that sources wheat from Canada. I have a train that runs from staging and turns at the mill. It should never take any cars other than the Canadian Wheat hoppers, even though there may be other wheat hoppers available. How do I restrict traffic in this manner?

Answer: "Staging track and region" plus "customer serving customer"

1. Set up a staging track, with a unique region (no other staging track serves that region). This would be the "Canadian" (e.g. Sask Pool) end of the train and the waybills.
 - Have the train originate (1) and terminate (3) at this staging track. Set the intermediate reporting point (2) for train as either a "Yd" or a "y" at the zone where the mill customer is.
 - The result will be that this train will carry only traffic to this staging track, and it will be the only train working (have traffic going to) this staging.
2. Have this train set as the service train for the mill customer.
 - Note that by restricting the train to working only that staging track the train will carry only traffic bound to or from that staging track. Setting the train as the service train for the mill allows it to deliver and pickup traffic to/from the mill. Setting the intermediate (2nd) reporting point as the mill zone satisfies the (program) requirement for the mill to be within "the switching zone"
3. This is an ideal circumstance for using the "Continuing in transit" feature with an empty and a loaded movement waybills that CIT each other.

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F.27. - How can the entire train lineup be cleared?

**Question:** What do I have to do to completely redo my train line-up?

**Answer:** Admin/Limits. Set the "number of trains" o the lowest allowable number.... as described in The Manual, in the sections about setting up the basic data and setting up trains.

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F.28. - How do I recover a train missing after entering operations?

Question: I seem to have lost a train after going into Operations. Is there a way to recover the train for the current operating session?

Answer: What you need to do is to re-form the line-up....which will bring back the missing train.

However, from the main ProTrak menu you will note that the "Scheduling/Line-up" menu item is grayed out, disabled, (because trains are moving). If you open a train, from "Scheduling/Train jobs" that is moving or terminated you will note that the "OK" button is grayed out.

Here's a trick. On the main ProTrak tool bar click on "Scheduling/Establish Train jobs and yarding". Find a train that does not run, double-click that train. This opens the "Changing Train x: of: y" window. In the Reports panel at the top right of this window click on the "Print yard cutlist by" dropdown and select either item. Click the "OK" button (which is enabled because the train is not in the line-up). The line-up routine runs.

The same thing happens if you open a train that has yet to move (say, a road train).

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F.29. - How are extra job trains named

**Question:** A question: What does it mean when will we see an X rather than a number and a dash preceding the train ID when we call a job extra? ( XCHR-1 as opposed to 2-CHR-1)

**Answer:** Depends on the length of the train symbol and whether the job was on the plan.

If the train symbol is short, then "2-" is added.

If the train symbol is 5 characters long "X" is added.

If the train symbol is 6 characters long nothing is added.

If the extra is a train that has been added to the plan "X" is added.

If the job is a turn and previously had an "X" prefix, "X" is added to the return-leg symbol.

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F.30. - When is the train traffic setting Local Service Option used?

Question: What does "Local Service Only" mean? And how should we use it?

Answer: The "Local Service Only" option is the alternative to the "All Traffic" option to use when you do not want two (or more) local service trains to carry "through" traffic.... Where the local service trains form a "parallel" routing to preferred through (road) train(s).

For example, if you had two local-service turns, one working from AAA-"Yd" to BBB02y and another from CCC-"Yd" also to BBB02y, those two local service trains form a routing from AAA-"Yd" to CCC-"Yd". If the preferred road train from AAA-"Yd" works after (is on the line-up after) the local from AAA, then the routing via the locals would be used by the program.... Unless you select that the AAA local is a "provides local service only" (on the Traffic option).

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F.31. - What are the precautions when changing a train name?

**Question:** If I change a Train's name (symbol) what do I need to be aware of?

**Answer:** The program has a file processor (FP) that runs before entering Operations. One check the FP does is car position, including cars in trains. A car in a train has its "location = train symbol". If the train symbol is not found in the list of trains the car is "lost" and the car is re-located to the default yard. Thus... if you change a train symbol, a car may accidently get re-positioned, to the default yard.

You can 100% prevent that from happening.

The program, when forming a line-up, checks the train symbol, call time and the reporting locations. If the symbol is not found, but differs only in symbol - but has the same call time and reporting locations - you see the question "Was train ### previously called ABC"? If so, you answer "Yes" and the car locations (for cars in that train) are changed from ### to ABC. Cars are not re-located.

If you want to make changes to a train (or large changes) in your line-up use this procedure:

1. Do one train at a time.
2. Change the train symbol
3. Form a new line-up.
4. Change the work a train does.
5. Form a new line-up.  
and repeat as necessary.

I.e. always make any changes to the train symbol (number) first and form a new line-up. Then change the work a train does.

Cars re-located to the default yard (because of simultaneous train symbol and work changes) may appear to route erratically immediately after a default re-location. Each car re-located already had a route setup, and it was following that route. But now the car has been re-located to a location that may be off its original planned route. The program will re-route such a car, but it may appear to be going somewhere/somewhat a little differently than you may expect.

Please be careful when making changes in your line-up.

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F.32. - Removing Train Schedule

Question: Is there a clean and preferred way of erasing/removing a train schedule without also deleting the train?

Answer:

1. Scheduling/Train Time Table Schedules
2. Select train
3. Click on second station listing.
4. Click "Erase" button.

Or adjust the entire schedule at Scheduling/Create string diagram.

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## G - Other RR, Gateways & Private Cars

G.1. - Should private reporting marks be on the private owner list?

**Question:** When I list new private owner cars and assign a staging track to them, must I list this at the car as well at the "change private owners"?

**Answer:** You should list this private "lessee/owner" at the car - otherwise it will get sent "staging track #1"

The "Private Owners" file has a couple of other uses too:

1. It allows you to enter the data only once, so for further new cars or containers you can select the name by double-clicking from the right hand pane;
2. In earlier eras not all private car reporting marks ended in "X". e.g. "GARE" The program, when routing an empty car home, looks in the "Private Owners" file to see if the reporting marks are private and where it should send the private car. Even a modern railroad (...cough...) has been known to have some out-of-era non-X private cars.

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G.2. - How do I make a reporting mark one of my "System Roads"?

Question: With the intent of trying to keep all of the DRGW cars from going off layout into staging, I think I would like to make the DRGW one of the "system roads"

How is this done, I've not had much luck with this process? If you would, please refresh me on how to set up the DRGW as a second "system road".

Answer: On the ProTrak Standard Toolbar click on "Edit" then on the drop down lists click on "Find/Find system reporting marks". See the instructions there.

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G.3. - Can I stop "leased" foreign road cars from returning home?

**Question-1:** I have not yet started lettering cars for my own railroad, so I'm "leasing" cars from foreign railroads. This means that I do NOT want them to head offline to staging and their home region.

Is there a way to keep foreign road cars online when they are emptied?

**Answer-1:** I like your "leasing" idea. Will changing the reporting marks for a "leased" car in the program work? Maybe, optionally, combined with a spot of masking tape over the initials, or a swipe of paint?

If you are into drastic measures, you could delete the home road's connections from the gateways data.

**Question-2:** Until I get enough Nashville Road cars decaled, I wouldn't mind using this leasing idea for all the GN cars that I have. This would give me home road cars for now and would also reduce all those GN cars filling my Chicago bound trains trying to get home.

If I was to just make every GN car on the layout a leased/homeroad car (just for now), exactly what changes would I make in Gateways? Would just deleting the connections allow me to use them as homeroad cars?

**Answer-2:** Making the GN a "system railroad" will take care of that. In "The Railroad/Gateways and other railroads" under GN change the primary connecting road to \*NASH. Verify at "Edit/Find/Find System Reporting Marks". Now ALL the GN cars will be considered home road cars.

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G.4. - Why is there a railroad named "Unknown Railroad"?

Question: "What is an Unknown railroad name? Where does it come from and what do I do?"

Answer: "Unknown" comes from data in your list of railroads. The program put it there.

When the FP (file pre-processor) runs, in the section where it routes cars, if the FP finds a car with reporting marks that are not listed (Gateways and Other Railroads) and you do not enter a corresponding railroad name, the FP enters "unknown" as the railroad name for those reporting marks. If there are several of these unknown reporting-marks, there will be several "unknown" railroads.

The thing to do is check your list of railroads, looking for "Unknown" and then enter the actual railroad name.

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G.5. - Private Owner and Era change

**Question:** I noticed recently when I changed the date of my railway that the private owner cars had disappeared..... Is this expected behavior when changing the railway date?

**Answer:** Yes, this is the expected behavior, if you have no list of private owners for the new era (year).

The Private Owners file is specific to a year ("Guide Year"), as shown on the header of the "list of Private Owners". When you change the era, the program looks for the list of private owners for that new year. So you need to create a file specific for that (Guide) year. The year is the Official Guide year.

Alternatively you can copy the file over... In the folder "Ind\_RDC\CAT" you will find a file "PrivOwnr.###", where ### is the era you were using. i.e. 1988 is shown as 988. Just copy, say, "PrivOwnr.988" to "PrivOwnr.955" (for 1955).

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H - Car Setup & Data Modification

H.1. - How do I import car data from another program?

Question: My entire car inventory is in Railbase Professional from Albion SW the maker of ShipIt. I understand that there is a rather clear and hopefully straightforward process to bring a Railbase car inventory into ProTrak. In doing so won't I be ignoring the "temptation to get all your data entered..."? Any suggestions on how to proceed?

Answer: Importing your car data is only part of entering your data. Thinking about how your trains interact and where, your waybills and traffic, and so on are also critical.

"Railbase Professional to ProTrak", for car data, is done by:
Exporting your data in "comma-delimited format",
Cleaning up your data (in for example, Excel);
Using ProTrak's "Import car data in Unknown format".

You may have to repeat this more than once, depending on how complete and how clean the data is coming out of Railbase. The "cleaning up the data" is the key part. The other two steps take only minutes. I have done this a number of times.

Also for cars, Railbase includes only 4 "operating parameters". ProTrak uses about 30. Once you have imported the data, you will have to go through your cars one-at-a-time to add the other data. For example "Bearing". On the other hand, ProTrak has "Copy car" and "Multiple car" data entry features. Depending on your fleet, entering the data directly into ProTrak may be quicker (and less painful than cleaning up your data). I have done the "export/clean-up import/add data" three times (and not again) and my preference is to do a "direct input" within ProTrak. At least with the printed output file from the other data, I would have all the data right at hand - instead of lugging cars over to the computer. Just some thoughts.

The other car data, the available "Inventory" car data in Railbase is taken into ProTrak's Inventory.

Obviously the first step is getting ProTrak. While you are waiting for it to come, you can export your data to Excel, and clean it up. Once you see your data in Excel you will know what I mean by "cleaning". You will also want to re-organize the ordering of the columns of data to match the ordering of the ProTrak "Unknown" format.

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H.2. - How do I enter car length and how is it measured?

**Question:** When entering car length data can I enter it as XX.Xi or since most of my car fleet is 40-ft cars should I just enter 40'? If 40' is OK is that truly "over the coupler" length? I thought the 40' length was the true length of the car.

**Answer:** Yes, the length can be entered as XX.Xi.

If you are using Kadee #5 couplers, the over-the-couplers length of a 40-ft inside length car is probably closer to 44 ft. The program uses the car length to calculate how much room is left on a spur or on a staging track, so I would use the over-the-couplers length.

I just plop the car down on (or next to) a 12" ruler and guess-timate the car length to the nearest 1/10-inch. Using that method a 40ft box with Kadees comes to 6-1/8" or 6.1".

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H.3. - Can ProTrak automatically enter NMRA car weights?

Question: Since NMRA weight is the standard for our equipment, would it be possible to have the program automatically enter the NMRA weight and if the owner wants, they can change it?

Answer: On the ProTrak Standard toolbar click on "Traffic/Freight and passenger cars" to open the "Rolling stock (cars)" window. Click on "Edit/New car" or "Edit/Copy a car", or double click on one of the cars listed on the screen to open the "Changing active car: X of Y" window. Place the cursor over the model weight data field and let it set there a few seconds. The tooltip should pop up showing "Type 'nmra' to get NMRA-recommended weight".

Type 'nmra' and tab or click to another data field. The NMRA-recommended weight is entered. This is scale sensitive, so make sure you have your scale entered at "Administration/...Notes".

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H.4. - How does ProTrak handle car weight below NMRA standards?

**Question:** I purchased a set of three Bowser GS gondolas. Unfortunately I cannot get the weight up to the NMRA recommended weight by using the three steel weights that came with the kit. Any suggestions on what I should do would be appreciated.

**Answer:** You can use those cars as delivered, at any weight: 2 oz. Even down to 1 oz. (in HO).

With ProTrak, not a problem. ProTrak calculates what is called "train dynamics", which is simply the potential for a car to be pulled off on a curve, pushed out on braking on a downgrade, or being pulled off because a long-car was coupled to a short-car.

When the switchlist is printed, ProTrak works out the train dynamics, and re-positions any "problem" cars within the train. All you do is block the train according to the switchlist (train consist).

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H.5. - Why are all my cars listed as "***not in service"?

Question: After running several virtual sessions with only a few cars, I decided to import all of my cars. Since then the "contents" of all cars is now displaying "***not in service" and nothing is being moved. How do I go about getting my cars to start moving?

Answer: You have to put a car "into service" to get assigned a load and/or to move.

A car is "*** out of service" when the model-weight is zero (actually less than 0.1 oz.). When you imported your cars there was no model-weight data. The program is assuming that the cars are still in the blue-box up on the shelf.

On the ProTrak Standard toolbar click on "Traffic/Freight and passenger cars" to open the "Rolling stock (Cars)" window. Open a car. Click on the data field "Weight of model car, oz.". Either:

1. Enter the value of the model-weight, or
2. If you have precisely weighted your cars to exactly NMRA recommended weights ;) type 'nmra' in this data field, then <Tab> to another data field. The program calculates the proper model-weight for the car (from the NMRA-RP).

This data is used to calculate the train-resistance, and string-lining potential. If you have any sort of grades (which you do) you probably want to be fairly close on the value of the model-weight you enter.

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H.6. - How do I update car locations after changing train symbols?

**Question:** At one time I changed all the train symbol names from numeric names to alphabetic symbol names I then recently changed all of my train symbol names from alphabetic back to numeric. Tonight I noticed that on the "Rolling Stock (car)" window that under the "owner" column" the old alphabetic train symbols names were still present.

So I'm wondering will all of those old alphabetic train symbols names be somehow automatically corrected when I go into operations, or do I need to manually change them, or is there something else I need / can to do?

**Answer:** When the "FP" (FileProcessor) runs, the car locations should be updated to the new train symbols.

The FP should run automatically when you click on the "Operations" menu option, as you have been making changes in the data. However, you can run the FP manually by clicking on "Help/Emergency reset" on the ProTrak Standard toolbar and clicking on the "FP" button.

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H.7. - What does "Un-restrict cars" do?

Question: I noticed at the bottom of the "Rolling stock (Cars)" window there is a button to "Un-restrict cars". I'm not sure I really understand the "Un-restrict cars" feature. Could you please elaborate?

Answer: This button returns a car to "U" "transportation code" - which means the car can be loaded with any commodity at any location to any location. "U" = "Un-restricted".

The "Un-restrict cars" button removes: "any return empty" or "lessee siding number", any commodity, any pool, and the "Age", High, Long, and CSR settings. However the "Age", High, Long settings will eventually come back as the car moves about your railroad.

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H.8. - What does the designation "999-Yd" mean?

**Question:** What does the designation "999-Yd" mean?

**Answer:** "999-Yd" is the "default" car destination siding number. The program uses this code to show that the car has not been routed (yet). "999-Yd" is not a problem; you will see it only in the on-screen listings and not on the paperwork.

In the ordinary workings during Operations, the car will be routed (for pickup), and "999-Yd" is replaced by the actual destination. If you see "999-Yd", you just shrug and recognize that the car is yet to be routed.

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H.9. - What does "Consignee is" data field = "rte/IC" mean?

Question: On the "Changing active car: X of: Y" window in the "Consignee is" data field I found "rte/IC". What does this designate?

Answer: Car is routed empty, home, to Illinois Central.

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H.10. - What is an Agents Pool and does it work?

**Question:** Can you please explain what Agent Pool is / means

**Answer:** An Agent's pool is "J" or "R" transportation code, "R" if commodity-specific, "J" if for any commodity. The car will be routed to the specified Agent's zone and loaded.

To set up a car for an agent's pool

- Open the car
- Click on the data field "Return Empty to", and select any customer in the agent's zone.
- Answer "Yes" for "Specific customer at specific location?"
- Click on the data field (2 down) "Restrictions on use".
- In the right hand pane, scroll down to line 33 "J, R, Agent's pool".
- Double click on line 33.

The siding number will change from the selected customer's siding number to display just the zone. The "Restrictions on use" data field will start with "J".

To make this a commodity-specific "Agent's pool", click on the data field "Load restricted to" and select a commodity from the right hand pane. **Then** click on "Restrictions of use" data field and select line 33.

The program will assign (at "Daily Summary") any car-order originating from that zone.

I mentioned above that this may have been an Agent's pool, where the cars were assigned to specific traffic. Assigned cars would not be free-runners.

It also may have been an early or pre-computer system where "Return empty" was being used as a primitive car-allocation scheme. You don't need to do this when using ProTrak, as ProTrak has car-allocation routines. If you assign a car to a pool, the car is no longer "distributed" and can only be loaded within the pool. This may cause shortages elsewhere (and don't yell at me if it does). Car-allocation using "return empty" is like using a dull hammer to cut cheese.

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H.11. - How do I empty a car at its present location?

Question: I recently corrected a shipper's siding on a waybill after noting on the Freight and MOW car listing that a car from that shipper was not where it was supposed to be. How do I force that car to become empty at its present location?

Answer:

1. Click on "Traffic/Freight and passenger cars" on the ProTrak Standard tool bar.
2. Double click on the car you want to empty on the "Rolling stock (Cars)" window.
3. Enter "00" into the "Waybill" data field on the "Changing active car: X of: Y" window.
4. Click on "OK" , or click on or <Tab> to any other datafield, which opens the "Emptying this car" window.
5. Click on "Yes" in the "Emptying this car" window.
6. Click on "OK" to close the "Changing active car: X of: Y" window.
7. Note that the "Contents" field for the car whose Waybill you set to 0 now shows "mty", and both the Next and Dest'n fields show the name of your Default Yard
8. Click on "Close" to close the "Rolling stock (Cars)" window

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H.12. - How is the car location/movement history displayed?

**Question 1:** Does ProTrak offer the ability to show the history of movements of a specific car within a specific time period, e.g., ABC 123456 for the preceding six months?

**Answer 1:** In Operations click on Exceptions / Query Car Status, enter the last three digits of the car you are interested in, click on Yes when ProTrak present you with the specific car you are interested in, this will open the Query Car status screen, Click on Change in the upper left corner, click on Change Location and you will then see a Movement History panel with the location of the car you specified for the last 10 session.

**Comment:** Jim at Andy's weekend either you or Steve B brought up a window which listed the Last 10 locations of a selected car. For those not familiar with this very interesting display here are the clicks:

Operations / Exceptions / Show Cars by zone to open the "All Cars at Industrial Spurs" window

Double click on one of the cars listed in one of your industrial zones to open the "Query Car Status" window

Click on change in the upper left hand top corner, and then click on Change Location in the drop down list to open the "Query Car Status" window and you will find the Movement History Last 10 locations panel.

**Question 2:** Is the only way to see the last 10 locations of a car which presently is NOT at an industrial spur to click on "Another Car" in the bottom left corner of the "Query Car Status" window?

**Answer 2:** You can just go directly to Exceptions/Query Car and after you select a car, if you click on the change button (upper left) the last 10 locations will display. But you do have to be in ops session to do it.

You also can get to the "Car Query" window from Yardmaster. Open "Yardmaster Operations". Click "List/print all cars in yards". When the list opens, double-click the line a car is shown on.

Keyboard shortcut CTRL-Q brings this up anytime in operations...

**Question 3:** Jim would you consider making this "Query Car Status" window accessible from the Standard ProTrak tool bar under maybe Edit / Show / Show Car Status, or maybe make it an option on the "Rolling Stock (cars)" window?

**Answer 3:** "Outside" of Operations, my thought is that you would just either

- a) Look at the list of cars; or
- b) If you wanted to change something about the car, open the "car edit" window. The data management tools are more comprehensive at "car edit" than at "Query".

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H.13. - What does WGH mean in the "Rolling Stock (Cars)" window hours column?

Question: On the Rolling Stock window what does WGH in the hours column indicate?

Answer: "WGH" = "weigh" meaning the car needs to be weighed. If you have a weighscale track, and that option is active, then the car will be routed to the nearest weighscale track.

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H.14. - What are the possible car locations in ProTrak

**Comment:**

In the program a car can only be in one place at time (standing order requirement).

A car can be at one of three places:

- 1. standing at a customer
- 2. standing in yard
- 3. in a train.

Those are exclusive.

- If a car is in a yard, to be picked up later, then the car is "in the yard".
- If a car is in a train (actually in the train) and the train is at this yard, then car is not in the yard.

So if you have a train that originates at a yard, and there are cars assigned to that train, the cars will not appear on the yard list.

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H.15. - What are AAR & UMLER Car Codes?

Comment: There are two car codes, used by the AAR and the UMLER; the "car mechanical" and the "car type" codes.

The car mechanical kind is the familiar 2- to 4- letter codes (e.g. XM, GBSR). The car type code is the "single letter plus 3 numbers code (e.g. A101).

The car mechanical kind letter codes have changed over time as the kinds of cars that are in use have changed. The car mechanical kind code is still in use; the Car Service Directives are designated by the mechanical kind. E.g. CSD 155 applies to XF. In the equipment register (the ORER) the second column is the "car mechanical kind".

In the ORER the fifth column is the "car type". The car type is of use to car distributors as the various digits specify details of the car used for selecting cars. For example, the A101 above is A = equipped box car, 1= less than 49 ft. inside length, 0 = XP, 1= sliding door less than 9 ft. wide.

{Note that the car description in the UMLER contains much more detailed information about a car's physical characteristics than implied in the car type code. The car type code is just a "general physical description".}

Individual railroads also had their own codes, or shared codes with other railroads. For example, UP used the GST code. See the ProTrak website page "Prototype operations and procedures" and scroll down to item #16 "GST Car Kind codes".

In ProTrak there are two "car kind" data fields, the car kind data field which is always the "car mechanical car kind", and the "Class" data field which can be any coding you wish... including the "AAR car type", or the "GST" code, or.....

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H.16. - What does Waybill number mean if a car shows "Empty for Load"?

**Question:** On the Official Railway Equipment Registry listing / printout (or on the Rolling stock (Cars) window) when the Contents column contains the wording "Empty for load" is there any significance to the Waybill number?

**Answer-1:** Yes. That is the presently assigned waybill (by waybill list number).

**Answer-2:** The car is in the process of being routed to the appropriate customer to handle that waybill/car-order

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H.17. - How does ProTrak handle cars with the same car number?

Question: Does ProTrak have any provisions for handling duplicate car numbers? I have two XM-s I would like to add to the layout and thus ProTrak; but there are already cars with those numbers on the layout and in ProTrak. If there are no special provisions in ProTrak how do people handle duplicate car numbers?

Answer: No Problem!

Just enter the data.

ProTrak uses the sequence number for internal calculations and then prints the reporting marks and car number on all reports. If both cars end up in the same yard or the same location, just grab either one.

The only time this becomes an issue is when you are resetting the railroad and are working from a location report. A check of the alphabetical list would show the two (or more) cars together on the list with the different locations.

~~~~~

H.18. - How do I add a new car kind?

**Question:** When entering new cars if you need a car kind that is not listed in the on-line data how do I add a new car kind? What I need is an RSM kind for a bunkered refer with meat rails. ?

**Answer-1:** You can just type in the car kind, in the car kind datafield.

Open a car (the car edit window). Click on the car kind datafield. Type "RSM". Click "OK" to save the data.

You can leave the "Uncheck for Manual Data Entry" checked.

**Answer-2:** Or edit the car kind list.

From the main ProTrak screen

- Click on Edit / Change / Change Car Mechanical Kind list to bring up the Car Mechanical Kind screen.
- Select your year (even if it shows) in the Year panel
- Select R Refrigerator cars in the Basic car kinds panel –
- Click on the green Add new button in the Specific car kinds panel
- Make your changes/additions in the Changes panel and
- Click on the green Accept button.
- Click on Exit to return to the main ProTrak screen.

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H.19. - How are Car Class and Car Kind related?

Question: How does "car class" differ from "car kind"?

Answer: The train consist..... If the "car class" is different from the "car kind" the car class is printed on the train consist.

I.e. some people prefer to see a "GST" car type shown on the train consist. The car class datafield is there to allow for this option. That is the _only_ use of the "car class".

- The GST types are shown on the ProTrak website, under Prototype Procedures.
- Or, you can use your own car class types, for your railroad, in this datafield.

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H.20. - How are Car Class & Car Kind used in BOLs?

**Question-1:** Can I enter anything I choose in the "Car Kind" and "Car Class" fields and the will program deal with that when matching "Ordered Car Kind" in the BoL?

**Answer-1:** To a degree. Yes the BoL/waybill car kind has to match the car car kind.

**Question-2:** Likewise, will the "Ordered Car Kind" accept anything so that it can be matched with the car record?

**Answer-2:** ProTrak, as does the prototype, uses the car kind when applying the "Car Service Rules" and related items such as car service directives (the CSD). These rules/directives are written in terms of the "car mechanical kind" (shortened to "car kind" here).

If you want the program to apply the car-service rules correctly, you need to use recognized (AAR) car kinds.

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H.21. - What does the location of the BOL in the column mean?

Question: What is the significance of the left/right position of the BoL numbers in the list of cars?

Answer: To the left, it is a load. To the right, it is an "mty for load".

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H.22. - When is "De-activate Car" used and what does it do?

**Question-1:** I've noticed that cars that I have de-activated immediately show that status when I list them under Traffic/Freight and passenger cars. Many still show contents/waybill# and have industries listed under Dest'n.

**Answer-1:** This is correct.

One idea behind the "De-activate" (and the corresponding "Activate") is that a car has gone 'bad-order', so you de-activate the car while it is being fixed. You fix the car, and then you put it back on the railroad and the car continues on its trip. For this to happen, therefore, the waybill assignment remains.

**Question-2:** Four deactivated cars show \*Owner as the Location >and a staging track as the Dest'n.

**Answer-2:** This is correct. While off the railroad (de-activated), the car is at "\*Owner".

**Question-3:** Does the deactivation routine require me to continue running de-activated cars until they actually end up in staging?

**Answer-3:** No. When you hit the "De-activate" button, the car is placed at "\*Owner" and removed from any train (assignment).

**Question-4:** But when I print the listing of cars using File/Print listings of railroad data.../Traffic/Freight and MOW cars all the deactivated cars are included,

**Answer-4:** Depends which option you use to print. Please note the options for "Active cars only".

**Question-5:** I went through the remove sequence you outlined but there is no indication that anything has happened. The four cars show exactly the same information as before under Traffic/Freight ...cars. Did I miss a step?

**Answer-5:** When a car is de-activated, **inside the program**, the car model weight is made negative. I.e. an active car with a model weight of 4.1 oz., when de-activated has the model weight made -4.1 oz. Nothing else changes (by design). The list of cars will show cars as "de-activated" under the "Contents" column. On the "car edit" window the model weight **always** shows the weight (even if negative) as the positive number.

**Further explanation.** A car with a "zero model weight" (actually less than 0.1 oz.) is not used. These are cars "on the shelf", not yet built.

A de-activated car is intended for a car that has been built and was on the railroad, but now is not being used. The program codes this by making the model weight a negative number. And by placing the car at "\*Owner".

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H.23. - What are the car restrictions on use codes?

Question: Is there a master list of codes used in ProTrak

Answer: The codes you are likely to see are shown in the right hand pane when you click on the car "Restrictions on use" datafield.

- Open the "car edit" window
- Click on the "Restrictions on use" datafield.
- Check the "restrictions" listed on the right hand pane.

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H.24. - What does the contents entry "mty Rule 1/r" mean?

**Question:** I have two XMI box cars that now show contents /waybill as "mty Rule 1/r" and the quality as "x". What is this? I haven't seen this before.

**Answer:** The full message for "mty Rule 1/r" is "mty Rule 1/reverse route". The message applies to private owner reporting marks listed in the list of private owner names.

Quality as "x" means a car with quality = "A" but with dunnage – a car that is now empty after carrying a load before the car is sent to a cleaning track.

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I - Special Car Issues

I.1. - How do you handle removable loads for open cars?

Question: Is there any provision in ProTrak to include on a switchlist any form of instruction to the engineer to either add or remove a load in an open car like the gondola?

Answer: Waybill "liveload". If you want to use a "removable load" then, on the waybill for that shipment, enter the weight of the liveload in "oz."

When the car becomes "loaded", the program adds the weight of the liveload to the car's weight (in oz.). This total car weight is used in both the "train-resistance / locomotive-TE" calculation and in the "train dynamics" calculation.

I think it would be the "customer's foreman" who would be loading the car (putting in the liveload).

What the engineer sees is his switchlist (train consist). If he goes down the "Wgt" column he will see that the car now weighs 50 or 60 tons (not the 20 tons empty).

You know those "urethane" loads (logs, scrap metal, coal, gravel...). You can mark the "waybill number" on the underside. Makes sure the correct liveload weight is used for that shipment/load.

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I.2. - How is car weight adjusted if a removable load is used?

**Question:** Do I interpret from this that the trainmaster needs to go into "Traffic/Freight and passenger cars" and in real time adjust the model weight for the car depending on whether it is empty or loaded?

**Answer:** No... no interaction required. That is the whole purpose the "liveload" data field. The program will add the liveload weight in, when the car is "loaded" and only when the car is loaded with that waybill.

Suppose you have a waybill, "cullet", for a GB. Suppose you have a "liveload" model of cullet. And the cullet liveload weighs 2.7 oz.

1. An empty GB car is ordered to the factory, being assigned to pickup cullet at the factory. The car itself weighs 2.2 oz.
2. On the "empty for load" movement to the factory the program knows the car is empty, and uses the empty car weight of 2.2 oz.

3. After 24 hours, the car becomes loaded. The "factory foreman" inserts the cullet liveload.
4. When the car is picked up by the service train, the program (when working out the blocking), will use the car weight + the "liveload" weight = 2.2 + 2.7 = 4.9 oz.
5. As long as the car is loaded the program (checks and) uses the total of the car weight and liveload weight.
6. When the cars is delivered, and becomes empty (no waybill assigned), the program will assume the liveload has been removed and will use the car empty weight, 2.2 oz., for blocking and calculating train resistance.

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I.3. - Can I run a loaded car with idler cars?

Question: I will soon have a new industry on my railroad, a pole yard, which will need multiple cars assigned for each load. ...a drop-end gondola with one or two idler flat cars... What procedure is used within ProTrak to prevent the program from individually routing the idlers as empties and keeping them assigned to the set?

Answer: You can set up to 5 cars as "idlers" for any car. One idler car can be set at the "A" end of the "main" car and up to 4 idler cars can be set at the "B" end of the main car. Idlers once set, stay as idlers forever. The main car is routed around the railroad in the usual way, and idlers are moved with the main car.

To assign idlers, on the ProTrak Standard toolbar click on "Traffic/Assign Idlers/Spacers/Followers". This opens a list of all the cars on the railroad. Select the "main" car. This opens a usual "edit" window.

Available cars to be assigned as idlers are listed in the right hand pane. Below this pane is a selection for "why" the idler is necessary, and the kind of cars listed as possible "idlers" depends on the requirement. For example:

- for overhanging loads only flat ("F") cars and gondolas ("G") are listed. Plainly, a full-height car like a boxcar would not be suitable as an idler for an overhanging load;
- for additional braking effort only boxcars ("XM") and covered hoppers ("LO") are listed;
- for spacer cars F, GB, LO and XM cars are listed.

Select the radio button for the purpose. Note that you can choose any 'purpose' you want to get the car kind idlers you want to use. Also note that some cars, although listed, may not be suitable for use as idlers, spacers or followers.

Double-click idler cars from the right hand pane. Note, although there are 5 datafields for idlers, assign only the number of idler-cars that are necessary for a shipment.

Click "OK" to save this group of cars. Note that the assignment is listed on the list of cars.

Deleting idlers is done only by using the "Delete assignment" button.

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I.4. - How does ProTrak assign "Hot Box" status to a car?

**Question-1:** Whenever I have rip track enabled here EVERY box car that get assigned to LCL ends up with a hotbox. Can you please help?

**Answer-1:** The "hotbox" routine counts the car-miles and compares to the historical statistics... which are highly era-dependent. E.g. Occurrences peaked in 1958, declined with better inspection, declined sharply with the use of pads instead of 'waste' as the packing and declined gradually post-1963, with introduction of roller bearings, to next to zero. In the 50s-era you can expect, roughly, 1 hotbox per session of 20 trains (...which is on reason why I model ~1988).

In ProTrak passenger cars (roller bearings) and freight cars with roller bearings do not cause a 'hotbox'.

All other cars may suffer a hotbox. Empty or loaded, doesn't matter. Commodity doesn't matter.

The 'counter' that triggers a hotbox starts with the historical number of cars miles:

- It then counts down, and
- When it reaches zero, the program triggers a 'hotbox' which appears as a 'red-background' window. (This window may get 'minimized' to the taskbar at the bottom of the ProTrak-program window.)
- The counter is reset when you acknowledge the hotbox on that red-window. Otherwise that hotbox just continues.

The present state of the hotbox universe can be viewed at "Operations Diagnostics".

**Question-2:** What determines when / why the hotbox message gets displayed?

**Answer-2:** Whether the "Hotbox" message appears depends on:

1. At "Admin/Enhanced switchlist" there is a dropdown selection for printing a "second line message" related to solid or friction bearings. The hotbox message will only appear if the first active option is selected - "solid"
2. The program counts car-miles. The "car mile" counting occurs when a switchlist is viewed {This may get changed to "printed"}. The hotbox applies to the train whose switchlist was just prepared.
  - Trains going into staging cannot have a hotbox (program rule for practicality).
3. When the era-correct (era-sensitive) car-mile value is reached, a car in that train may have a hotbox. There are checks:
  - a. "R"oller bearing cars will not have a hotbox (in ProTrak)
  - b. Passenger cars will not have a hotbox (in ProTrak).
4. The hotbox message appears:
  - a. Clicking "OK" resets the car-mile counter to the era-sensitive value. In 1958, the hotbox rate would be about 1 hotbox for every 20 to 25 trains moving across a subdivision.
  - b. Clicking "False" resets the counter to "10 car-miles". The next train whose switchlist is viewed will get a hotbox.
  - c. Clicking either "OK" or "False" closes the window.
5. The hotbox message also appears on a Grapevine display. The display can be a digital display (axle count number) or leds (left, right, etc...)

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I.5. - What is the "Car Service Directive" window for?

Question: I was looking under Administration and came across the Car Service Directive Window. Can you please explain what this window is telling me?

Answer: The purpose of the CSD is to allow you to order empty homeroad cars to a staging track, where they will be loaded in overhead traffic (OV).

Usually empty homeroad cars are stored at some online yard. This option is about putting those (extra, leftover) homeroad cars to use.

For example, I have Maine Central to my east, with all those paper mills. If I want C&NE cars to carry "newsprint" from Maine (to wherever) I need to send empty C&NE cars to Maine (staging). Once in "Maine Central" staging they can be loaded with newsprint to the other end of the railroad (say Chicago staging).

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I.6. - How do you clear a car with a "bad bearing" status?

**Question:** I have a car on the layout and it has a status of a bad bearing. If it was a real RR I would send a crew out to jack the car up and replace the bearing, but how do I do it in ProTrak. The car won't move, I don't know how to fix the bearing, and basically the car is stuck.

**Answer:** Several ways to fix this "bad bearing". Have a look at "Transportation/Check Operations Diagnostics". Click the "Repair hotboxes" button.

The other way is to report it repaired during Operations.

- a) on the hotbox window;
- b) at Query.

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I.7. - How do "Bad Orders" and "Hotboxes" differ?

Comment: "Bad orders" are different from "Hotboxes". "Bad orders" are actual broken items, such as couplers, wheels, etc... which need actual fixing. "Hotbox" is a simulated item, and is simulated repaired - say at Diagnostics.

To note that the broken items have been repaired, go through:

- "Transportation/Maintenance orders" (outside of Operations)
- "Query", then "Change/Repair" (inside Operations).

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I.8. - How can you bad order a car during operations?

**Question:** What is the best procedure to bad order a car (physically remove from the layout) during an operating session and so noting it in the system?

**Answer-1:** What I do is, without leaving Operations:

- Open the car using Exceptions/Query;
- Select the "Change" menu item (top left on window);
- From the menu, select the bottom item "Detailed Bad-order".

This brings up a little window. (Notice that on Query, the car, now, is already listed as "Location: \*Owner"). I checked the "Couplers", Trucks and "Loose weight" checkboxes, then in the 'open comment' data field typed in "Body separated", and "On fridge". Clicked "OK", which returned to the Query window (which I then closed).

Later, after finishing the session {and counting the dead bodies on top of the fridge} I clicked "Operations/Prepare Maintenance workorders". I clicked the "Cars" tab. (Fixed the car.) Then double-clicked on "C&NE 6626" and "OK".

With the improvements made in the 10/17/10 update, the car is re-placed by the program to the location where the bad-order occurred, provided the location is a customer, otherwise the car is put at the default yard.

Using Howard's method, you can put the repaired car at any customer or yard.

**Answer-2:** Bad-order, simple option:

The "Change/Bad order car" menu simply puts the car at "\*Owner", with a simple bad order code. The car does appear on the maintenance list, but without detailed maintenance codes.

**Comment:** To indicate repair of the car

After being bad-ordered at either bad-order option, the car can be marked "Repaired" at the "Query/Change" menu.

As an aside, clicking "Repair" also upgrades a car from "K" quality (contaminated) to "A" quality.

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I.9. - Can cars be activated/deactivated for Multiple Era Operations?

Question: I need to deactivate cars since like most model railroaders I have more cars than railroad and I plan on running with three eras. I don't want to have to re-enter data each time I change eras. Is there an easy way to implement this?

Answer: One way to handle the 3 different eras is to assign each era a different "owner" in the car data window. This does not have to be a real owner name, just something to track the era.

Then by using the remove command you can temporarily remove any era and then restore them later.

Steps to remove:

Traffic

- Freight & Passenger Cars

Edit

- Remove

- Select Temporary or Complete
- Select owner (era) from dropdown
- Optional to select mechanical kind (if removing only 1 mechanical kind)

Use the Install option to reverse this process.

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I.10. - How are "idler" & "reach" cars different?

**Question:** When do "idler" cars show up on a switchlist?

**Answer:** The program has "idler cars" for road service, say for cars carrying over length loads, or cars for braking assistance for heavy loads (Traffic/Assign idler...) Those sorts of idler cars would appear on the train consist..

Ferry "reach" cars are not in road service. So they would not appear on the train consist. I would just "issue an instruction" that the switcher loading a ferry is not go on the bridge/ferry and must use the reach cars

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J - Commodities & STCC Codes

J.1. - When and how do you add STCC codes?

Question: Do people add STCC commodity codes to the long list that Jim has included in ProTrak?

Answer: The commodity/STCC list in ProTrak is complete, to the 5-digit level. I have added some sub-categories to the 7 digit level; but by-and-large there is little need to add to the list.

The STCC is in three levels: the 2 digit level (general), the 5 digit level (specific), and then a further 2 digits. On the prototype, you mostly see 5-digit commodity codes on train journals, which is why I restricted the provided list to the 5-digit level.

Look at coal. Coal is "11". Bituminous is 11 212. If it is "heating" or "thermal" (to be used in a power plant), it is 11 212 90. If it is to be used in steel making (metallurgical), it is 11 212 10. What you may want to do is "generalize" the list by adding a commodity "coal 11" or "coal 11 1", so a hopper can carry any coal. Or maybe you want to be able to restrict certain hoppers to any bituminous (11 12) and others to any anthracite (11 11).

Adding a commodity is the same as any other data in ProTrak. On the ProTrak Standard toolbar click on "Traffic" then select "Uniform freight classification" from the drop down list to open the "Uniform Freight Classification (Commodities)" window. Select "Edit/New commodity/lading" on the ProTrak Standard toolbar. Edit the values for your new commodity, then click "OK" to save the new entry. If you select "Edit/Copy a commodity/lading, the new commodity listing "inherits" the "average weight", "rate", "minimum car-load weight", etc. of the copied commodity.

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J.2. - Why does a single commodity have two different STCCs?

**Question:** As I was working today I noticed a situation where there were two commodity entries with different STCCs – anhydrous ammonia. STCCs are 2819815 and 4904210. My question is this: If I have a supplier with the 1st STCC and a waybill with the 2nd STCC will a car order get filled?

**Answer:** The 49 series are the HazMat equivalents of the other STCC for that commodity.

The car-order will get filled (for your case).

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The STCC is used (in this case) to compare car-restrictions to the waybill.

Where it won't get filled is if a car has the 28 series STCC and the waybill has the 49 series. The program isn't smart enough to go from a 49-series STCC to find the equivalent 'regular' STCC. The problem is avoided by clicking on the same commodity listing for both the waybill and the car.

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## K - Waybills, Bills of Lading & Car-orders

K.1. - Why are car-orders listed for some but not all consignees?

**Question:** I have two interchange tracks on my layout (MN-88 and MN-89). One of the tracks (MN-88) is a consignee for offline shippers (i.e. from my staging yard), and also a shipper to my on-line industries. The other (MN-89) is a consignee for some of my on-line industries.

When I went to look at the car-orders for the MN-88 industry I found 4 car orders listed. When I viewed the details it indeed did show that this interchange track was both a shipper and a consignee. When I looked at the car orders for the MN-89 industry I only found the shipper car orders. So I am curious why the consignee car-orders did not show for MN-89?

**Answer:** Sounds OK. The difference is in your first paragraph... MN88 deals with offline customers, MN89 deals with online customers.

To avoid "double-counting" of car-orders, if the shipper and consignee are both online, the car-order is associated with the shipper -- only. MN-89 is an online consignee and 'its' shippers are also online. The car-orders **to** MN-89 will be associated with the shippers - not MN-89.

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K.2. - How do multiple car-orders differ from a block of cars?

Question: While adding inbound cars to my interchange track (setup as a customers, GUT-50 and 60), if I make the car-order for more than 2 cars, ProTrak asks me if (in this example I use 3 cars) "This order is for >3< car-orders. Is this order for a >block< of cars? [YES] [NO]

Can you tell me what the difference is?

Answer-1: This is about car-orders (not about "adding inbound cars"). I would like to keep this clear that we are talking about **movements** - >not cars<.

Back to the question... the question is asking you "Do you want this car-order to be for 3 separate car-orders?" or "Do you want a block of 3 cars, which will be kept together?"

- If you answer "No" - the program will treat this as 3 separate car-orders. The program will find 3 suitable cars anywhere, and route them independently of each other.
- If you answer "Yes" - the program will locate 3 suitable cars anywhere, route and combine them into a block, then route them to the loading

point, then route them to the consignee, all the while keeping the cars together.

The smallest "block" that makes any sense is 3 cars. The question will appear anytime you ask for 3 or more carloads on a single car-order.

Answer-2: If you set up a "block of cars" in a car-order, the program will attempt to find suitable cars anywhere, and then form the block. For example, if your car-order block is for 10 cars, and there are only 6 suitable cars, the program will order those 6 cars, and route them to form the block.

Once these 6 cars are routed to the shipper, then to the consignee and unloaded, they will be empty and available for further shipments. The car-order for "a block of 10 cars" will likely find these same 6 cars - and possibly another 1 or 2 empty cars, somewhere else. The block will now be 7 or 8 cars. After several sessions the block will fill out to its "10 car length" and move about the railroad as a block of 10 cars.

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K.3. - How do I delete a car-order?

**Question-1:** How do I delete a car-order?

**Answer-1:** On the ProTrak Standard toolbar click on "Traffic/Car-orders to/from online customer" to open the "Car-orders: Customers and Loading Points" window.

1. Click on the customer whose car-order is to be deleted to open the "Rule 15 Record of Car-orders" window.
2. Make sure the "Order cars on which day?" data field shows the correct day of the week for which you want to delete a car-order.
3. Click on the "Order Cars" button to open the "Rule 15: Agency Record of a Shipper's Request for Cars" window.
4. Enter "0" in the "carloads" data field for the cars-orders to be deleted
5. Click on the "OK" to close the "Rule 15: Agency Record of a Shipper's Request for Cars" window.
6. Click on "Close" to close the "Rule 15 Record of Car-orders" window, and return to the "Car-orders: Customers and Loading Points" window.

**Question-2:** How do I delete car-orders? I tried placing a "0" in the car quantity window and clicking on okay; but that didn't seem to delete the car-order.

**Answer-2:** Have a look at Edit/Show/Show waybills assigned to customer. Click on the siding column header, then scroll down to MAD-10, and look at the huge number of appearances of waybill #110 (etc.) in the data.

The problem is that, over time, many, many duplicate car-orders for the same waybills have been added to the file. When you delete one waybill (at Traffic/Customer car-orders) that instance is indeed deleted, but then the program continues on down the file and finds the next duplicate and displays that one.

Click the "Delete Car-orders" button at the bottom of the screen, and then click on "Yes" which will delete >all< references to waybill #110 in all the car-orders. Then repeat this process for other sidings that have multiple car-orders associated with them.

Once the file is cleaned up, then re-enter the car-orders.

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K.4. - How do I delete waybills and/or car-orders?

Question: Why can't I delete waybill and customer orders?

Answer: As with most things in ProTrak there are several ways of completing an action. In this case, car-orders may be deleted as follows:

- a) From either the usual car-order window, found at: "Traffic/Car-orders to/from online customers". Then select a customer to bring up the "Rule 15 Record of Car-Orders" window. Choose the desired day and click on "Order cars". Then either set the waybill to zero, or set the number of carloads to zero.
- b) Click on "Edit/Show/Show waybills assigned to customers" on the ProTrak Standard toolbar. Then select a car-order and click the "Delete" button.

There is no need to delete a waybill, as a waybill is not used unless it is "called" through a car-order that uses that waybill.

A BoL/waybill is not explicitly deleted. An unwanted/un-used BoL/waybill can be edited to describe another car movement - become a different waybill.

Clicking "Traffic/Bills of Lading and Waybills", selecting a BoL, then clicking "Edit/Delete Bill of Lading" or "Edit/Delete data in waybill" will remove the data from the Waybill leaving a 'blank' entry in the BoL list.

Note that you cannot delete waybills 1 to 20. The program uses them for its own secret purposes.

- Waybills #1, 2 and 18 are the "sand" and "fuel" (diesel, fuel oil, coal, wood) waybills;
- Waybills #3 to #12 are used for the operator-defined "Car Service Directives";
- Waybills #13 to #20 are used for moving track-maintenance supplies and the weigh-scale-testing cars.

If you try to delete these, the program will ignore you.

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K.5. - Can load weight prevent a car being assigned to a waybill?

**Question:** For this post my specific question concerns GN 171307 a home road covered hopper and a grain elevator that has a local waybill (#52) that is car ordered every day to a second elevator on the layout.

GN 171307 (LO) has a volume of 5500 and load limit 192,900lbs, and is empty in my on-layout yard.

Waybill 52 currently requires a LO for 40.4 tons and 1796 cu ft. of grain.

ProTrak has never assigned any car to waybill 52 despite GN 171307 being in my local yard. What can I do to get this car assigned to the waybill?

**Answer-1:** I have had similar circumstances where the BoL's weight was less than the cars capacity and everything else was right; but it still would not move on its own. Most likely if you click on the test for possible cars, it will come up blank as well.

Here's what I have done to make it work. On the ProTrak Standard toolbar click on "Traffic/Bills of Lading and Waybills" to open the "Bills of Lading/Waybills" window, then open the waybill and make sure the commodity is correct and that the car is the correct kind. Make sure that the "uncheck for manual data entry" is checked. Click in the weight of the load field, and the data on the right hand panel will be the capacity of the type of car selected. Pick the appropriate weight from the right hand panel and double click on it. This will set the load weight of the BoL to what an actual car is. Click on "Save" and then click on the "Test for possible cars" button. It should show a list of cars able to perform this BoL.

**Answer-2:** This is on the BOL/waybill edit window...

"Test for cars" tests for cars including "pools", such as "return empty to" and "assigned commodities". The only cars that will display are "free runners" and assigned cars that match the customer and/or commodity-STCC (depending on what you limited the cars to).

When you click on the "load weight" data field, the display is all the cars that match by kind - the display is giving you a guide as to what load weight you could give the waybill - that could be loaded into a car in your fleet. This display excludes cars that are assigned to other commodities.

The "Test for cars" and "Load weight guide" are intended for different purposes.

The procedure in Answer-1 will select the exact weight of the car selected in the right hand pane.

But, if the "Test for cars" shows "No possible cars", then this is correct. The "load this car at a customer" routine uses the same check.

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K.6. - When should H or HM/HT car kind be used for hopper cars?

Question: In looking over my waybills and making sure that there were cars available, I noticed that I had several local coal dealers with "H" hopper cars and no cars available. Looking a little further I figured out that HM also covered HT so now I have both HM and HT cars available if I use HM.

Can you give us a little more info on these three codes and how to use them?

Answer: You should use "HM" or "HT". In your era, you would see either, I think.

1. The program (ProTrak) has a "use either of these car kinds" routine where if the waybill/BOL specifies one car kind then if another car kind also makes sense, the program will use that other one too. The prototype does the same thing, with a variety of cars kinds.

"HM" and "HT" (double or triple hoppers) are completely interchangeable. (Providing the shipper/consignee have "length", but that is another issue.) An open hopper is an open hopper is an open hopper.

If you put "HM" on a waybill/BOL, the program will use either HM or HT. Same with HT on the waybill/BOL.

2. If you really want to, you can control whether an HT is used or an HM is used, by the "waybill volume". Or by using the customer "specific length" feature.

3. The above referred to waybills/BOL.

The use of only "H" would be for "Traffic" on trains. If you specify "H" for "exclude this car kind", or "carry only this car kind", then all H (HM, HT, HMA...) will be affected.

Two different issues: "Waybills" and "Traffic".

~~~~~

K.7. - How can I differentiate between HT and HM cars for loads?

**Question-1:** How do I get HM hoppers where I want them without having HT hoppers go there?

**Answer-1:** Try the "volume" setting on the waybills.

I split off 36-fters (2200 cuft and under) from 40-fters (~2600 cuft and up) by breaking at the 2400 cuft volume on the waybill.

For the gravel trade here, the 36-fters can only get loaded in interchange if they travel over 250 miles. Because of the "minimum carload charge" for interchange traffic.

However, for local, on C&NE-only-traffic service I set up a 'custom rate', which can be less than the "minimum carload charge". In that traffic, the 36-fters and 40-fters can co-mingle.

It is possible to set up some complicated traffic-patterns, based on just the waybill volume setting.

**Comment-1:** I have tried the volume setting on the waybills; this certainly keeps the HM cars from hauling an HT load, but not vice versa.

**Reply-1:** The difference between what you are seeing and what I am seeing has to do with the "number of ordered carloads".

- The program will use the higher volume cars first... loading the HT car-orders first.
- Then the program loads all the HM (smaller volume) carloads. If you have more small-volume car-orders than there are available HM, the program will use HT.

The way around this is to make sure all the available (or will be available HT) are loaded by the HT car-orders. You can do this by "over saturating" the car-orders for HT.

You can do this by "over saturating" the car-orders for HT."

**Question-2:** Does this mean creating car-orders that display the message "There are 1 too many cars ordered today."?

**Answer-2:** Yes, that's one way. For the HT issue, that's the idea. (By the way, this approach is why the software does not prevent you from overloading a spot. Just warns.)

**Question-3:** Any suggestions as to "how many" cars-orders would qualify as "over saturating?"

**Answer-3:** In general, I spread the "extra car-orders" around various customers, to make sure no one customer is overloaded. (Different objective.)

I have 140%... more to make sure every spot (pretty much) has something going to it. Not at all sure I want to continue that though.

With these HT, on reflection, perhaps the use of the "hopper grate" Special Function is the way to go.

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K.8. - How do "Continuing in transit" waybills work?

Question-1: Can somebody please explain what a continuing in transit waybill means?

Answer-1: OK, Let's discuss "Continuing in transit" waybills and some of the problems that can occur.

A continuing in transit waybill is one that is used subsequent to another waybill so a car does not enter the empty pool but is either reloaded with a new load or directed empty to a specific location for the next waybill and load.

A continuing in transit loop would be having the second waybill referring back to the first waybill. Any car with either of these waybills would be in a continuous loop between these two points.

This can be extended with any number of waybills being linked together, as long as the last waybill links back to the original waybill. Again, any car with any of these waybills will be locked on to the path.

A non-continuous continuing in transit situation would have the last bill not having any continuing waybill assigned. The cars would then break the chain and go back into the empty pool.

Now some of the problems that you can run into.

If you have any of the waybills in the continuous loop assigned under a customer's car-orders, this order will be filled and that car added to those already in this continuous loop. As time progresses, more and more cars get added and none get dropped.

The second scenario would be a chain more like a figure 6 (or 9) instead of a 0. In this case you start with a waybill that is outside the loop, but somewhere one of the waybills within the loop gets added as the next continuing in transit waybill. As you can see, this just added another car to the circle part of the 6 and these cars just continue around the circle.

So the lesson to be learned tonight is:

- A non-continuous continuing in transit waybill chain can be as long and as complicated as you desire. It could have multiple entry points if desired. But it would end somewhere.
- A continuous continuing in transit waybill chain is like a circle, once a car is manually assigned one of the waybills in the chain, it will circulate forever. If you use the continuous continuing in transit, make sure that none of the waybills are listed under the daily car-orders (or staging track car-orders). Look out for the number 6 (or 9) configuration.

Question-2: Do "Continuing in Transit" waybills need car-orders?

Answer-2: "Continuing in Transit" waybills do *not* use car-orders. That is you do not need car-orders for subsequent waybills in the "chain" of waybills called by the "Continuing in Transit" option.

Explanation:

Waybills can be "chained" to form a series of car movements. This is done using the waybill's "Continuing in Transit" datafield, where you enter another waybill number. Using this datafield, you can make a single car make several moves in sequence.

1. Create a number of waybills for the same car kind.
 - Waybill # 2 (in the sequence) originates at the destination siding of Waybill #1
 - Waybill # 3 (in the sequence) originates at the destination siding of Waybill #2... etc.
2. Enter the waybill numbers in sequence in the "Continuing in Transit" datafield
 - Enter Waybill #2 in the "Continuing in Transit" datafield for Waybill#1
 - Enter Waybill #3 in the "Continuing in Transit" datafield for Waybill#2, etc

To make these sequence of moves start, either:

- make a car-order for Waybill #1 (in the sequence) , OR
- manually assign Waybill #1 (in the sequence) to a car, at the car's "Waybill datafield".

What happens in ProTrak, is that when the car reaches its destination, ProTrak always checks to see if the presently assigned waybill has a "Continuing in Transit" entered. The program checks the _waybill_. If there is a "Continuing in Transit" waybill number ProTrak immediately assigns that waybill (the next waybill in the sequence) to that car. This sequence will continue until the program finds a zero (or blank) in the "Continuing in Transit" datafield.

You can see that you do not need a car-order for the 2nd, 3rd, 4th, etc. waybills in a "Continuing in Transit" sequence.

Now, on the other hand, if a car-order has been made for the 2nd, 3rd, 4th, etc. waybills in a "Continuing in Transit" sequence, ProTrak will attempt to assign those waybills as car movements. And all that happens is that you will have doubled up on those shipments.

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K.9. - How should I setup car-orders for daily deliveries?

**Question:** I have a power plant set up and I want it to receive two loads of coal every day of the week.

On the ProTrak Standard toolbar I if click on "Traffic/Car-Orders to/from online customers" to open the "Car-orders: Customer and Loading Points" window and then click on a customer to open the "Rule 15 Record of Car-Orders" I can then set up two cars for every day OR do I just go to the last block on the right and enter under "All Days" 2?

I'm guessing you can do it either way. Am I correct?

I've done it both ways as I have two tracks at my power plant. The data seems to come out a little differently in the car-orders.

**Answer:** Yes, you can do it either way. The main difference is in the variety of waybills that could be used if you use two cars for every day. I.e. you could use 14 different waybills vs. 2 different waybills for the "All Days". This isn't so important for a power plant, which typically has only one or two sources for its coal.

You also have to remember that it takes time for any one mty hopper to get to the coal source and then get back to the power plant with a load. So, you won't

get exactly two loads every day, especially if there are other coal customers on your layout. And it will take several op sessions for the flow to even out.

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K.10. - Why did my waybill car type change to LCL?

Question: My road has Open top Chip Gons which the Northern Pacific classed LP. LP is an option in the specific car kinds. When I create a waybill and select an LP car, the car kind changes to LCL. Am I missing a step?

Answer: Load weight. If the load weight is less than 10,000 lbs. (5 tons) the "kind" is changed to "LCL" (less than carload).

Set the load weight to something higher than 5 tons. On the ProTrak Standard toolbar click on "Traffic/Uniform freight classification" to open the "Uniform Freight Classification (Commodities)" window. "Woodchips" has a listed density of 20 lb/cu ft. I am running 7,000-cuft gons with woodchips maxed out at: $20 * 7000 = 140,000 = 70$ tons. With a 3500 cuft gon, 35 tons would be the max. weight.

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K.11. - What are the "Waybills/Car- orders not filled" reason codes?

**Question:** I was looking at my "Waybills/Car- orders not filled" screen this afternoon and came across another shorthand that I cannot decipher for sure. This time under Reason was "Sub Le". I might guess that this means Sub Lease; but that doesn't seem to be in context for why a car-order was not filled. Could you please list the Shorthand letters, then the full spelling, then a short explanation of what the shorthand means?

**Answer:** Here are the "non-assigned waybills/car- order" codes, directly from the program code:

- RejectCar = "Kind"           no suitable car found on account...
- RejectCar = "Quality"
- RejectCar = "Length"
- RejectCar = "Volume"
- RejectCar = "No mty's"
- RejectCar = "Capacity"
- RejectCar = "Sub Length"
- RejectCar = "Sub Weight"
- RejectCar = "Sub Plate"

It would appear that you ran into "Subdivision Length" which means that the waybill car-length was longer than could be handled on that subdivision. You can check the "Subdivision" settings by clicking on "The Railroad/Subdivision Junctions, names and notes" and double clicking on the appropriate subdivision. See the "Maximum car length" setting.

Here are the "no classification" reasons, directly from the code:

- NoClass = "Curvature" industry curvature
- NoClass = "Extra Car" train length in cars
- NoClass = "No Length" industry siding too short, or siding full
- NoClass = "No SPOT" industry siding number does not exist (same for staging track)
- NoClass = "No ConXns" no routing found at this moment
- NoClass = "Clearance" industry plate catch-all reason (if none of the above)
- NoClass = "Held"

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K.12. - What percentage of cars for Monday car-orders is desirable?

Question: On the "Car-orders at customers: (Number of carloads each day)" window there is a percentage data field at the bottom of the window indicating how many of my total cars are needed by the Monday car-orders. What is your guidance regarding what range of percentages we should aim for in that window as we start up in ProTrak?

Answer:

1. If all your customers turn over (load or unload) in one day (one session) and you want all spurs to receive a car (or cars) every day, and you have a large supply of cars, then the percentage should be 100%.
2. If some customers "turn over" in more than one day, then the percentage could be proportionally less, to the number of customers and the number of days those spots turn over.
3. In reality some cars required for loading may already be assigned, and the program may not be able to assign 100% of the car-orders. This percentage will not stay the same every day (session) and the percentage of cars assigned in any one day will vary. If your objective is to maximize traffic to online customers then this percentage may greatly exceed 100%. It would not be unusual to make 130% or more car-orders. Of course the car kinds (and weight capacity and volume) would vary so as to capture 'other' cars.

This ratio might best be adjusted as you learn how your railroad responds, to the current line-up of trains and the present level of car-orders. Long term cycles (of 3 to 7 sessions) may reveal themselves, so adjustments can be made incrementally.

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K.13. - How should "Fill to Load" data field changes be made?

**Question-1:** On the BOL screen when one changes the contents of the "Fill to Load" data field and tabs out of the data field two consecutive windows come up for the user to respond to.

The first window is the "Fill Car" window with the question "Maximum load weight is XY.Z tons. Fill car to capacity?" Y N

**Answer-1:** Optional. N will allow cars of lesser capacity to fill this waybill. Y will max the car out.

**Question-2:** The next window is the "Has car been weighed" window with the question "Was car scaled at shipper or is there a Shipper/RR weight agreement" Y N.

**Answer-2:** This is effective only if you have a weight scale track. N will route the car to the scale track, Y will always bypass the scale track. Your choice.

**Question-3:** In both of these windows the NO button is highlighted; but so is the NO button highlighted on the Exit Operations window. What is the correct selection of Y or N for both of the windows identified above and what is the significance of the choices.

**Answer-3:** In the program, the default button (the highlighted button, which also is activated if you hit the <Enter> key) is the safe choice, or the most likely choice, or the suggested choice.

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K.14. - Do waybill financial charges affect routing?

Question: I just noticed that the Waybill "charge" field has a value of \$2177.06. Would this rather high charge value have a direct effect on causing these cars to just sit at PS23a for many consecutive sessions?

Answer: (Let's clear up the "rumors".) The answer is "No". Rates have nothing to do with car routing. Nothing whatsoever.

The only things affecting car pickups (empty, or loaded) at customers are:

1. The switching train assignment;

2. The switching-train switching-block assignment;
3. Whether the loading "hours" (typically 24 or 48 hours) are up;
4. The day-of-week and whether the switching train runs that day.

Possible data screw-ups that affect pickups are:

- a) Does the assigned switching train work that zone;
- b) Whether the customer is a facing point customer and does the train actually work back through that zone.

It is really quite simple:

- Make the switching train work the customer zone (the train must run through the customer zone i.e. train-reporting-locations must bracket the customer zone);
- The customer-switching-block must be unique for that train (program checks for this).

And to simplify further, run only on "Monday".

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K.15. - How does waybill inside length relate to car length?

**Comment:** As for "car length" versus "waybill inside length". Recall that the car length you enter is the "over the pulling faces of the couplers". ProTrak subtracts 4 feet from that to get the "inside length". A 'waybill inside length' should be 4 feet less than the car (over the coupler pulling face) length.

The typical "40-ft car" is typically 44 ft. or 45 ft. long, over couplers (assuming body-mounted Kadee #5). A 40-ft setting might work, but 36 feet will work for sure.

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K.16. - Will adding continuing in transit to a BoL affect prior routed cars?

Question-1: If I change a BoL by adding a continuing in transit BoL to it. Does this change all of the cars that had the old BoL?

Answer-1: Yes

Question-2: In other words, those cars that had the BoL in them before the addition of the CIT, does changing the BoL affect them while they are in transit? Or do those cars have to be emptied, and have the new/same BoL placed in the car, and the cars go and be reloaded, and then be moved to their unloading point for the CIT to work?

Answer-2: Yes and No. Not the CIT part.

If a car has a waybill assigned, then the car data has:

- the waybill number in it, plus
- the commodity,
- the load weight and scaling instructions,
- ultimate destination siding number from the waybill.

Open up any car. This is the data in the "waybill" pane.

This data is stored in the car for "program speed" reasons (accessing the hard drive is slow).

If the program needs any more data from the waybill, related to a car, the program opens up the "waybill". One piece of such data is the "Continuing in Transit" waybill number... the "CIT" number.

So... changing the waybill after it is assigned to a car:

- will not affect the commodity, load weight, scaling instructions and ultimate destination.
- will change the "Continuing in Transit".

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K.17. - Do undelivered car-orders build up?

**Question:** Do these car-orders buildup if there are no cars available?

**Answer:** No.

There is no carry-over of car-orders, from one day to the next. Car-orders not assigned "today" are simply 'forgotten'.

But

Cars in transit. Suppose you load 5 cars each day, for a spot that can hold 5 cars. (I.e. the car-orders are filled, properly.)

- First situation: Because of the way the trains connect and are run in one session, on one day no cars are delivered. So the next session there will be 10 cars going to that spot.
- Second situation: Suppose the car routings from the shipper (in staging, say) to consignee online is such that it takes four sessions to complete (a usual situation on a large railroad). Because of the way the car arrive at a yard, the cars "bunch", so the car usually delivered session #4, bunch up

one day ahead with session #3's cars - so on the that day 6 to 10 cars are scheduled for delivery.

- c) Third situation: Suppose program finds and loads cars from different locations on the railroad. Of the 5 cars ordered that day, 2 are found in the shipper's staging, 2 are found online and 1 is found in staging (heading to the home region, being the shipper's staging). Because of the way trains connect, the cars from each of those origin locations will be delivered to the consignee in a different number of days.

All three situations are "normal" and "correct" and do not involve any error. And happen on the prototype.

So on any given day, from zero to (4 days \* 5 cars =) 20 cars could be scheduled to be delivered. But overall, on average, over time, 5 cars will be scheduled to be delivered.

I should add that the program, before assigning a car-order to a waybill, counts all the cars in transit going to a spot. If the total cars in transit exceed a "large" number, the car-order is not assigned. ("Large" number depends on the average waybill transit time, which is displayed in the "Delivery in" column in the "Rule 15: Agency Record of a Shipper's request for cars" window.)

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K.18. - What are the Special Waybill Connection codes?

Question: Does ProTrak allow for other special connections between waybills other than "Continuing in Transit" (CIT).

Answer: There are other possibilities, with codes that appear on the list of waybills, in the "Nxt" column:

1. "R: "
2. "E/L" and "L/E"
3. "mty/L" and "L/mty"
4. "Pre"
5. "OCS".

"R:" means "reset". This is a load, that when assigned to a car, the car is manually moved (outside of operations) back to its origin/shipper loading point. For example, pulpwood loads that move only in the loaded direction. Between sessions, after the cars reach the consignee, the cars are moved back to the shipper by you (in an extra, or perhaps by hand).

- To assign this type of movement enter the same waybill number in the "Continuing in Transit" datafield. To the question: "Is this for empties-in/Loads-out pairing?", answer "No"

"E/L" and "L/E" are similar to "R:" but the loaded and empty cars move in opposite directions, through a loading/unloading point. For example the traditional "coal mine" to "power plant", where the empty cars are shoved into the coal mine (through the building/backdrop) and appear on the empties track at the power plant on the other side of the backdrop.

- To assign this type of movement enter the same waybill number in the "Continuing in Transit" datafield. To the question: "Is this for empties-in/Loads-out pairing?", answer "Yes".
- If the waybill is for the mty movement, the code "E/L" appears. If the waybill is for the loaded movement, the code "L/E" appears. Note that waybills for "mty"-side movement and "loaded"-side of the movement are independent. You can have only the "mty" side movement.

Please note that only waybills for car kinds that are "open top" (H, G, LP, and some F) will show the same "connecting waybill" for "R:" and "E/L" assignments.

"mty/L" and "L/mty" are for two connected waybills, where both the mty and loaded movements are between two separated shippers. Normally a specific "mty movement" waybill is not needed in ProTrak, however if you want to create a "closed loop" for a car movement, this is the way to do that.

- Create two waybills, one of which is an mty movement, the other the loaded movement, and use the CIT datafield to have the two waybills refer to each other.

"Pre" is for a "pre-cooling" movement. This was added last year (2010). This is used to send a reefer to a pre-cooling spot, then with the waybill referred to in the CIT datafield, to the actually loading spot.

"OCS" is for company service movements, using any of the MW car kind. Or any of the track maintenance shipments.

Errors in connections

"SO" ("Special order") is the default display when the program can't make connections with the data entered. For example, if the shipper siding number of one of the "connected waybills" had been changed, without adjusting the consignee siding number of the other connected waybill, the listing SO-### will show.

If you see "SO-" listed (list of waybills) you may wish to look at your data and make any corrections as necessary.

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K.19. - Why is there a Green background on "inside length" data field?

**Question:** All the relevant WB's had a green color in the "inside length" portion, along with the words "feet". What does the green background signify?

**Answer:** For any waybill to or from the (special function customer "LCL Freighthouse)", the waybill "inside length" is set by the door spacing on the "LCL Freighthouse".....which is set on the "customer edit" window. The light-green background (in general) indicates "something special here"... and you noticed that the datafield is disabled.

If you want to use different length cars (than what is shown on the waybill length datafield), then you need to change the door spacing on the "LCL Freighthouse" customer.

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K.20. - Does ProTrak use car length categories?

Question: Does ProTrak group cars into car-length categories?

Answer:

a) Following car-service Rule 34, the "online customer" car loading routine groups cars into categories of lengths. The purpose of this rule is to make cars of roughly the same length, the same length for loading purposes.

In ProTrak the (relevant 40-ft) categories are:

- any car 40 to 43 feet long is a 40 ft. car.
- any car 42 to 44.99 feet long is a 42 ft. car (for loading purposes).

b) Your 40-ft nominal box car is (probably) 44 ft. long over couplers. Thus your nominal 40-ft car will be grouped as a 42 ft. car.

c) As well, for a "40" ft." spacing the program allows cars from 38-ft to 44-ft (Rule 34 length).

So for a "LCL Freighthouse "door spacing called "40 ft.", any car whose over-couplers length is between 40-ft and 44.9 ft. will load.

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K.21. - How does "One Session in X" selection affect BOL usage?

**Question-1:** Can someone explain the logic behind the "one session in X" selection on BoLs?

**Answer-1:** The actual assignment of a Bill-of-Lading (waybill) is controlled by the car-order chart. The car-order, which references a BoL, controls `_when_` and how many cars are assigned that BoL.

Two points:

1. Shipments are by "car-order". As shown on the "Rule 15 car-order chart".
2. If a car-order cannot be filled on the scheduled day, then that shipment is `_not_` carried over. I.e. the shipment is not filled.

The "Frequency" datafield on the BoL has two purposes:

1. In the financial section of the program, to offset rates that are too high or too low. One of the "rules of the game", where you try to buy traffic by setting rates artificially too low, would be that you will lose traffic. It is way of trying to get you to set your rates reasonably.
  - The "Correct rates" button on the list of BoLs will set rates for you, if you want to avoid these issues (or the whole idea of rates).
2. For those only occasional loads .... such as an "over-sized power transformer" which realistically might move only once a year. You create a BoL `>and car-order<` for it, with a BoL of 9 (say), and once a year the over-size load "appears".

**Question-2:** Does the session counter start with the creation of that BoL? That is, does the selection of one in three mean `y,n,n` starting with the next session (or is it `n,n,y` or a random number generator that simulates one in three)?

**Answer-2:** The frequency is "session number evenly divisible by waybill frequency". The waybill set at "9" would be 'used' in sessions 9, 18, 27, 36 etc....(and assigned depending on other settings).

The first 'use', assuming the BoL is used in a car-order, would be the first "evenly divisible session by waybill frequency". There is `>nothing<` in the waybill-assignment routines that is "random number generator" based.

**Question-3** If I want three different suppliers for one industry do I have to create these BoLs one each over a period of 3 successive session to get 1,1,1 deliveries?

**Answer-3:** As mentioned, this is where you use the car-order chart and operate on the 3 days.

**Question-4:** I definitely do NOT see cars SPOTted every other session at the SPOTs with 1 in 2 BOLs. Is there something wrong in my data?

**Answer-4:** In attempting to assign a BoL referenced in a car-order, the program logic also includes:

1. The season check (does the operating month appear in the listed waybill-months?)
2. The frequency check (I see that a "+" in this datafield means "load anyways" regardless of frequency, and that data-input appears elsewhere.) and...
3. A traffic density check. The program counts the number of cars already moving in this traffic (assigned this waybill) and compares the number of cars to the "transit time". The transit time is recorded >by the program< for that waybill. If the number-of-cars already moving is greater than twice the transit time, then the car-order is not used.

The purpose of this check (hard won by experience) is to prevent an industry from being overloaded (... way too much). This check still allows for the naturally occurring bunching. But attempts to adjust for "cars-not-delivered-that-might-expect-to-be delivered".

An "intense operations" railroad may have the "waybill frequency" obscured by this traffic-density check.

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K.22. - Is there a list of all possible waybills for a specific car?

Question: Is there a way to get a list of all the possible or candidate waybills that my particular car can accept?

Answer: Possible waybills for cars can be tested by clicking on Traffic, Freight and passenger cars to open the Rolling stock (cars) window. Click on the Present assignment Waybill datafield. The possible waybills appear in the right-hand pane.

Previously the siding number displayed was always the consignee's siding number. With the 4/27/2014 update, you have the option to display waybills by "shipper's siding number", "consignee's siding number" or "all customers".

In addition....

Over the many years, the 'test' behind this datafield has undergone refinement, testing whether the waybill matches the car by:

- car kind, and ordered car kind
- car weight capacity (tons)

and depending on circumstances, by:

- car volume (cubic feet)
- car length
- commodity/STCC
- shipper/consignee
- contaminating "K" commodity (with car "K" quality).

Not all checks apply to all cars/waybills. For example:

1. volume does not apply to a flat car, but length does
2. length does not apply to a LO, but volume does
3. commodity/STCC applies only when a car is assigned to a commodity pool.
4. restrictions on shippers applies only when the car is assigned to a shipper's pool.

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K.23. - How is a Targeted Waybill used?

**Question:** Can I target a Waybill to a specific car?

**Answer:** Sometimes we are given, or buy, a special car. A waybill/car-order is easy to work-up. Maybe two or four waybills/car-orders for that one car, to give some variety in routes. But suppose we want those waybills/loads to be assigned **only** to that one car. Often it is possible to restrict the waybill/load/shipper by carefully restricting both the car and the waybill: by shipper and commodity/STCC, and perhaps by volume or tonnage. But not always.

You may also have the same "Crazy Water Crystals" reefer. It is assigned commodity "ice crystals/14 922 10". A waybill for "construction water/14922 or "drinking water/14922" will also match the car, which is not what is wanted; and cars restricted to drinking or construction water, or of the same kind and shipper location (staging track) will pick up this waybill, which also is not desired.

Thus the "targeted waybill".

First enable "targeted waybill" use. Select "File/ProTrak program Options", "Car Assignments for Loading" pane, 3rd sub-pane down "Specific movements for a car "Targeted Waybills" ". Click the purple "Yes" radio button.

Then on a waybill you want to target to a specific car:

1. Set the "Shipper" "company" and "siding number" data (by selecting company from the right-hand pane) to match the "Return empty to" data for the desired car.
2. Set the "Load/Commodity" and "STCC" data (by selecting the commodity from the right-hand pane).to match the "Load restricted to" data for the desired car.
3. Select the radio button (in purple) "a specific car", at the bottom of the "Commodity/Lading and Required car" pane.
4. Click "Save", then "Test for possible cars..." to verify your settings.

Notes:

1. The "Load restricted to" and "Return empty to" data for the desired car is found an edited in the "Changing Active Car: xx of yy" window, opened from the "Rolling stock (Cars)" window.
2. Any restricted car can be the target car. The car does not need to be a private car.
3. The "a specific car" radio button appears only if the option is selected in "File/ProTrak program Options".

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L - Engine Issues

L.1. - Why did I get an "Engines needing maintenance" inquiry?

Question: When I opened ProTrak yesterday the first window I got was the "Engines Needing Maintenance (50 hour)" window. Two of my engines were listed in that window. I selected up each engine and clicked on the "Reset hours" button at the bottom of the window. Was that the correct thing to do, and if so is there anything else I need to do?

Answer: The purpose of this check/window is to help you properly maintain your operating fleet. The program tracks the number of actual hours a unit/locomotive is >moving< ...we have found that a diesel model needs cleaning (cat hair, and wheel gunk) and re-lub'ing at between 50 and 100 hours. The program conservatively uses the lower limit of 50 hours to trigger the "think about doing maintenance" window.

If you are simply doing simulations with computer runs, then yes, this was the correct thing to do.

If you are actually running the railroad, I would at a minimum go check the wheels for "gunk" and the side-frame bearings for cat hair... (Your 'issues' may vary...).

Note: For the Build 272 and later, the elapsed hours for an engine needing maintenance alert is a "User option" setting. See "File/Program Options".

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L.2. - What causes a "Deactivated" engine status?

**Question-1:** After I did the Reset Hours process on the "Engines Needing Maintenance (50 hour) " window mentioned in an earlier question, I clicked on "Power Desk/Motive Power, powered passenger (RDC)" on the ProTrak Standard toolbar to open the "Motive Power: Locomotives, units, and powered passenger cars" window and noticed that the two locos whose hours I reset and a 3-rd locomotive all had "deactivated" in their Bad order column.

Was there any relationship between the 2 locomotives whose hours needed to be reset and their "deactivated" status?

**Answer-1:** No. The "Hours reset" button resets the "maintenance hours" data (a model thing only) and the "Periodic inspection" data (a simulated prototype item).

The "De-activated" message appears for units/locomotives whose "model-weight" is zero (still on shelf in its box). (Same idea as with cars...)

**Question-2:** I selected each of the three locomotives and clicked on the Activate button at the bottom of this window. Again was this the correct thing to do?

**Answer-2:** Once activated, the units/locomotives are now available for service... fully maintained.

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L.3. - Why are my locomotives not available to assign to trains?

Question: I tried to assign power to my trains as follows:

On the ProTrak Standard toolbar I clicked on "Power Desk/Assign power directly to trains", clicked on the first train in the "Trains in Lineup: Assigning Power" window and when the "Motive Power Distribution Desk" window came up I moved the cursor to the Lead Unit box; but only one of the 23 engines I have entered popped up for insertion into the lead unit box. Where are the other 22?

I tried to manually enter another engine besides the only one that popped up, but it wouldn't take. Have I done something wrong or is there a problem with the program?

Answer: Check under "Administration/Limits on Equipment, Railroad & Traffic". Make sure the limit for Locomotives or Units is set correctly.

If you have locomotives that you have in ProTrak but do not want to run, place these at the bottom of the list and set the In Use number as required. I have a few diesels that way. They were entered for inventory purposes only.

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L.4. - When should consists be used for assigning power to trains?

**Question:** What are the advantages of using consists assigned to trains vs. assigning power directly to trains?

**Answer:** History. And how you manage your DCC consists.

"Assigning power directly to trains" was the original method of managing power in ProTrak. This is more suitable when the same equipment is used on the same (pair of) trains day-in and day-out.

The "consist" approach was added because it is more reflective of how we use power with DCC. You set up a power-consist, and that consist may be used on any train.

How do you think of your power? As permanently assigned to a train, or as units assigned to a power-consist, and the power-consist is assigned?

You can mix and match the two methods of assigning power, in ProTrak. For example, it may make sense to assign power directly (semi-permanently) to yard-switcher-jobs, to locals and to helper jobs; while assigning consists -as needed- to the road trains.

- Switchers and locals tended to have the same power for long stretches of time. There is little opportunity to "double-dip" on power use for these types of jobs.
- Given the day-to-day differences in over-the-road timing of road trains, it is a bit hard to schedule power "to this train, then when it is done, to that train, and so on..." And, as road trains may vary in tonnage from day-to-day, power-consists for road trains are likely to be variable in make-up anyways.

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M - Staging Track Setup & Operations

M.1. - Can a train run to staging and back out in the same session?

Question: Can I run trains into staging, automatically unload them, reload them and come out of staging again in the same session? Will the cars have their waybills changed/completed during the staging process?

Answer-1: Yes

Use the "/", slash in the Symbol/Number data field ("Changing train: X of: Y" window) when you are setting up the train. i.e. BA-8/MC1 will go into staging as BA-8 eastbound and come out as MC1 westbound, all in the same session.

Remember to set up your origin station and terminal station, as well as your yard blocking to show the staging track as a turning point, in my case as Detr5s (Detroit) to Syra6s (Syracuse staging) in the east of my layout, and back to Detr5s again in the same session. (The train does visit an on-line yard in both directions as part of the yard blocking).

The train can run from staging 1 to staging 2 and return to staging 1, as above. Or it can run from an on-line yard to staging 3 and back again to the yard.

Answer-2: In addition to the slash "/" train symbol procedure described above, you can use:

1. The "Alternate train symbols" method. The slash "/" train symbol procedure limits you to just two symbols. The "Alternate train symbols" method allows for up to a total of 15 symbols.
2. The "Same track as" option under "The Railroad" / "Staging tracks to offline points" / "Offline Connections: Staging Tracks" / "Changing staging tracks: X of: Y" window".

With "Alternate train symbols" the program advances the train symbol each time the train equipment/consist reaches its final reporting location. Originally this method was intended for handling commuter train operations, but it works for freight as well.

With the "Same track as" option, the train symbol stays the same. This option is used where the staging tracks are setup such that the first reporting location (the origin) and the terminal reporting location are in fact the same physical track. The second version of the train travels in the same direction as the first version. i.e. the railroad is a loop.

Yes, the cars will have their waybills changed/completed during the staging process? **Every** time a train enters staging, when the staging is an intermediate

reporting location (not the first, not a terminal reporting location), the cars in that train are unloaded and then re-loaded. The waybills/car-orders used are those assigned to that staging track, or to other tracks in the same region.

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M.2. - How does the "Intermediate Staging" function?

**Question:** Intermediate staging - How does it work and how is it set up.

**Answer:** This is a reference to the train reporting locations. If the staging track is not either the first or the last train reporting location, then it is an "intermediate staging".

For example, a train might have the following reporting locations:

1. AAA09s
2. CCC-Yd
3. FFF02s
4. GGG-Yd

FFF02s is a staging track (s), and it is not the first or the last reporting location.

When this train is reported at FFF02s, all the cars destined (by waybill destination siding number) to FFF02s will be unloaded, and then re-loaded with suitable car-orders/waybills assigned to staging track FFF02s.

Note:

Cars cannot be routed through an intermediate staging track to somewhere else. The program will not find a route to, say, ZZZ-Yd through FFF02s. So all cars entering FFF02s will be destined to FFF02s. Therefore all cars will be unloaded/re-loaded.

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M.3. - Can I use one staging track for multiple trains?

Question: The 6 hidden staging tracks on my layout vary in length from 144 to 200 inches. Since the average train length on my layout is 8 cars I can generally get two full trains on at least the inner 5 staging tracks. In my own documentation these tracks are called E(nola)x-E and E(nola)x-W. x = 1 - 6. When I was entering my staging tracks into ProTrak is there a way to indicate that my 6 physical tracks are really 11 or 12 virtual tracks?

Answer: Depends on what you want to do:

1) The program allows for up to three trains to park in any on staging track. This came about as a way of handling RDCs, but works for any "short" train.

In terms of exiting staging, "connecting" or re-loading cars, each train is handled in staging as if it was the only train on that track - i.e. there are no interactions between these trains.

This is the usual way modelers run staging - what goes in has to come out. (That's what the "connecting" train is - the train-symbol that comes out).

2) If your railroad is a "loop" such that a train can enter from the east and then exit westbound (i.e. the train loops in the same direction, instead of coming out where it entered and in the opposite direction), then you have another option. You designate that "Staging track X" is the same physical track as "Staging track Y". In this case the program recognizes that

There is no need for a "connecting" train;

- As soon as the train enters staging the cars are unloaded and re-loaded and the train can be "re-used" immediately in the same session. Usually you would enter "alternative symbols" (see "Scheduling") so that train symbol "AABB" exits staging as a new symbol "CCDD" (and so on for up to 14 new symbols).

3) If neither of these is what you want - you want the staging tracks to completely separate (regions, destinations) and all you are doing is doubling on physical space, then it is perfectly OK to use 2 staging track designations for each physical track just as you have been doing.

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M.4. - How do I tell ProTrak which staging track a train is on?

**Question-1:** Can the program update/correct train locations in staging anytime during the session?

**Answer-1:** During the session- using the window that pop up when the train reaches staging.

After the Daily Summary - by correcting occupancy for an individual staging track. On the ProTrak Standard toolbar click on "The Railroad/Staging tracks to offline points" to open the "Offline Connections: Staging tracks" window. To change the "Occupancy" settings double click on the staging track to open the "Changing staging track: X of: Y" window. Then change the "Trains: Occupancy" data fields in the lower portion of the window.

**Question-2:** Suppose your trains going into staging and enter a different track than originally planned. What can I do?

**Answer-2:** There is a window that lets you change the trains' inbound staging track during Operations.

When a train is reported **into** staging this new window pops up.

The window lists all the staging tracks at the train's destination.

- The three "white" data fields (slots) for each staging track are for the three trains that can be stored in each staging track.
- The data field with the active train (the train just reported) is enabled, as are all the empty "slots".

To move the train (from track to track, or slot to slot)

- Click on the slot where the active train was placed (by default, based on the planned terminal staging) by the program. When you click on the occupied slot, this slot will be "emptied".
- Click on the track/slot where the active train actually went; (The ProTrak Operator will get this information from the train crew.)
- Click "Close".

This new window also will be a "reality" check during design. You will be able to watch staging track occupancy as the session unfolds. If there are not enough staging tracks, that will become mighty obvious mighty quickly.

After Operations are complete, go to the ProTrak Standard Toolbar and click on "The Railroad/Staging tracks to offline points". Note the new button "Print Occupancy". Print the list (and cut it up as necessary) and post at your staging yards, ready for the next session.

**Question-3:** When I am in an operating session and reporting trains and I have a train terminating in a staging track, I have a problem with the screen that is entitled: "Which staging track did this train enter?" The problem is that not all of the staging tracks appear.

**Answer-3:** Correct.

Only the staging tracks for the station where that staging track (junction) is appear. If the train's destination staging is "North", only the staging tracks at "North" will appear.

Is there any point showing the staging tracks at "South" ???

This window was added to allow the ProTrak Operator (DS) to change which staging track the train actually went into (as opposed to the scheduled staging track) in the previous session. You can see the utility of that when you come to Andy's next April, where the north staging is down at knee-height and you are trying to find your outbound train, this will make all kinds of sense.

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M.5. - How are cars unloaded/loaded in staging?

Question-1: Is there any difference whether the connecting train comes out of staging the same day or the next day (after the daily update)?

Answer-1: No difference.

Question-2: At times a car doesn't get unloaded even though it is going to the correct staging track. Any suggestions as to what to look for?

Answer-2: It may well be being unloaded, and then re-loaded, with the same waybill. Try a greater variety of waybill/car-orders assigned to the staging track and other staging tracks in the same region.

(Also, just to be 100% sure, check the siding numbers. On the staging track and the one assigned as the car's destination. I doubt any issue here as I checked with your data and the car is being routed properly.)

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M.6. - How do I load cars immediately while the train waits?

**Question:** I have an ore train that I want to go from the steel mill to the ore loading facility and load the ore cars and return. Empties up to the facility and loads back down. I want the empty cars to be loaded while the train is there and return with full cars. How do I set this up?

**Answer:** Make the ore loading facility a staging track, and then use "Continuing in transit" waybills! (Turn-in-staging operation).

On the ProTrak Standard toolbar click on "Traffic/Bills of Lading and Waybills" to open the "Bill of Lading/Waybills, showing: X available, of: X total" window, then click on a waybill to open the Uniform Bill of Lading. Not Negotiable: Y of: X available, of: X total" window. The "Continuing in transit" data field is at the bottom of the left hand panel.

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M.7. - How do "Regions" relate to "Staging"?

Question: I am in the process of setting up ProTrak with my RR for the first time. What exactly are Regions used for? Should I assign my staging tracks a different region? I am modeling the CNR in 1955 from Hamilton, ON to Toronto, ON.

These end points are going to be my staging yards and will route traffic to offline points. So far I have setup the staging as follows:

Toronto Trk 1, TOR01s, Region = 10
Toronto Trk 2, TOR02s, Region = 10
.
.
.
Toronto Trk 6, TOR06s, Region = 10
Hamilton Trk 1, HAM01s, Region = 11
Hamilton Trk 2, HAM02s, Region = 11
.
.
.
Hamilton Trk 6, HAM03s, Region = 11

Comments/Suggestions?

Answer 1: From what I understand, you have used them correctly. If you wanted specific roads to be on specific trains going to specific staging tracks (say in Toronto), then you would have a different region for these tracks. In other words, ProTrak will look at the staging tracks in the same region as interchangeable as far as how cars are forwarded.

Not knowing how traffic flows in that neck of the woods, I will just use these for example sake.

Toronto Track #1: 01s, Region #10 (CNR, NYC, ONR, B&M)
Toronto Track #2: 02s, Region #10 (CNR, NYC, ONR, B&M)
Toronto Track #3: 03s, Region #11 (CPR, TH&B, RUT, MEC)

Answer-2: What you have done is ok, but I would suggest that each staging track have a different region. In the overall scheme of rail transportation, once you have moved the cars to Toronto or Hamilton, where do you envision they "ultimately" go? Perhaps some traffic from Toronto is routed east, southeast, and southwest, to different connecting railroads. By assigning each staging track a different region and connecting railroad, you can use your staging tracks to simulate this prototypical routing.

I model the N&W line between Hagerstown, MD and Roanoke, VA. Both locations are represented in staging and are the end points of my railroad. However, the cars are routed beyond those destinations. Each staging track is a separate region. In Hagerstown, I have set up my staging tracks to specify the "connection for" and "to railroad" to further enhance the "beyond the basement" concept of staging. My Hagerstown staging represents connections for Harrisburg (PRR), Baltimore (B&O) and Hagerstown (WM); thus I am simulating forwarding the cars to their "ultimate" destinations.

Likewise, in my Roanoke staging, I have set up each track as a different region with connections to ultimately route the freight to Southern, Seaboard, L&N and NYC.

Separate regions for each staging track will become even more important as you refine and develop your Gateways connections.

Answer-3: I will give a brief description of my staging and my thoughts on why I did it the way I did and the options that I have.

North Staging will have (when in full use) 22 tracks that will be divided up between the Nashville Road (NR) and the B&O (south staging is similar). Each of these railroads will have their staging divided into freight and passenger traffic (specific groups of staging tracks for each).

All northbound NR traffic goes to Indianapolis where it is reclassified for either Chicago, Detroit, local delivery, or transfer to other railroads.

All B&O trains are destined for Cincinnati except for one track to St Louis.

At this time, I have one region for all trains destined to Indianapolis with the idea that Indy is a main reclassification yard. At this time, Cincinnati has two regions, one for one track with the unit coal train and one for all other tracks for general freight traffic.

One of the reasons that I have set it up this way is because I want each train as it leaves Nashville to be a full, or close to full train of cars. I don't like the idea of a train departing the yard with 10 or 15 cars when there are another 10 or 15 cars going to the same yard in Indianapolis but are waiting for a train destined to a different region for the same yard. This is also true for trains going to Cincy, Dallas or New Orleans so I have designed these destinations to have one region each unless I want a specific track and region for such things as unit coal trains.

Answer-4: My layout has one physical staging yard of 5 tracks, it is single ended but has a reverse loop and access to the main line loop in either direction (via a wye).

The tracks represent the east and west "ends" of the GN mainline 2 tracks for Spokane and 1 each for Minneapolis, Seattle and Vancouver. Each of the five tracks is a different region. I considered setting the 2 Spokane tracks to the same region; but have not since the second Spokane track is only used by a local passenger train (which I am not even running in my paper sessions to date).

So far I am satisfied with the region assignments and I do not expect to make any changes. That said I will be trying to arrange my gateways to balance foreign car routing, currently nearly all wind up going to Minneapolis. This causes a lot of ping ponging between staging and my on-line yard. I suspect overhead traffic may help solve this and that is also on my list of things to get setup.

Answer-5: The south end of my railroad, Roanoke, VA, is represented by staging. On the prototype, Roanoke was the hub of the steam era N&W. Arriving trains would be classified for further movement east, west, south and north.

On my model, I could have simply set all of the Roanoke staging tracks as one region, and to be connected for further travel on N&W. Originally, this is what I had done.

However, I didn't think my empties were being routed as they should. I looked at my ORER to determine interchange partners, and where interchange would (could) occur. I then worked through my Gateways and connections. I tried to have as many direct connections with my interchange partners as possible. I have previously posted this in the files section of the group page.

By designating each staging track a different region, AND giving each a different "to railroad" I have found that all of my traffic moves much better, especially empty cars being routed home. This setup allows me to further simulate the reclassification that the prototype did at Roanoke, and makes the ultimate routing of cars in my trains more like the prototype.

Regions, connecting railroads and gateways are all intertwined. I look at where the freight is supposed to ultimately end up "beyond the basement" as opposed to just have everything "die" in staging.

I don't think there is a hard and fast rule for every model railroad; it all depends on what you want to do. Fortunately, ProTrak allows you to do almost anything you want.

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M.8. - Can I store a train in staging that does not run every session?

**Question:** I want to be able to keep several trains in staging from one session to the next session to be completed at the next session. Is there a way to have the first session complete with the staging trains still out in staging and be able to complete these trains the next session?

**Answer:** Create a yard at the town that is your staging yard.

Do NOT create a specific train to work this yard. No OTHER trains can work this yard. It could even be an 02y yard (give it a length of 9999 feet)! Move however many cars you want to hold out of the yard into this track pre-session.

When you start your session report car exceptions for the cut of cars in the virtual yard.

As you operate when the yardmaster is ready call an extra train and define the route as Montana Yard then the virtual yard. You move cars TO the virtual yard on this train. Double report the train at Montana then open the switchlist and add whatever cars you want to send out to the storage point.

When you're ready to move cars back to Montana Yard repeat the process and make the extra train's origination point the 02y virtual yard. Double report, etc. and then move the train to Montana. The cars will be reported directly into Montana yard and then be ready for classification!

This method lets you have total control over when the train runs, how many cars you want to deal with, etc.

Just run the schedule for the following day instead of all Mondays as recommended when getting started.

Remember, that when you are running all the days of the week, you must have car-orders for these days as well. This is where you can start playing with cars orders to make the different days really look different. Just remember that these are the days the cars are ordered, not necessarily the days they are delivered.

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M.9. - When are "Alternate Symbols" used vice connecting trains?

Question-1: My layout has a single 3-track run-through staging yard connecting the ends of the visible layout (so trains go 'round and 'round using staging).

I plan to run a single consist as two different Northbound passenger trains, for example, running from staging to staging as No. 1, then again later in the session as train No. 15 (similarly for southbound and for two freights each way)

I've entered the Train Descriptions for No. 1 and No. 15, running from staging track to staging track. I'd now like to have them as "connecting trains" and there's the rub – the instructions for this process say that there should be a "connecting trains" data field - but I can't find it anywhere.

I've set up three staging tracks at the stations at each end, and indicated that track 1 at the north is the same track as track 1 at the south, and so on for all three tracks.

How do I declare a "connecting train" to reuse the consist?

Answer-1: I changed the data field name to "What happens in staging/Equipment exits staging as".

The "connecting" trains data field is used for a "consist of equipment" that enters and leaves staging "in the same throat and back out". For example, on a linear railroad with staging at each end. Where a train (consist of equipment) enters staging, then later exits (different train, but same equipment). This is the only case where the "connecting trains" concept would be used.

You, on the other hand are describing a "circular" railroad. You do **not** use "connecting trains".

Comment: I've set up three staging tracks at the stations at each end, and indicated that track 1 at the north is the same track as track 1 at the south, and so on for all three tracks.

Reply: In this case you don't have to do anything. There is no "connecting train" in the sense that ProTrak uses that definition.

Question-2: How do I declare a "connecting train" to reuse the consist?

Answer-2: You use "Alternate symbols". Create a "base job" (No. 1). Then open up "Alternate train symbols". Select train job "1" and enter "15" as the second symbol. When "No 1" completes, the program will change the symbol to 15, and you now move and report 15.

You do not need a second job called "15"... you should delete that train job.

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## M.10. - How is overhead traffic setup?

**Comment:** Jim spent a fair amount of time with us on overhead (OV) traffic and waybills and how important it is to set them up correctly as you are entering them into the program. I am in the process of reviewing mine and completely rebuilding my OV traffic after better understanding just what I should do. I'll let Jim, Howard or another more knowledgeable member give you info on the technical end of this but I will tell you what I am now doing.

The first thing is to review the waybills to make sure that the weights and volumes and charges are appropriate so the car-orders can be and are filled. I decided to go through all 850 waybills that I have and am finding a fair amount that should be adjusted.

Make sure that you have OV waybills for each type of car that maybe in OV traffic and for each staging-to-staging route that you want them to take. For instance, my OV traffic inbound from Indianapolis will go to New Orleans, Atlanta, and Dallas, so I will verify that I have appropriate OV waybills for each type of car that I want to go from Indy to the three destinations.

In "Traffic / Overhead traffic, staging to staging," I will select the staging track that I want to add OV traffic to. Double clicking on the staging track will open the Overhead traffic window. You select the waybill in the right window (listed by waybill #, car kind, spot (destination) and lading. When you double click on an individual waybill, it will show in the left window and now be a waybill used for OV traffic for that staging track.

What I didn't understand was that it is important to that these OV waybills be listed in such a way that you get the traffic patterns that you want. I haphazardly selected car kinds and spots and intermingled them multiple times through the list. This caused trains to have cars for various destination mixed throughout the train with very little blocking integrity. After a little time with Jim, I realized why I was having so much of a (a Jim's call it) "dog's breakfast" lineup in my trains.

By listing the OV traffic in groups selected by "spot," you have much better OV blocks of cars within the train. When the trains arrive at an intermediate yard such as Gresham or Ribo on the Nashville Road, it makes it much easier for the yard crews to service the setoffs and pickups and get the train underway.

So, the secret is to select the waybills from the right window in groups with like destinations or spots. You can delete a waybill in the left window but you cannot change the waybill order in the window so take your time and select them carefully. I have deleted all my OV waybills and will now reenter them in groups (using the Indianapolis staging tracks as an example), first to New Orleans since

that is where I want the majority of OV traffic to go, and then the L&N Transfer to Atlanta and then Dallas.

Since I have many more XM boxcars than anything else (yes Jim, I'm working on adding others!!:-) I will make each XM waybill for a multiple of cars which can be selected by highlighting the waybill and then selecting the number of cars for that waybill. I will intersperse XM waybills throughout the other types of cars such as tank, gons, hoppers, stocks, etc. for each destination.

I'm sure that Jim or others can add to this and possibly make it clearer. But it may help start a conversation that will clear any confusion that we may have regarding the use of OV traffic and how to set it

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M.11. - Why are too many cars assigned to overhead traffic?

Question: I'm noticing is that since I selected that change to the new option for cars in staging, I seem to be getting too much overhead traffic and not filling the online customer car-orders.

Answer: You need to make sure you are actually delivering the overhead (staging->staging, or OV) traffic. This is all about actually getting loaded OV cars to their destination. It is that simple.

Explanation

1. Cars are loaded in OV after the cars are assigned to online traffic.
2. To have empties for the online traffic, at the Daily Summary, you have to make sure OV traffic gets delivered and emptied in the previous session. Generally this means making sure the trains going to staging "connect" at yards.
3. In computer sessions, you should run the trains, as you would on the railroad. Run a train from staging into a yard. Then run another train from staging into a yard. As a guide, for which trains to run, follow your string diagram.
Do not run one train, from origin to destination; then the next train, then...
4. If you run trains, allowing connections at yards, you will always have sufficient empty cars in staging, ready to loaded in online traffic.

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Setting a Staging Option

There is one staging traffic option to set that can help. In "Admin", at "Staging Traffic options". Opens the window for Staging Traffic options. At the top,

check/click/select the checkbox for "Only load empty cars that are at home region".

If you select this option, you will have on average 1/2 your OV-traffic cars headed home empty, towards their home region. Always leaving a good selection of empty cars for your online traffic at the next Daily Summary.

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One of these two actions will free up oodles of cars...

Even when you select "File/Program option/Load cars in staging by train standing order". Please remember, this option will still find cars. If it can't find a suitable car in the preferred train-standing-order-position, (after it completes that search first) it then will use another car that is in a less-than-perfect train-position. That is why I wrote that the final result "tends" to load cars in groups.

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M.12. - Why do cars ping-pong from and to staging?

**Question:** I've been having a bit of a problem with some cars in trains in a few of my staging tracks that enter the layout and are return to the same staging region. I can't figure out why

**Answer:**

1. The reason cars ping-pong out-and-back-into-home region-staging is that no waybill/car-order gets assigned in home-staging.
2. The reason no waybill/car-order gets assigned is that there is no suitable waybill.
3. The reasons for "no suitable waybill" are: (in the order I have found):
  - a. The car is restricted to a customer. For example, I have RS reefers with the names (painted on the side) so the car is restricted to Labatts, Coors, and so... The restricted commodity for the cars is e.g. "Labatts beer" or "beer - Labatts".
    - I have waybills for "beer" assigned to the home staging tracks for these cars, but they won't load. The commodity has to exactly match. What I have done is changed the car commodity restriction to "beer".
    - I also could have added a commodity to the STCC list, "Labatts beer" by copying the "beer" listing and re-naming the new commodity "Labatts beer". (In fact, if you look at your STCC list, Coors and Coors Lite may already be in there.)
  - b. The car is restricted to a commodity... and... The commodity doesn't match. The spelling has to be exactly the same, on both car and waybill.

The spelling will be the same if the commodity was selected by double-clicking on a commodity from the right-hand pane.

- Check the commodity on the waybill very carefully. Especially the 16th to 20th characters. Scrolling down the list of waybills is the easiest way I have found of the checking the commodity for mis-spellings.
- c. Related to "b" - the STCC has to match. The match is at the 5-character level, or on the length of the shorter of the two STCCs. E.g. If the car's STCC is 2082 and the commodity is 20821, then the comparison is made at 4-characters 2082.
  - If the STCC is blank, on either the car or the waybill, loading will not happen. Re-enter/select the commodity, from the right-hand pane, and the STCC is entered.
  - Tank cars carrying hazmats or chemicals (in some cases) have to match at the full 7-character STCC. I.e. the comparison is made at the longer of the two STCC.
- d. The car volume is too small for the weight. Sometimes the car volume has been entered incorrectly and entering the correct volume on the car edit window is all that is required to getting loading. Also, the data may have "inherited" an old volume, and re-entering the car volume may fix this.

Restrictions on cars are listed in the far right column of the "list of cars". Sort the list on "BoL" (click the BoL column header) and scroll down the car with "0" BoL, and note if the car is restricted in any way.

That may be a good place to start in debugging why certain don't load.

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M.13. - Why are cars in staging not getting loaded?

Question: I have a train FWDNS/DNFWS that goes to a customer in staging. This train runs to the staging and returns during one session. My stock cars are not loading now from the Omaha Cattle Co on DEN01s.

Don't know what to do. Checked the BoLs, customer, train, etc. BoLs are attached to the cars, they just don't load any more, but they used to.

Answer: You have 'blank' customers (lines in the list), between the online customers and the "customers defined in staging". I.e. The online customers go up to #193, then some blanks, then #200.

As a result, the program won't "see" any customers for car-orders above #193. It looks to #193, sees the blank line then stops. The clue to this is at

"Traffic/Car-orders for online customers". That list only shows to #193; it should show, as well, all the "defined customers in staging".

That is why the stock cars are not loading in staging.

Delete the blank lines in the offline customers list.

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M.14. - How can a single staging yard serve as two staging yards?

**Question:** I have a single staging yard (hidden) under my layout. Now, my problem is that this single staging yard (it's a series of 4 balloon tracks) is both my north AND south staging. I have a sneaky crossover hidden on the layout to allow my trains to enter/exit staging (it's a single way in or out). So its kind of like a double-ended yard but it's not.

So - my question is how do I represent that in ProTrak? I want this staging yard to be a source and destination for trains (be both north and south staging). Since a train can effectively enter staging and leave without turning (since it's a balloon).

**Answer:** While you have one physical yard, you are using it as two logical yards. Just make two staging yards in ProTrak

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M.15. - How is "Active Staging" used to create a fiddle yard?

Question-1: How do you set up trains to use your staging yards as fiddle yards? What I would like to have happen is that when the East to West train arrives in the west staging yard, all the cars are removed from the train. When this train returns to the East yard, it consists of all different cars.

Answer-1: Turn on ACTIVE STAGING for the tracks you want to do this with. You get there through your staging track list and check the appropriate box when you open up each staging track.

Question-2: I now have a check mark in the "Allow Active Staging" for each of my staging tracks. However, the "Active Staging is" box says OFF for each track and there does not seem to be a way to change this. Also, is there a certain number of cars that have to be entered into ProTrak before this takes effect in train consists?

Answer-2: Removing cars (fiddling) can be done under your control and/or under program control.

- A) If you want to control which cars get removed and added, use the "Transportation/Re-block" options: "Delete car", "Add tonnage in staging".
- B) If you want the program to do this, use the Active Staging options.
1. For active staging, there are two controls:
 - an active staging On/Off for each track
 - a "global" (program-wide) setting.
 2. The global setting lets you turn active staging on/off, and still keep the data settings for each track.
 - a. There is no minimum requirement, on the number of cars on the railroad.
 - b. The "number of sessions" a car removed is a median. The program will remove a car for +/- sessions.
 - c. Active staging removes only empty, free-running freight cars in a train in staging.
 - Assigned cars, waybilled cars, pickups assigned to a train, passenger cars are not removed.
 - Assigned cars and private cars are considered if those options are selected on the "Admin" active staging options window.
 - d. When removing cars, the active staging routine starts at staging track #1, finds if there is a train, and if so, works down the cars removing cars until it comes to your "number of cars" setting.
 - e. Each car is individually assigned a number-of-days to be removed that is intended to simulate "the travel time in staging". The session number that a car will be available is put in the car's data (car's return session number).
 - The travel time is, individually, from 1 to 10 days {and is a skewed-probability-curve (a gamma). The median setting moves the peak and the width of the distribution curve.}
 - f. Cars are found, to be returned, by comparing the present session number to the car's return session number.
 - g. The train a returning car is assigned to is found by going down the list of cars removed, and filling "the holes" (created by the cars removed).
 - This means the number of cars added is always equal to, or less than, the number of cars removed.
 - h. Print the lists.
 - i. The active staging routine runs during the Daily Summary.

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## N - General Operations

N.1. - Do I need a dedicated ProTrak Operator?

**Question:** Do I need a dedicated ProTrak Operator for operating sessions on a layout as small as mine (i.e. 12.5-ft x 15-ft)?

**Answer-1:** Based on watching/listening to how people use ProTrak, over the past 18 years, I think you will find that as you gain experience with using ProTrak during operations your "ProTrak time" will greatly lessen from "full time" to as a little as 15 minutes per 4-hour session.

As well, because ProTrak is mostly about "train movements" (reporting trains, calling the occasional extra job...), the ProTrak operator's role tends to become the "Dispatcher" role.

**Answer-2:** A small layout can be run by one person who doesn't have to be assigned as the ProTrak operator. Do it like this...

Set up your railroad, make sure you have cars that match your waybills and customer orders set up properly.

Run a bunch of paper sessions to watch how traffic moves and refine your car-orders, train schedules accordingly.

Do a master car file print out and physically place the cars at their starting points.

Finally, run the session completely through on paper then transfer the switchlists to the railroad and operate! Be sure that you report trains in the order that you have them scheduled to arrive in the various yards so that train-to-train car connections are made properly. If you're only running 8-10 trains in your session you'll have no problems.

When I first got ProTrak up and running on my old railroad this is exactly what I did. It wasn't perfect but it helped me refine a lot of things. I knew where cars were supposed to end up and could help the crews understand the pre-printed switchlists and help expedite car/train movements.

There's really no reason you (or anyone with a smaller railroad) can't use ProTrak to bring a much more interesting and unpredictable setting for your railroad. I think you'll find that you will enjoy your smaller railroad more and more when you don't find yourself idly switching cars around in the same preset order with a 4- or 2-cycle car card system

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N.2. - What trains must be run to complete a paper session?

Question: I'd like to run a few sessions on paper only (in the computer). How do I declare the session over, so the trains reappear?

Answer: Just confirm the "session" is over. On the Operations toolbar click on "Operations/Exit operations/Yes", when all the scheduled trains, with cars assigned, have run. You can:

- Run all the trains to their terminal, or
- Annul trains that you don't want to run.

Note that only trains that have cars "count". Pickups don't count – only cars actually in the train. Remember that if you have a yard where the train turns, you report it at the yard twice.

There is one exception to "trains with cars". If you have "connecting trains" (in and out of staging), you must run both trains in the pair, regardless of cars assigned. Otherwise, if only one train is run, cars in the train heading into staging will be reset back to the train origin, with the train.

You don't need to turn on the fast clock. The clock is not a control on whether the session-mode "session" is over.

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N.3. - How do I make ProTrak operate only on Monday?

**Question:** Where do you set the program to run only on Monday? I couldn't find where to do that only change it every time I finished a session.

**Answer:** There is no automatic setting for this, it must be selected after each operating session.

At the beginning of the "Transportation" / "The Daily Summary", update the railroad", there is a dropdown list for the day of the week. This automatically advances to the next day of the week, but you can select any other day of the week you want at this dropdown list. This is where you should select "Monday". As well, on the ProTrak Standard toolbar click on "Transportation/Today's Operating Conditions", there is a day-of-the-week dropdown list. That just affects the train lineup. The Daily Summary day-of-the-week dropdown affects both lineup and the car-orders.

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N.4. - When do I use "Yardmaster/Route cars at Yards and Customers"?

Question-1: I've recently run across two separate instances where I've seen guidance that after I go into Operations the first thing I should do is click on "Yardmaster/Route cars at Yards and Customers". Could you please explain what happens when I do this?

Answer-1: This question came up when I was looking at Joe's data to see why cars were not moving into and out of some of his spurs. The base problem was an incomplete routing due to a lack of proper "connecting" trains (in and out of staging).

Even after that data was corrected some cars, already at customers would not move (and inbound cars to the same customers had no place to go). On clicking "Yardmaster/Route cars at Yards and Customers", the cars were routed outbound and things started moving.

The one place where "Yardmaster/ Route cars at yards and customers" is mandatory is with a turn, with facing point spots. This command must be triggered to assign cars for pickup at facing point spots, when the turn is at its turning point.

Question-2: Is clicking on "Yardmaster/Route cars at Yards and Customers" something I should do every time I go into Operations?

Answer-2: Yes... probably. The program runs the "schedule cars for pickup at customers" routine at Operations startup, but because of switching train location and status (and other car's locations) a pickup may not be scheduled at that time. Clicking "Yardmaster/Route cars at Yards and Customers" later on, after Operations has gotten underway is probably a good idea to maximize car movements.

If I see cars not moving, for no obvious reason, I routinely (and first) click on "Yardmaster/Route cars at Yards and Customers" to see what happens.

Question-3: I have run several more test sessions to confirm the continued facing point switching problems. My customers that are facing point on the outbound leg of my turns will have cars properly delivered; but the cars will not be picked up

When I start a session where 1 or more cars should be picked up from these 3 spots the expected cars do NOT show in the Cars Assigned to Trains (before starting OPS). Should I expect them to show as pick-up (with a +)?

Answer-3: No.

1. The cars will be picked up on the return leg.
2. ProTrak lists only the cars on the switchlist that will be worked on the next segment.
3. Pickups at "facing point" customers are assigned to the train **only** when the train reaches the turning point.

Therefore the cars to be picked will appear only after the turn train reaches its turning point. You need to "Yardmaster/Route cars at Yards and Customers" after the turn has reported at its turning point; but before it leaves the turning point.

Question-4: In reading old messages I came across a message in which you used "Yardmaster/Route cars at Yards and Customers" on the Operations toolbar to get cars moving. I tried this and cars started moving on trains that I could never get them working on. My question is once I used this and cars are moving should I leave it alone or use it for every session? I noted that it will add more cars to trains; but not always when I want them.

Answer-4: The "classification/route cars" routine runs automatically every time a train works and setoffs cars at:

- A "Yd" yard
- A "y" track
- A designated interchange track (96, 97...).

So, in the normal course of a session, you shouldn't have to run the "classification/route cars" routine (i.e. "Yardmaster/Route cars at Yards and Customers").

However, **after** you create a "Job extra" or an "Extra", you must click on "Yardmaster/Route cars at Yards and Customers" on the Operations toolbar to get cars on the extra / extra job.

- The program doesn't know about those extra trains/blocks until you create them, and can't route cars onto those jobs until you create them.
- You must run the "Yardmaster/Route cars at Yards and Customers once, to get cars assigned at the initial terminal of an extra.
- However, once the extra jobs are created, the routing routines know all about those jobs and will use them (as long as they exist).

It does no harm to make the "classification/route cars" routine run. So use it, when/as you see fit on your railroad.

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N.5. - What do all the various "mty" terms mean?

**Question:** What do all the various "mty" terms mean and how do they affect the movement of cars differently. i.e. mty, mty clean, mty residue (especially when the car is in paired waybill or in-transit service with exactly the same customer and lading, mty return, mty dunnage?

**Answer:** The various "mty" labels have no effect on car movements or assignments. Some are mandatory labels required by car service rules (residue for LO, dunnage for certain commodities by STCC) or hazmat rules (residue for tank cars). They are visual guides to you, as to where the car was and where it might be going (mty clean).

The car quality labels ("A", "B", "C"... ) do indicate and control car movement - to clean and RIP tracks, and for certain car assignments. The "mty" labels, for some boxcars, gons and reefers, reflect the "X", "Y", "Z", "K", labels. The "mty" labels are an indicator on the switchlist of the car quality (applies to some "X" and some "G", and "R").

As mentioned, the car quality grade label "X" is a dirty (uncleaned, or containing debris) "A"; "Y" is a dirty "B", "Z" is a dirty "C" grade car.

- a) The program sends "X" and "Y" cars to cleaning (if you have that option turned on, and have a cleaning track customer) before sending the car to the shipper. As you surmised, the program assumes that cars originating in staging were cleaned "out there somewhere".
- b) "K" cars are in a pool for the commodity that caused the contamination.
- c) Shipments (waybills) with an "A" rating are preferentially shipped in "A" (or "X") rated cars. If there are no suitable "A" cars, "B" and "C" cars, then cars are sent to cleaning and/or ripping for upgrading to "A". As you use the program -over the years- your car fleet will gradually wear out ("A"s become "B"s, etc.), causing a shortage of "A" (and "B") cars. You can buy more cars, or set up a RIP track.
- d) Shipments with a "C" rating (bricks) will preferentially use a "C" car. If there is no "C" car to be had, an "A" or "B" might be used, instantly downgrading it (and costing you \$).

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N.6. - How do I determine why a loaded car was not picked up?

Question: I have created three customers with Bills of Lading. One of the BoLs is to load grain at an elevator, then send it to a flourmill in a different town. The cars now show as loaded, but are not moving. The same train switches both the elevator and the flourmill. How can I tell why these cars are not moving?

Answer:

1. On the ProTrak Standard toolbar click on "Edit/Show/Show switching trains".
2. Check that the customer is within a "train switching zone" for that train. i.e. Can the train get there physically?

Explanations:

1. "Edit/Show/Show switching trains" re-creates the file that lists which customers are switched by which train. The program updates this file itself (at various times), but looking at this shows you that you do not have, for example, duplicate switching-block numbers. This display confirms to you that the train is indeed switching that customer. (And confirms to you that the program thinks the train is doing that work.)
2. The train-switching zone is the zone between "reporting locations" for that train. The train has to physically go to where the customer is. This problem commonly occurs, when it occurs, when working "computer-only" sessions, but becomes immediately apparent when actually switching on the actual railroad.

Those are the most common reasons. Other reasons why a car doesn't get picked up from a customer are:

1. "Loading time" not complete. Query the car (On the ProTrak Standard toolbar click on "Traffic / Freight and passenger cars" to open the "Rolling Stock (Cars)" window, and check the "Remaining hours" column.
2. Car was picked up but is listed as "extra car". Train is over length at time "Yardmaster/Route cars at yards and customers" was last run. If clicking this doesn't cause the car to be picked up, check:
 - a. On the Operations tool bar click on "Exceptions/Show cars in train". Check for "extra cars" (ones listed with *). Extra cars will not appear on switchlist.
 - b. One of the previous three reasons.
3. Insufficient power assigned to train. If the weight of the "car + lading" will cause the power to stall, the car will not be picked up. When first running the program, keep it simple and do not assign expected power to each train.

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N.7. - What does it mean to have "extra cars" in a train?

**Question:** What does it mean to have "extra cars" in a train?

**Answer:** Extra Cars listed for a train usually indicates those cars are assigned to that specific train, but the train is already filled to capacity.

For example, you have a train that departs your yard to staging, and it has a train length of 20 cars; there are 30 cars sitting in your yard for that train; 20 of the cars will be shown as in the consist for that train, and those 20 will move from your yard to staging; the remaining 10 will be extra cars which will be held for tomorrow's train. Of course, on tomorrow's train, there will probably be more cars for it again, and it is not unusual to see extra cars listed for trains.

Extra cars for your locals will be held for tomorrow also, unless you call the specific local extra and run it during the session. The number of cars that the extra will handle will depend on the capacity at the customers it serves.

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N.8. - When is a car an "extra car" and when will it become a pick-up?

Question: Can you provide any more guidance wrt the conditions under which cars in a train get marked as being extra?

Answer: You are right that it is just "length" and/or "car count" that makes a car an "extra" car.

However, sometimes, when cars have been previously listed as extra, they only get "converted" to 'pickup' when a train is reported at the car location - even if the train is within length or car-count limits.

Try reporting the train, and see what happens.

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N.9. - What does it mean when a train is "Closed"?

**Question-1:** Can you please explain how / when a train gets marked as being "closed"?

**Answer-1:** The "Closed" concept is to prevent additional cars being assigned as being "in a train", after the train has been blocked. Blocking (final blocking) occurs when the train's switchlist (train journal) is printed --- and / or when a Workorder - a "draft" switchlist is printed.

If a switchlist is not printed (for example, in a computer session), when a train is reported as moved to the next "reporting location" the program marks the train as "closed" at its previous location.

The "Closed" concept is necessary because ProTrak is a real time program, which means a car can be assigned to a train at any time. We need a way to prevent the assignment (to "in the train") **after** the train is blocked. (Assigning a car may cause a re-blocking.) Cars assigned after blocking must be assigned as "extra cars" at that location.

**Question-2:** Now CO1 ,CO2, CO3 show status as "closed". What can I do with them?

**Answer-2:** "Closed" means that the switchlist has been printed and no more cars can be assigned to that train at that location.

Now it is time to move the train to its next location.

There is an option to "Open" a train. You would use this if you want to correct the switchlist and re-print it. On the Operations tool bar see "Train movements/Open train at yard".

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N.10. - How can I tell if all my cars are loaded?

Question: What window should I look at to see "all the cars are loaded"?

Answer: On the ProTrak Standard toolbar click on "Traffic/Freight and passenger cars" to open the "Rolling Stock (cars)" window. Click the BoL column header. If there are no zeros at the top of the list, then all the cars are loaded

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N.11. - When and how do I annul a train?

**Question:** I don't know how to annul a train and would appreciate some guidance. I'm sure it is rather simple thing to do w/o deleting the full train schedule.

**Answer-1A:** On the Operations toolbar click on "Train Movements/Annul Train" to open the "Current Train in Line-up, as of: 12:01 AM" window. Then click on the train to be annulled, click on the "Annul train" button at the bottom of the screen, and "Yes" on the "Annul a Train" window.

**Answer-1B:** Trains can only be annulled, if there is a location to place the cars.

For all trains, (extras or usual jobs), trains can only be annulled if:

- They are at their origin terminal; or,
- They are at a "Yd" yard, or at an intermediate staging track; and
- It is not a unit train or a passenger train.

If the train is at a "Yd" yard, the cars are re-routed (on other trains if possible).

If the train cannot be annulled at the present location you get a message asking to "move the train to the next yard" ("Yd").

**Question 2:** Is there anything that I should consider before annulling a train?

**Answer 2:** Make a backup copy of your data. The result may be not what you were looking for.

See topic N-27 (What happens when a train is annulled?) for more information.

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N.12. - Can cars be routed to a siding already full of cars?

Question: Industry JAS-03 has a siding length that will hold 8 cars, and there are 8 loaded cars on the siding. Train JASP-1 (a turn) is being assembled in the ALA Yd, and there are 8 empty cars destined for the industry. Will ProTrak pickup these 8 mty's to take to the industry, when there are 8 loads on the siding and the siding is full at the industry?

Answer: Yes. The program recognizes "pickups", and that pickups will create "room" on the siding. For a simple switching train, the program assumes that the switching will pull cars before setting off.

The check is a little more complicated and more thorough than that. Before assigning a car to a switching train, the program:

- Looks at **all** spurs switched by this train, along each segment of its journey. This check is used to determine if the train will be "over-length" in terms of cars -at any point- (and/or over length in terms of TE, if motive power has been assigned); and
- If there will be room at the siding when the train gets there; and if not, which setoff track can be used to constructively place the cars until room opens up; and,
- If the car is an assigned empty, whether there are loaded cars or empty-for-loading cars routed towards this spur, anywhere on the railroad, within 3 days of arrival.

- The checks look at hours for the cars sitting on the spur;
- The checks look at plate and spur radius for setoffs. If the car is too big, the "transfer load" routine starts.

So to be clear the loads on the siding **do not** have to be picked up before the empty's will be added to the train?

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N.13. - What is a typical value for the "Loads/Empties" ratio?

**Question:** Realizing that it changes all the time, can anyone give me a ballpark average of loads to empties ratio in a train consist? I still think that I have too many empties. If so, I can go back in and create more waybills as needed to get a better ratio. The era is mid 50s.

**Answer:** Your "massive" fleet of tank cars and gons will typically run 50/50 empty/load (E/L).

Boxcars, being more general in their commodity loading, ran around 60-loaded/40 empty. On some roads a higher loaded ratio is possible.

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N.14. - What is the Crew change point?

Question: Is a Crew change point for staging something new?

Answer: In the context of my message, the place where (you tell) crew to pick up switchlists/ train journals.

For example, to "avoid model thoughts" you might prefer to have a "designated staging engine crew" who does nothing but run trains out of staging, or into staging. Only that crew sees "the plywood under the skirts" - the staging.

The "actual train crews" come on duty out on the scened portion of the railroad, at a point just outside of staging, encouraged to do so because that is where the remote printer is.

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N.15. - Why would current YIS yard be reported as "invalid"?

**Question:** I received this message when printing a switchlist for a train in our FTW-Yd which uses YIS:

"Major problem. Current YIS yard is invalid. Close YIS window, when train is finished being classified, then Re-open YIS for this yard and re-classify.

Or,

Exit operations, Check all yards, and return to Operations."

We have not had this problem before, and would like some pointers as to where to look for the problem.

**Answer:** The message appears when the program thinks the selected yard number is = 0.

This occurs when the program is attempting to find a track within this yard for the present train.

The most likely reason is that the yard the train just arrived in has no blocking (classification track) assigned for this train.

You get similar error messages if the program finds:

1. A track with a length of 181 feet (the default value)
2. A yard with no classification tracks, arrival tracks or storage tracks
3. "Major problem. Selected >Train< is invalid..."

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N.16. - Why are so many cars not delivered with "Reason = Extra Car"?

Question-1: It seems after every "virtual" operating session I continue to get a list of cars that could not be delivered for reason "extra car". What does this suggest and how can I correct this?

Answer-1: Generally, "Extra Car" means that the train this car belongs in was maxed out and there wasn't room for it in "today's" train.

If you are seeing this on cars that should be delivered to local customers, you can call an extra job that works those customers, run Yardmaster/Route Cars at Yards, and report the train at the originating yard. This will move the cars from extra cars to in the train. You then would run the extra local to completion.

If you are seeing this on trains that terminate in staging, there are a couple options. One is to increase the length of your trains, presuming your staging tracks can handle the additional length. The second option is to create more trains that serve the same Region in staging, even though they would occupy a different staging track. The third option is to do nothing and leave it as it; there are always cars received "today" for the trains "tomorrow."

Question-2: Waybilled cars that could not be delivered with reason code = "Extra Car". Why is this happening and how do I correct it?

Answer-2: The reason "Extra", for a car that is not delivered today, means that a train in the car's route was overlength at the time that car-routing last ran.

This is not necessarily a problem, especially if it applies to only a few cars. Cars may show "Extra" during the session and the reason may "go away" by itself. The timing is important. A train may get overlength, with assigned cars as pickups, before that train sets out cars at a yard. When the setouts are done, the pickups as extras may get placed in the train and will no longer appear as "Extras".

The "Extra" may apply to just one train in the car's route or to more than one train. As the trains move about the railroad, the "Extra" reason may go away.

However if a large number of cars show "Extra" when the session is complete you should think about either increasing allowable train length or adding additional trains. Looking at "Yard Operations/List cars in yard", and clicking on the Destination column header will show where the extra cars are going. From "Exceptions/Show cars in train", or your train line-up, you can figure out which train, or train is permanently overlength and may have to be adjusted.

However, at the beginning of Operations (the first few sessions) "Extras" may be noted. In the first dozen computer-sessions it is nothing should be done until the cars have been moved and distributed into trains in staging and or to customers' spots. If "Extras" persist, then adjust train lengths, customer spot lengths or the number of trains. Traffic (car-orders) should be adjusted only as a very last measure.

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N.17. - Are ProTrak PC Sessions repeatable?

**Question:** When one reloads a saved ProTrak data folder and to the best of his/her ability executes a paper operating session in the same manner should all of the cars, the BoLs assigned to the cars, and the SPOTs that the cars are at be absolutely the same in the repeated execution as in the original?

**Answer:** "Yes".

If you are asking "Does ProTrak apply any 'random number' routine to car movements, or BoL assignments?" The answer is "No".

Steve actually did this 'experiment' at the last ProTrak Weekend. Between sessions I messed up the data, and Steve was able to re-create it by re-running the previous session in the computer. We then checked car locations out on the railroad, and they matched. We are talking close to 700 cars here!

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N.18. - Why is an already delivered car showing up on the next train?

Question: A few months ago I asked about a problem I had with a train that would pick up a car at a customer to be delivered to another customer down the line in the same reporting zone. The switchlist would show the car being delivered however the car would show up on the next train.

I found this works correctly if the train is a turn however if the first train terminates at the reporting point and another train returns to the yard the car is not reported at the customer as expected but is placed on the return train and is on the cutlist for the second train. I don't understand things here please help.

Answer: If a train does switching work at its origin terminal zone then the train needs to be "reported" at its origin. What I do is:

- With the train at its origin, print the switchlist;
- Report the train (at its origin). This setoffs and pickups any cars to be worked there.
- Print the switchlist (with the new train consist);
- Check to see if there are cars that were picked-up, that are also to be setoff (say, moved from a cleaning track to an industry spot). You could also this just on-screen if the computer is at that zone/town/station/yard (without printing the switchlist);
- Now move the train to the next zone/station...

I have similar situations:

- A train that works that customers at STJ, then moves up the hill to work customers at FAR and facing point-customers at DNV on the way back;
- A train moves cars up the west side of the hill to the summit at Walden, where they are setoff (on a "y" track"). A second train, working up from the east side of the hill, picks-up the cars and sets them off at the large creamery at Walden. The arrangement involves more switching, but avoids moving the cars all the way up and over the hill and then back again up the hill.

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N.19. - How can yard congestion be reduced?

**Question:** I am trying to alleviate my yard congestion. What appears to be happening is that as cars come into the yard during a session they are classified and placed on the classification tracks. The problem is that these cars are not being placed on outgoing trains ...but set in the yard until the next update. After the next update I have full trains for the first run then again as trains return 1 or 2 cars are placed on outbound trains while the yard again fills up.

In looking at the cars that are hung up through exceptions query car status the car schedule shows yard yard customer. I happened to notice that a flier over both waybill and time remaining says to click to complete loading. I am not sure if this applies at the yard but I tried it on several cars then did a Yardmaster route cars at yard. A few cars were routed but most were not.

So my question is am I missing a setting to make cars in a yard available immediately or is there a problem in my database or how can I make all cars coming into a yard immediately available.

**Answer:** The difference is that during the Daily Summary, the "yard classification" routine runs. This is assigning cars to be routed on trains.

You can get the same action during Operations by clicking "Yardmaster/Route cars at yards and customers".

A window to look at is found at "Yardmaster". Select the option (from the pane with the pale yellow background) "List/print cars in yard" and then double-click on the yard from the list in the left-hand pane.

This pops up a list of cars in the yard. The first (initial) display is a list of the list of cars that have been routed.

- If you click on the green button at the lower left "Yard Check" the list changes to a list of all the cars in the yard. (The button label changes.) This green button toggles between "routed" and "all" cars in the yard.
- Clicking on the "SPOT" column header puts the list in "destination siding number" order. Clicking "Road" puts the list in "car-order".

Display the "All cars" list. Note the "Destination/train" column.

- Cars assigned to a train show the train symbol, towards the right side of this column
- Cars not assigned will show a destination siding, or... the customer/railroad they are routed to.

Select a non-routed car and click the "Classify" button.

If the car does not route, check:

- the train maximum length and weight
- customer plate and car plate
- any traffic settings for the train.

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N.20. - How do pickups work when the train is over length?

Question: I have the feature turned on, but it does not seem to be working. At least not as I expected. In general the "extra" cars are not added to the switchlist and I have yet to see any warning dialogs.

Answer: The option is turned on at "File/Program options".

Once turned on the "Notice window" only pops up:

- when the pickups would make the service train over-length (by number-of-cars or by length-in-feet); and,
- when all secondary service trains, for the customer where the pickup car is standing, are all overlength as well (or have run).

In my testing this doesn't happen all that often. (I really had to force things to get it to happen.)

When the window does show, it shows on the bar at the bottom of the screen... in a "minimized" state.

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N.21. - How do I unload a car during an operating session

**Question:** Is there a way to force unloading while in an operating session?

**Answer:** Exceptions/Query and select the car.

Change/Waybill. "Waybill" changes to dropdown.

From the waybill dropdown, top option - "none". As soon as you click on the Drop down the waybill is gone.

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N.22. - Why are cars not removed from a train using Show cars in trains?

Question: "Exceptions / Show Cars in Train / Remove all cars" did not remove any cars from the train, what am I doing wrong?

Answer: When this (appears to) happen, this means that this train is the only routing for those cars (at this time). Or is the best routing.

It may look like no cars are removed --- But the cars are removed, then the classification routines run and the cars are re-routed, and the list re-displayed. When I mentioned that "classification routines run", what I meant was that a completely new calculation of the routing is done. The routing is indeed "re-evaluated".

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N.23. - How do I setup Intra-plant moves?

**Question:** How do I handle intra-plant moves in ProTrak?

**Answer:** Please note that intra-plant moves >**at a train's reporting location**< have always been permissible.

This new option is for both pickups followed by setoffs at any station, or stations, between train reporting locations. I.e. if you have stations/zones, B, C, D, E, F, G, H and a train reports at only B and H, cars, for example, can be picked up at C then setoff at F. Or both picked-up and setoff at D.

To make this happen, you need to make two settings:

1. In "Program options" (under "File" menu), "Train-consist report" pane. 4th line, "Allow intra-plant pickups/setoffs between reporting locations". Check the checkbox.
2. The customer where the pickup will occur must have a lower (first) switching-block number. See, for a customer, "Switching train", "Cars

blocked at" datafield. Click on this latter datafield and check the list in the right hand pane, making sure the "pickup" has a lower number than the setoff location. i.e. the pickup location appears first in the right hand pane

You also can see the same data about switching-block (priorities) at "Edit/Show/Show switching trains". This displays the customers, by siding number, in the order that the customers would be switched (and the train blocked). The pickup location must appear higher in the list (for a train).

Note that "pickup" and "setoff" locations, and this type of car movement, are controlled by the waybill - the "From Customer" and "To Customer" items.

In Operations, the conductor will need to keep an eagle-eye-out in the "Pickups" section of the train-list. A car, with this type of pickup/setoff movement will appear only in the "Pickups" section. The cars will not appear in the "In-train" (setoffs) section.

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N.24. - What is a TAG List and how is it used?

Question: What is a TAG list and who is the principle user of the list?

Answer 1: TAG list is under Yardmaster tools. Print a TAG List for a yard. It prints a list of all cars currently in the yard breaking them into "to classify" and "already classified." It tells you where the car is classified to or where it needs to go next (hold, push to, etc.). VERY handy to give to your YM on arrival at a session as a yard check.

Answer-2: The TAG list is the "yard inventory list" as the yard inventory is at this moment in time. It is intended to be used as the "yard turnover list" when a new yardmaster is taking over operations at a yard.

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N.25. - How do I find a "Lost car" that is not in a train at a yard?

**Question:** When a train is reported in a yard, 1 car is missing. Other than searching the layout, what would you do? "Query Car Location" tells me the car is in the train.

**Answer:** What I do is:

1. Open up "Query"

2. Does the car have a waybill? If no waybill, I change the car location (at Query/Change) to the default yard or a storage yard. I also change the car destination to the same (storage) yard.
3. If the car has waybill, I would look under Query/Change/Location and see where the car has been reported last (the list of the last 10 locations that pops up). Then I would think about placing the car (in the computer) at a yard on its route.

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N.26. - How do you add extra cars to train (**Caution**)?

Question: When I was at the ProTrak weekend, I took note the guys running the Dispatching would add the extra cars to the switch list. Can someone give me the steps to add the extra marked cars to switch list?

Answer: It is done from the "Preview Switchlist", "Add cars" button.

In Operations:

- open a switchlist, for a train at "Yd" yard, or "y track"
- click the "Add cars" button (right hand side, 3rd from top)
- a pane opens called "Available cars", with a list of cars. These are the cars at the yard where the train is.
- double-click the car you want to add
- the car appears in the datafield "Inserting" with a 2nd datafield to the right "Insert at:"
- "Insert at:" has the last line number +1 as the default (end of train)
- change "Insert at:" as you wish
- click the "Insert" button.

Repeat for more cars.

When complete/done, click the "Close" button.

Caution: This option allows you to royally screw up the car routing ;))

- All cars are routed, at all times, and what you are doing is routing a car on a train it is not intended to travel on.
- And, if you make the train over-length (and having inserted cars mid-train) you will cause cars that should be traveling on this train to be delayed.

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N.27. - What happens when a train is annulled?

**Question:** What happens when a train is annulled?

**Answer:** Nothing happens. An annulled train is left at its current location. The cars are left "as is". The cars in trains keep their current waybill. Any car assigned a waybill will not be at its destination (excepting the case of a waybill originating and terminating at the same staging).

The original purpose of annulling a train was to combine trains. I.e. Train A, at a Yd yard, has too few cars, and Train B is going to the same destination (or intermediate yards), so from a maximizing net income perspective, it may make sense to annul "A". i.e. "not start" A.

The cars formerly assigned to A will be re-routed. The re-routing follows all the usual criteria.

But there is a little collateral damage so to speak. Those cars still assigned to trains did not get delivered "today". "To Night" the clerks/car distributor will order more cars. "Tomorrow" you have more cars heading for those industries.

Depending on your train schedules and how often you annul trains you may end up with a glut of cars heading for some industries

See topic N-11 (When and how do I annul a train?) for more information.

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O - Switchlists, Workorders & Cutlists

O.1. - Are switchlists printed only when trains are at yards?

Question: It appears that switchlists are only printed at locations declared to be yards, nothing in between - is that correct?

Answer: Switchlists are printed at train "reporting locations".

1. The train reporting location can be a "Yd" yard, a "y" track (set off, turning point...), a "designated interchange track" (96, 97...) or an intermediate staging track.
 - Where you want a new switchlist to be printed is one of your considerations, when deciding about where you locate "Yd" yards or "y" tracks.
2. Not sure of the exact question... but recall that all customers between "train reporting locations" are "switched" (within the program). You may want to update the train's switchlist (list of work to be done). How often you want the switchlist refreshed, determines where you want to locate reporting locations.

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O.2. - Can I preview a workorder before printing?

**Question:** Is there a place to view a workorder before printing it?

**Answer:** Several places:

1. On the Operations toolbar click on "Switchlist/Preview switchlist". The Workorder is a draft "switchlist". So previewing the switchlist is exactly the same as looking at the workorder.
2. On the Operations toolbar click on "Switchlist/Yardmaster/preview pickups/setouts" - which shows the list of cars for all trains at the yard. But the car-standing-order of the pickups may not be in final-blocked-order as in "preview" or as in Workorder. But if you "preview a switchlist", then click on "Yardmaster/preview pickups/setouts" the cars will be in blocked-standing-order.

"Preview Switchlist" has all the "cars in train" (delete and add) and "car-standing-order" change routines.

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O.3. - Should car moves be done in the order on the switchlist?

Question: Do I have to do things in the order listed on the switchlist?

Answer: The switchlist is simply a "list of work to be done". Yes, the switchlist has the work listed in the "recommended order" (based on your settings for "switching priorities"). But I hope we all understand that the program assumes that the conductor will take the initiative, and if the conductor can see "a better way" then he will do the work as he / she sees fit.

For example, on a turn job, the conductor will note that some of the points are facing and others are trailing. Take Andy's "Hunter" job, which had a facing point when working Hunter to Gresham. If I was conductor I would simply, either:

- a) Leave the car for the facing point in the train when I reached Gresham, and mark my first switchlist; then, on the return to Hunter Valley set off the "facing point" (as a trailing point) car; or,
- b) Start my work from Hunter by pushing the facing point to the customer, then return to Hunter to pickup the rest of my train and complete the run back up to Gresham; or,
- c) Start my work from Hunter pushing the facing point setoff; and from there pushing any pick-ups, then at the first passing siding putting the pickups between the engine and the caboose.

The advantage of "b" and "c" is that when I reported at Gresham I would have only the cars I should have.

- "b" is OK because I "own" the Hunter Branch being the only train on that branch.
- "c" is OK, and better, because it involves fewer engine miles (and is better when there are many trains using the affected trackage).

Please remember that the conductor should hand his switchlist in to the ProTrak operator ("yard clerk") at the end of his shift, marked up. The marks could indicate:

- "Work done as completed" - OK, or a check mark; or
- a marking beside each car's listing and where it was left; or - a list of other cars moved and where they are now.

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O.4. - Why do switchlists show a 10' reporting point as "NxtLoc"?

**Question:** I am seeing something on my switchlist I do not understand. My turnaround reporting point is designated as NOL02y, as a "y" yard with 1 track 10 ft. long and designated as a reporting point. On the switchlist some cars are listed at the designated track and some are listed to be pickup at NOL02y or the NxtLoc will be listed as NOL02y. How do I explain what is happening to my train crews?

**Answer:** In general, you say: "The column under "SPOT" is where the car is, the column under "NxtLoc" is where the car is going next."

In this case, because this train is turning at "NxtLoc" (which is NOL02y) the switchlist will show "NxtLoc" as NOL02y. When the train reaches NOL02y, you will be printing a new switchlist (and maybe 2 switchlists) that will show where the car is actually being set out.

So several things here:

1. NxtLoc is where the car is "going next".
2. NxtLoc does not necessarily mean "set out" - it just means "the next location".
3. "Turns" are complicated. They need more explanation. In this case you might say:
  - "Take the cars to NxtLoc" and **then** see where they are going. If the NxtLoc for a car is the NOL02y, it probably means the car is going back with the train.

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O.5. - What do the various cutlist messages mean?

Question: Can you please list and explain all the messages that can be on a cutlist?

Answer: There are 9 possible cutlist messages (on what to do with a car).

1. "<- in train" - car stays in this train
2. "Push to: - track and train found for this car
3. "Push to:"... " for storage"
4. "Push to:" " Hold for ->"
5. "Classify for" - train found, but no track listed
6. "***Re-route"
7. "Classify for" - train found

- 8. "/hold" - waybilled car could not be classified
- 9. "/storage" - empty car could not be classified

Messages 1 to 4 mean that the classification was successful and all is fine.
Messages 5 and 7 mean, "missing data", "but let's keep going".

Message 6, with its "***", means "operator error". Either the ProTrak operator did not report a train, or the yardmaster at another yard did not classify cars properly and just shipped 'em out anyways.

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O.6. - On a cutlist, how do "Push to" and "Classify to" differ?

**Question:** Cutlists" is there any difference to cars that are "Push to: 1 for: 59" as opposed to the line that says "Classify for: 1: 59"?

**Answer:** The program prints "Push to:" if it finds

- both a yard track and train/block that the car should be classified to; or
- a storage track for the car; or
- a hold track for the car.

If the program finds only a train/block, then it prints "Classify to:"

The difference is in the yard "push to" settings.

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O.7. - What causes "Error in Car Data" on the switchlist?

Question-1: Looking closer at the switchlist, the second line for each car shows "Error in car data." What does this mean and is there anything that I should or can do to correct it?

Answer-1A: It means the routine that prints the line of data found an error in the data for that car.

Save the switchlist. Then, later, outside of Operations:

- Note the last data item printed for that car - and then note which data should have been printed (which may be missing).
 - Go to the car edit window for that car;
 - Re-enter the data for that item.
 - Click "OK" to save the data.

It may be, at the time long ago that you created that car, the piece of data was never entered - some default data was displayed but not saved. The switchlist print croaks on the missing data... thus the new message (rather than printing a blank line).

Also, it would help me if you could please tell me about which data item the error is being printed for.

Comment: If I recall correctly I "fixed" it by exiting operations and executing "File/ProTrak program Options, Housekeeping/Dust and Sweep". I am not sure what this did to fix things and may be misremembering my actions, however I know dust and sweep is one thing I usually try when things seem strange.

Answer-1B: "Housekeeping" removes 2 operations-generated files, one set generated for each session. If you look in the data folder you will see a list of "LostCars.###" and "CarOrder.###" files - where ### is the session number. There is no need for those files after a session is long complete.

It is a good idea to do "Housekeeping" from time-to-time.

Question-2: Before each car on the switchlist, was this notification: "ERROR IN CAR DATA"

Answer-2: The error is related to a missing font size (at least here it is). The program uses "12" as the default size and once that is put (back) in the data, the error goes away.

Exit ProTrak, then re-enter ProTrak. Go to directly "Operations".

NB

(Without having the FP run. If you see the FP run, using the program as above - directly to Operations ***without changing any data***- please let me know.)

Reply: That seems to have fixed the problem. The error in car data is not there anymore. I did see the file processor run the first time I entered operations, so I immediately exited the operations session and restarted PT, went directly to operations, and this time the FP did not run, printed several switchlists, and they looked good

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O.8. - Why does 'ris' appear in the switchlist SPOT Field?

**Question:** We are getting the code "-ris-" in the spot field of the returning train to NCT-Yd. Any ideas on why this is happening?

**Answer:** "ris" means, "report if seen". It means the program has "lost sight" of the car. The car thinks it is assigned to that train as a pickup, but the car is not assigned to that train. As a correction, the program assigns the car to the train but as an "extra car".

- The train crew should confirm that the car is, or is not, in the train (or on the yard track for that block/train).
- If the car is not in the train, "Car Control" (the ProTrak operator) should 'put' the car (Query) in the default yard (or their best estimate of where it is, from the list of previous locations)... and then when someone sees the car, they should "report if seen", with the correct car location.

I have prototype train-consists with "report if seen" on the car-second-line. This is the procedure in the railroad's car-movement manual.

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O.9. - Why does a switchlist say "Setoff" on a Through Train?

Question: I have noted switchlists that say "setoff" and then keep the car in the train. Can you please explain what this means.

Answer: What is happening

For an empty car coming out of staging, the "next location" (NxtLoc) will always be the first "Yd" yard for the train.

From that first Yd yard, the car may be going into storage, be routed back to its home region, be routed on, or being an "empty return". The route from that Yd, beyond that Yd, will not be known until the car reaches (i.e. the train is reported) at the Yd. Therefore the NxtLoc for the car is that Yd yard.

The "Switchlist" print routine makes changes to what is printed in the "Location" column. While a car is in a train, its location is the "train symbol". However that is not very useful. It is useful, to give guidance to the train crew, to show what they can expect to do with a car.

Thus, if they can expect to setoff a car, say at a local customer, then "Setoff >>" is a good notice, to print (instead of the train symbol).

- If the car is going to, with the train, to a subsequent yard served by the train, printing the train symbol in the "location" column makes sense.

- If the car is not going with the train to a subsequent yard, or we don't know where the car is going next, is it reasonable to print "Setoff >>" ? (when the NxtLoc is that Yd yard).

I.e. The issue here is that "Setoff" is printed because the car's next destination is the "Yd yard."

The car's next destination is the Yd because it is coming out of staging (probably empty), and is getting re-routed at the Yd yard.

Please remember that the train switchlist is only part of the guidance for car movements.

The train switchlist is good from the train's departure point only up to the entrance to the next yard/reporting point.

At the yard, the yard paperwork takes over. At that point the Cutlist governs.

The Cutlist will show whether the car stays with the train. {Toss the switchlist when the train gets to a Yd yard. Change crews and get new paper work!}

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O.10. - How can you reprint a Cutlist?

**Question:** On occasion, I have inadvertently, clicked 'classify' instead of 'print & classify'. Is there any way to recover that cutlist?

**Answer:** There is a command in the Yardmaster dialog (Yardmaster | Yardmaster Operations) that allows you to reprint a cutlist. (Select Reprint Cutlist in list order | select the yard | select OK | Select Train | Print Cutlist)

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O.11. - What is the usual and default Train Standing Order?

Question: How do most of layout owners set the option for "Print all trains in "locomotive to caboose order"? What's the default order anyway?

Answer: While there were cabooses (approximately) the listed train order was "caboose-> locomotive" as that was the order the conductor, in the caboose, saw the train.

Post-caboose era, gradually, the listed order swapped to the other direction.

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O.12. - What does "X\*\*" in HDG Column on Switchlist indicate?

**Question:** I just noticed on one of the switchlists that I've been monitoring that under the Hdg column on the switchlist was X\*\*. What does that mean and what, if anything, should I do about the car associated with the X\*\*?

**Answer:** A recent addition (Spring 2014). To make it clear that the customer the car is routed too has no room (for that car) at the moment. The handling message means "eXtra car".

The car will not be delivered until there is room. The car is "Held" at the nearest yard.

A single, occasional "X\*\*" could be the result of bunching, which would be expected every-so-often.

You do not need to do anything, unless there is (unwanted) severe and persistent overloading of that customer in which case you might consider reducing the number of car-orders.

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O.13. - Which train lists apply during the run of a train?

Question: When and where is a train-consist list (Switchlist valid)?

Answer: Besides a "train consist" list, ProTrak has various "yard lists". Over a train's trip, the yard lists must be consulted / used.

Suppose a through (road) train, on its trip:

1. leaves staging, and travels to a "Yd" yard, working any customers along the way
2. the train arrives at the "Yd" yard;
3. works at that "Yd" yard, setting-off and picking-up cars;
4. leaves the "Yd" yard, and travels to staging.

For (1), a train-consist list is printed when the train departs staging. This train list is valid for customer setoffs and pickups along the way. The train-consist-list is valid up until the time the train reaches the "Yd" yard.

For (2) on arrival at the "Yd" yard (i.e once the train has physically arrived at the yard gate or at an A/D track, meaning before the train is reported), that train-consist list is no longer valid – it should not be used further.

For (3), at the "Yd" yard, the train is partially or entirely worked:

- a) The "Cutlist" is used to break down (cut up) and classify the train. The Cutlist is used to show which cars are setoff.
- b) A "Workorder" is used to identify which cars are to be picked up at the "Yd" yard. Cars, from other trains may have arrived at the "Yd" yard after the initial train-consist list was printed before the train left staging. Workorders are printed to identify pickups at the "Yd" yard while the train is enroute to the yard and again after the train arrives and again until just before the train departs (or is closed for departure). Workorders can be printed as many times as necessary.
- c) At train-cutoff time, the train is closed to further car assignments. The final Workorder lists the standing-order for the train.
- d) The outbound train-consist list is printed, which also closes the train and of course provides the final train blocking/standing order.
 - At this point the new train-consist is valid, listing any customer pickups or setoffs between the present location and the next reporting location.

For (4), the train travels to staging, working any customers as listed on the train-consist.

Comments

1. Pickups at the next "Yd" yard may not be complete, or valid, at the time the train reaches the next "Yd" yard. As:
 - a. cars may arrive from other trains between the time of printing and the arrival time
 - b. cars, standing at the "Yd" yard, may be advanced on other trains after the initial printing.
 - Cars listed as pickups on a road train train-consist should be viewed as guidance only. I.e. there may be work at that yard.
2. Similar issues also apply to cars listed on a train consist for setoff at the next "Yd" yard. This applies particularly to cars picked-up from customers. By default, a car picked up is routed to be classified at the next "Yd" yard in the train's route. When the train (with that car) arrives at the "Yd" yard, classification occurs and the outbound destination is listed on the train Cutlist.
3. Instead of printing Workorders you can look at onscreen windows.
 - a. In Operations, select "Yard Operations". To see all pickups/setoffs at a "Yd" yard, click on "Preview pickups/setouts" and select the yard. This "Preview" window lists by train the cars to be setout (shown with a "-") and cars to be picked up (shown with a "+").

- b. In Yard Operations, click on "List/Print cars in yard".
 - i. The window opens showing non-routed cars. These most likely are extra cars.
 - ii. Click the "Yard Check" button. Click the "Cars at yard" button. The window now shows all cars standing in this yard; the 5th column shows cars routed by train.

Summary

ProTrak has yard lists. Over the course of a train's trip, yard lists are what you should use while a train is near or in a "Yd" yard.

- The train crew should use the train consist list (switchlist) to get from one yard to the next yard.
- Once at the yard, the yard with its lists takes over.

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## P - Reporting & Classifying Trains

P.1. - How do I move cars between customers within one town?

**Question:** I have a train (turn) that runs ENT-COA-HAR-CLE and returns. I have two customers at COA, one of which ships to the other, switched by this train. The switchlist tells the train to pick up the car at COA, then the next switchlist issued at CLE (the turn) tells the train to drop off the car at the other COA customer. Can ProTrak move a car within a town?

**Answer-1:** I believe that this is correct. At the town you desire to do the cross town move ensure that you have a "reporting location", i.e. either a "Yd" or a "y" track. Report the train twice at this location. This first (arriving) switchlist should show the pickup. After reporting it should show the car as being set off. Check the two generating switchlist for the double reporting to see exactly how ProTrak handles this.

**Answer-2:** Yes.

To show that the car is moved within the town, while the train is there, you need to do two things:

1. You need to "double-report" the train at COA;
2. You need to print a second switchlist at COA.

Explanation:

The "double-reporting" and "double-printing" is all about keeping "visibility" of a car. It is absolutely crucial for maintaining "car standing order integrity" that the car never be "lost sight of".

1. You arrive in the town with a switchlist that lists the car to be picked-up. On the first "reporting" at COA (on arrival) the car will be picked up. The car is "in" the train.
2. Now you print a second switchlist, which shows that the car is in the train and to be set off. The second "reporting" sets off the car.

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P.2. - Why would you double report at the same location?

Question: I am a little confused about this double reporting. Why would you double report at the same location?

Answer: Just to explain the need for "double reporting": When a train is reported at a location (amongst many other things) the program looks for possible set outs and pickups at that location. If a car is to be picked up and setoff at the same station, it takes two "reports" to make that happen. The two reports are so we don't lose "sight" of the car. On the first report, the car would be picked up. Now you print the switchlist and the car appears on the switchlist. Then you report a second time and the car is setoff.

It is all about making sure both moves of the car, within the same station, can appear on the switchlist.

If no cars are to be picked, then a "single report" is fine.

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P.3. - Why did I get an "Are cars in train?" inquiry window?

**Question:** The other day when I was running a paper OP session a screen popped up titled "Are cars in train?". I was in Operations and had just reported a train that had "extra" cars on it. The instructions in the "Are cars in train?" window indicated something about clicking on each car; but when I did so I don't recall anything happening. I eventually just clicked on the "close" button at the bottom of the screen.

What does this screen mean, and what is the correct procedure to do when this screen appears?

**Answer:** You just reported a train into staging.

The first line (on this window) says "Train [ ] has cars listed as pickups." The second line says: "Verify location of each car." and then "Click pickups to place car in train."

i.e. the program has detected that a train has reached staging but has pickups listed. More than likely those pickups were, in error, not placed in the train, as all pickups should have been picked up and placed in train. This window is giving you the opportunity to correct this error.

However, if the train is over length, or if the pickups were assigned after the train left the yard where the cars are, then there will be pickups correctly listed. In this case you recognize that, and simply close the window.

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P.4. - How do I classify a train that is in "Held" status?

Question: My last train in my line up has the status as HELD and I can't get it off. Any suggestions?

Answer: On the Operations toolbar click on "Yardmaster/Classify cars in held inbound train" to open the "Yardmaster" window. In the right hand panel under "Yard Functions" are two items"

- Held Train: Classify Only
- Held Train: Classify/Print Cut List

Hi-light one of these and then double click the yard with the held train. This will open another window to allow the selection of which train to work with. Select train and then action required.

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P.5. - When should a train be reported at its originating yard?

**Question 1:** If the switching train is a turn from GSM-Yd / DTI02y /GSM-Yd... should I still not report them before running them?

**Answer 1:** Do not automatically report a switching train at its initial station as the report may setoff and/or pickup cars.

Rather:

1. Check the number of cars assigned to the train {in the "Current trains in Line-up" window}.
2. If you see a lot of extra cars, go to the "Exceptions/Show cars in trains" and delete the "Pickups and Extra cars" (click train-symbol column header and select "Extras and Pickups.} This drops all those cars and re-classifies and re-routes them.
3. Then open the usual "Reporting Movements" window. The list of cars in the train shows in the right-hand pane. Check by double-clicking on a few of the cars and check each car's destination. Alternatively, click the "Switchlist" button and check the destination for all the cars. Only if a car shows a "destination = present location", then "report" the train (here, at its origin).

Further, if the train is a switching train, I prefer to delete unwanted cars using the "Preview Switchlist" method. Otherwise, a "report" might (correctly) setoff and/or pickups cars... but "un-wantedly". If you use the "Preview Switchlist" method, all that is going to happen is that the "deleted car" (dropped car, actually) is 'setoff' from the train (returned to the yard, and properly

classified/re-routed). With the Switchlist showing on-screen, double-click on a car to drop/delete it.

**Question 2:** My local turn, upon leaving the yard, had a switchlist that showed 8 cars in the train upon leaving the yard, with 2 to pick up in the yard. Why would it indicate it had to pick up 2 cars that were already in the yard?

**Answer 2:** The train had been assembled (the 8 cars), then another train arrived and made the other two cars became available, as pickups. The "yard operator" needs to verify to the computer operator that the two cars did indeed make it from the arrival track, to the classification track to the outbound train. The verification is done by the "yard operator" "phoning" the computer operator that "Yes, those two pickups have been placed, physically, on the train"....and the computer operator then reporting the train at the yard, which places the cars in the train (in the computer).

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P.6. - How do Pending & Cut-off Time affect classification at "Yd" yards?

Question 1: What does "Use "Pending" during classification at "Yd" yards" do?

Question 2: In Transportation/Today's Operating Conditions, what does the option "At yards, the cut-off time between arriving and departing cars is xxx minutes" do? Is this simply saying that a car arriving at the yard can leave no sooner than xxx minutes later?

Answer: These questions have to do about requiring some time, or activity, between the time cars arrive at a Yd yard and the time those cars are available for an outbound train.

a) "Use "Pending" during classification at "Yd" yards"

When you click "Classify.." the cars, in the arriving train, are instantly classified, routed and assigned to the next train. Instantly. This may cause problems if someone else in the same Yd is building a train and the communication about new cars does not make it.

"Pending" causes the yard operators to have to communicate about newly arrived cars. "Pending" locks out the ProTrak operator from printing a (final) "train list" for a departing train and to have to communicate with the car-inspector/classification/trim yards that the cars are available and have been placed in the outbound train.

b)"At yards, the cut-off time..." was a time-based method of accomplishing the same thing (in theory). This time-based approach has been superseded by the "Pending" approach.

c) The "Hold" option accomplishes ~the ~same thing. On a large "Yd" yard, such as Andy's Gresham, "Hold" should be the default action.

Note: "Cut-off Time" in Today's Operating Conditions was removed in build 292.

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## Q - Operations & Post Operation Session Reports

Q.1. - What do the "Car held/Waybill not filled" reason codes mean?

**Question:** What are the specific meanings for each Reason code in the Cars held for delivery and waybills not filled lists? What can cause each reason? I am seeing No Length, "No ConXns", "Extra Car", "No Mty's", "Kind" Reason codes.

**Answer:** "No Length", "No ConXns" and "No Length" relate to yard-classification during operations:

When the program classifies a car, and cannot find a suitable routing, the program enters a "reason" in a file. The "reason" is valid for that moment. If the car is classified a second, or third, or fourth time... the reason may change depending on which trains have run, or the current status of a customer.

If no routing can be found, you will see "No ConXns". Later in the session, when some of the trains have run, you may see "No ConXns" more often. It is usual and normal to see "No ConXns". However, you should check, because it may mean that there was never any possible routing.

If the car is going to a local spur/customer and the spur is full, you might see "No length". If the car is too long for the spot you might see "No length". If the car is too long for the curvature of the spot, you will see "Length".

"Extra car" means that at least one train in the routing is over length (by number of cars, or with Update 272, is over length by length in total feet), at that moment. This may be temporary. It is usual for local switching trains to show "Extra" cars. If you see "Extra car" for a through train you should look to see if you need to make your trains longer, or run more trains to that destination.

"No Mty's" and "Kind" relate to shipment (waybill) assignments.

"No Mty's" just means that all the cars of that kind, weight capacity, length and volume are in use. It may also mean that all cars assigned to that traffic (by pool such as "Return empty" or "commodity") are in use. You need to buy more cars.

"Kind" means that all the cars of that kind are assigned.

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Q.2. - Can I print a list of where cars are spotted during operations?

Question: Many (most?) of my spurs have more than one industry and/or more than one spot. This means that cars that would not otherwise be handled may have to be moved to set out or pick up cars. A problem with switchlists is that they describe the train and not the town. Is there any paperwork to help the crew replace the cars that had to be moved?

Answer: On the ProTrak Operations tool bar click "Exceptions" then "Show cars in zones". Click "Next" until you get to the zone of interest. Then click "Print".

The list of cars at zones/stations is real-time - it will be up-to-date at the time of printing.

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Q.3. - On a cutlist what does the "Hold cars: ..." line mean?

**Question:** What is a cutlist telling me when it says: "Hold cars: Loaded cars not classified to trains/ blocks".

**Answer:** You will have noticed that the explanation "Hold cars: Loaded cars not classified to trains / blocks." appears on every cutlist. The message is the definition of what a "Hold" car is. That is, a car marked "Hold" (on the cutlist) is loaded (has a waybill assigned) and could not be classified to a train or block

The "not classified" means that the car has not been, and probably could not be, routed. I.e. it "can't get there from here" (at this time).

- You, as the person defining the train movements, need to check that there is a valid routing; and,
- You, as the yard crew holding that cutlist, should shove the car into the designated "Hold" track at that yard. The "You" who is setting this all up can deal with the car later.

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Q.4. - Why would a cutlist have no cars listed?

Question-1: What is a cutlist telling me when it says: "No cars show on this particular cutlist"?

There were no cars in the train.

Answer-1: This almost certainly means that the cars assigned to the train were all pickups (or extras) ---- that the train left its previous location with zero "Cars in Train".

The ProTrak operator needs to get in the habit of checking the list of cars in the train before printing the switchlist and before allowing the train out of its present yard. Check the "Reporting" window and look at the list of cars in the right hand pane. If there are + in front of the car initials the cars are "pickups". If the cars are in fact at the train's location, reporting the train at the present location will place those cars in the train.

Question-2: The cutlist does not print. I get the header, but where the cars are listed is blank. Any thoughts?

Answer-2: Pickups. All the cars in the train were still pickups - there are no cars in the train, and no cars to "cut".

Steve Brooks discovered what was going on, he had noticed the "+" listed in front of the car initials, on the "Report train" listing (in the right hand pane). He reported the train and the cutlist printed blank.

The "+" in front of the car reporting marks means the car is a "pickup". On all the on-screen listings. The right hand pane of the listing of trains, on the "Report train" window also shows the distribution of cars – in train - pickups - extras - tomorrow.

What Steve did was to report the train, at its present location. The program had assigned the cars to the train, but had not been told that the yardmaster had actually switched the cars into the train. By reporting the train, Steve was telling the program the yardmaster had done his job. On moving/reporting the train at the next Yd yard, the cutlist printed fine.

Before moving a train, you should check the in-train/pickups/extras numbers. They will tell you what is going on.

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Q.5. - What is the "Cars assigned to trains" window used for?

**Question:** When I'm looking at the "Cars assigned to trains" window under "Transportation/Check Operations Diagnostics/Cars in Trains", exactly what is it telling me?

**Answer:** This is **raw data**. This "Diagnostics" window is a "debugging window". It shows the car-list-number as assigned to the trains by the current-day's-lineup-number. This is the actual data in the relevant file, without any interpretation - for example converting "car list number" to "car initials/number". Showing the data by converting to car initials/number and to train name would defeat the purpose of this window.

This window is **not** intended for ordinary day-to-day use.

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Q.6. - What messages flash by during the Daily Summary?

Question: When I perform "Daily Summary" it flashes some messages by that are too quick to read that I think I need to be able to read. Is there a report that summarizes the same information somewhere?

I can't seem to get a car from a train to an industry and I can see the car number in red but the message is too fast to read.

Answer: That display is the "loading" display, which shows which cars have been "loaded" with what car-order/waybill.

On the other hand, if the car is in a train, and you want to get the car setoff at a customer that is something completely different. What you should check is:

1. On the ProTrak Standard toolbar click on "Edit/Show/Show switching trains". This will list the customers switched by the various trains that work customers.
2. If the customer is not listed, then check that the customer has been assigned a switching train. That is done by clicking "Traffic/Customers" on the ProTrak Standard toolbar to open the "Customers and Loading Points" window. Now double click on the customer and check the "Switching train" data field, and the "Cars blocked at " data field.
3. If the car is in a train that does not serve the customer, then check that "the train the car is in" works a yard that "the customer's switching train" also works.
4. Also on the ProTrak Standard toolbar click on "Edit/Show/Show waybills/car-orders Not filled". The second column is "Reason" and this may provide you some insight.

The display you mentioned isn't really all that important. You can get the same information by checking a waybill that you assigned as a car-order for that customer. Open the waybill, and click the "Test for possible cars for this shipment" button at the bottom of the waybill window. If the car appears, and you have a car-order that uses that waybill, (and there are enough cars to fill all the car-orders), then that car will get assigned. Or maybe another car will get assigned to that shipment.

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Q.7. - What does "Car Order not filled, Reason - Sub-Weight" mean?

**Question:** I noticed ... "Sub Weight" listed as the reason a car-order was not filled. A search of the messages here brought up the possibility it might be related to a subdivision car weight limit. Is this the meaning of this code?

**Answer:** Yes.

There are three "subdivision" checks, to:

- Car gross-weight
- Car length
- Car "Plate",

which are compared to settings at "The Railroad/Subdivision Junctions, names and notes" - for each individual subdivision.

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Q.8. - What is the purpose of "Edit/Show/Cars needed to meet traffic"?

Question: Under "Edit/Show/Cars needed to meet traffic," what is this supposed to be telling us?

Answer: What kinds of cars, in general, are needed to fill car-orders to online customers, for that day.

The 'list of cars' is the list in the general car kind list, which you can change at "Edit/Change/Change Car Mechanical Kind list".

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Q.9. - How does weigh scaling of cars function?

**Question-1:** Under "Operation Diagnostics" it shows that I have 13 cars ordered for weigh scaling.

Since I don't have a scale track for now, how does it affect the forwarding of these 13 cars?

**Answer-1:** Under "Admin/Special spots..." I note that you have the weigh scale option turned off. It doesn't.

**Question-2:** How do I identify these cars and waybills so I can change the data so they don't need to be weighed for now?

**Answer-2:** You don't have to. See above.

**Comment:** But if you insist, as mentioned check the cars. From "Operations Diagnostics" select a car and note the waybill number. Go to the list of waybills and click on the waybill. Change the weight, slightly, and for the 2nd question answer "Yes" (car was weighed at customer or there is a weight agreement in effect).

Under "Admin/Special spots..." you have the weigh scale option turned off. So there is no effect on car routing.

If you had this option turned on \_and\_ you had weigh scales:

1. The program would print on a train journal (switchlist) in which this car was listed the message "Weigh car now." The message would continue to appear until the car was reported weighed.
2. The program would route the car to the nearest online weigh scale. This is the same thing that happens with "cleaning". The car gets routed to the scale, then once weighted gets routed towards its destination.
3. The weigh scale is just another customer. The assigned switching-train "sets out" the car at the scale, at which point you click on "Weighscales" and "Report cars at scales".
  - This brings up a window that lists the cars at scales. You double-click the line (with the car) and the car is reported weighed.
  - Now the car is "back in the scale-customer switching train" (physically it never left the train and was not actually setoff).
  - (The car is automatically re-routed...) and the switching train journal will show what to do with the car.

If you had a working scale, the procedure above is slightly different, involving actual weighing of the car, which corrects the model-weight of the car. You can see that in operation on the C&NE.

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Q.10. - Why do undelivered car counts differ between alternate listings?

Question: I've noticed that the total cars that were not delivered

- a) in the "end of session report" is different than
- b) the total cars not delivered in "Transportation / Operations Diagnostics / Show cars held.

What is the difference between these two?

Answer: "a" shows waybilled cars not routed -yet-, or routed and Held, and not in trains.

"b" shows all waybilled cars not routed -yet-, or routed and Held.

Either number should be substantial - certainly not zero. At all times there should be loaded cars working their way across the railroad and in session mode, 'the number of available trains' goes to zero at the end of the day, so cars that would otherwise be routed on those trains can't be routed. Or they are routed and are Held or "extra" cars.

The idea of the display was that the number(s) should be fluctuating up and down day-to-day... not continuously rising.

If the number keeps getting higher, then there are staging regions without (sufficient) train capacity, or customers getting too many loads.

The number is reset to zero when the Daily Summary runs.

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Q.11. - Why are on-screen displays and printouts different?

**Question-1:** At "Preview setouts/pickups on-screen", why is there a difference between what is seen on the screen and what is printed out when looking?

**Answer-1:** This is deliberate.

Some reports are intended to be viewed on -screen. Other reports are intended to be printed. This is a case where the two reports are different.

- the on-screen report shows all the cars in each train, with setoffs shown with a "-" and pickups shown with a "+".
- the printed report, as you saw, has two sections - one labeled "Setouts", and the other "Pickups", listed train-by-train. The printed "Setouts" report lists only the setouts which correspond to the cars shown on-screen with a "-". The printed "Pickups" report lists only the pickups which correspond to the cars shown on-screen with a "+".

The idea, for the printed reports, is that the local yardmaster is only interested in what he is receiving and what he has to put together as pickups for each train.

The idea, of the screen-view, is that car-control will want to see all the cars, in-train, setoffs and pickups. Car-control has a greater, or wider, view of the entire railroad and in doing strategic planning wants to see everything.

The car-control operator also can see the train switchlist for each train, by clicking on the train-symbol column-header.

**Question-2:** The screen view shows 5 cars listed for train ALFWT1 and the printed list shows no cars.

**Answer-2:** This means that no cars in ALFWT1 will be setoff at that yard (whichever one it was), and there are no pickups for that train.

Please note that the work shown is "At that moment in time" - the moment when the list was printed. The work may change with time as other trains arrive at a yard.

This "Preview yard" list is probably most useful for a yard that primarily services trains with a "staging to yard to staging" train route.

If the yard being previewed services a lot of locals, this preview is less useful (I think). This list is also, I think, less useful on a railroad with two or more yards, and with more yards gets less useful... In these cases the work just changes so rapidly that printing cannot keep up. But using this preview list on-screen may be able to.

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Q.12. - Is there a way to print the "Waybilled cars not delivered" list?

Question: If one forgets to print the list of "Waybilled cars not delivered" during the Daily Summary processing is there another way to get a screen image or print of that same information?

Answer: Click on "Transportation/Check Operations Diagnostics".

Seventh item down "There are undeliverable cars....". To the right there is button "Show cars held". This shows the list: "Cars that could be delivered today". This list has a print option.

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Q.13. - Where is a count of cars moved in a session displayed?

**Question:** Is the count of cars actually moved during a session available on a ProTrak screen, or is it derived from other data in ProTrak?

**Answer:** When you print the "General Manager's Daily Summary" there is a section on car movements

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Q.14. - What is the function of "Fill tonnage for a train in staging"?

Question: In Transportation/Re-block Trains Between Sessions what does "Fill tonnage for a train in staging" do?

Answer: Allows you to manually add cars to a train staging... to maximize train length, or to swap car manually on/off the railroad.

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Q.15. - What is the function of "Initialize Foreign cars"?

**Question:** In Transportation/Re-block Trains Between Sessions what does "Initialize Foreign cars to staging" do?

**Answer:** On program start-up, this selection places cars in staging trains, so that during the first session trains originating in staging leave staging with cars. A quick way of "aging" the railroad.

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Q.16. - What is the function of "Substitute for ordered cars"?

Question: In Transportation, what does "Substitute for ordered cars" do?

Answer: The ProTrak car distributor orders cars (assigns cars a car-order/waybill). This function allows you post-Daily-Summary to change the car-order assignment. Useful if you have 20 identical cars at that logging spur and it does not matter which car gets a specific car-order....

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Q.17. - How can you clear HELD status for train not in a yard

**Question:** In the Operations Train Movement window one of my trains from staging has status = HELD. I am able to report the train and indeed the cars get classified after arrival at the Riverside Yard. Q&A Appendix L, item P.4 discusses clearing the HELD status on a train in a Yd Yard. What do I do to clear the status of a HELD train in staging?

**Answer:** Delete the file "HeldTrain.RTO".

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R - "y" Track operations

R.1. - How do I prevent exchange/setout of cars at a "y" track?

Question: I was just reading in the recipe book that if a customer track is full cars may be routed to a nearby "y" track, but it seems to me since I have the length set to 10 feet no exchange of cars between trains or no cars should be stored at this track.

Answer: Correct. Cars will not be set out or exchanged when the "y" track is too short to hold a car.

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R.2. - Why are "y" tracks usually set to a 10' length?

**Question:** I have a question about "y" yards. If my turning point is on the main line with a passing siding, and setoff spots off the siding, and I increase the "y" yard to a length that will satisfy the train length, and not 10 scale feet, how do I keep cars from being left on the passing siding?

I have deliberately set the "y" yard to a length of 10 feet just to keep any cars from being left there. To leave cars on the passing siding would be disastrous!!!

**Answer:** Just leave it the way it is. You are using the "y"-track simply as a "turning point" (train reporting point).

Andy is trying to use the "y"-track as a place to exchange cars between trains, which require a 'real' track length.

Different functions - different settings.

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R.3. - How long should the "y" runaround track be for paired trains?

Question: I have 4 pairs of switching trains servicing the same customers that run from my "Yd" yard to the last customer (runaround track) and terminate. Then the paired train runs from the last customer back to the "Yd" yard servicing customers the outbound could not service. My runaround tracks have a length to hold the appropriate train. My problem is that cars are being left at each runaround track for interchange with other trains; but this is a reporting point only and I have no tracks for these cars. I thought by making separate runaround points this would not happen or could I need completely different names. Could the program see Southport2 as being the same as Southport3. this will help

Questioner's response: Ok I think I have the problem of not all the cars transferring from the outbound train to the inbound train solved. When I first set up the runaround tracks I made them longer than the longest of the outbound or inbound trains and had the problem that not all of the cars would transfer to the inbound train at the runaround point. Some cars were getting hung up on the runaround tracks. As a test I made the runaround tracks longer than the sum of the outbound and the inbound trains. After this all of the cars coming in on the outbound train transferred to the inbound train as expected.

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R.4. - How do I transfer cars between trains at a "y" track?

**Question:** Another question about setting up 2 separate trains one outbound to terminate at the reporting point and the second to go from the reporting point back to the yard. My question is if the first train picks up cars along the way how do they get put onto the second train to go back to my only yard for classification.

**Answer:** The program does it... if you provide the trains.

Example:

1. Suppose you want to have "a train" that runs from A out to B, and does no switching. Then have "the train" return to A doing the switching.
2. Using the "two jobs" approach, you would set up, say train/job 501 that works A to B. Under "Customers" you do **not** assign any customers to be switched by 501.
3. Then you set up train 502 to work B to A, and you assign it to work "Customers" along the way.
4. Say A is a large "Yd" yard, and lots of trains work there.
5. Say B is only a short runaround track, and only "the switching train" works at B.
6. Set 501 to work from "A-Yd" to "B-02y"...
7. Set 502 to work "B-02y" to "A-Yd"... Note that **only** 501 and 502 work at "B-02y".

The program works out the car routings. Suppose a car comes into A-Yd from staging and is going to a customer served by 502.

1. The program finds that the Customer is served by job 502.
2. Then the program finds that the only train connection to 502 is job 501. The program will route the car on 501, out to "B-02y", where the program will assign the car to 502.

Other settings:

We said the runaround was short (Point 5 above), and there may not be enough room to actually "store" or setout any cars on "B-02y". However, what we do is:

1. Set 501 and 502 to use the same equipment (locomotive and caboose) and same crew. In other words, 501 and 502 are actually the "same train".
2. Set the length of "B-02y" to be longer than the longest 501 or 502 you will ever see. Because **only** 501 and 502 work "B-02y", all the cars will be moved from "B-02y".

Actions:

1. On the switchlist for 501, the cars will show NxtLoc as "B-02y". Run 501 and report it at "B-02y".
2. Print the switchlist for 502. The switchlist will show the "SPOT" (present location) as "B-02y".

That does **not** mean that the cars were set out at "B-02y"... it just means they are "there". Actually the cars are in 501 and immediately transferred to 502 on arrival at "B-02y". The cars are never setoff at "B-02y", the switchlist and the program are just letting you "know where you might find them".

Explanation:

The general idea you are following by using the "two train approach"... is the "transfer train job". A transfer takes cars from one yard (location) to another location, where, usually, switching trains work from. In this case, 501 is your transfer train.

Another place someone might want to use a transfer train is to distribute cars to towns along a line, where there are switchers at each town (or group of towns). Rather than having a class track in your main Yd yard for each town, you have **one** class track for the transfer. Saves on class tracks.

There are a large number of possible variations on combining "transfers" and "switching trains". For example:

- a) The switching trains might work several towns. Say a switching train works from C to F - one direction only. In doing its work, it will gather up cars and move them to F. It might also transfer cars from C to F, without switching them. (e.g. The lightly-powered switching train is working on the "flat" territory between C and F, and beyond F a heavily-powered transfer works the grade up to G.)
- b) Suppose you have an industrial park - with one entrance and many switching jobs work within the industrial park. Some of the switching jobs

might even share "runarounds" (which we use as "reporting locations" within ProTrak). To keep the work (cars) from 'moving' from switching train to switching train, we can "double number" the "y-track" reporting locations.

That is, we assign the same "physical" track as "logical" tracks "B-02y", and "B-03y" and "B-04y"...

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R.5. - How should "y" track options be set?

Comment:

1) A "y" track is *not* a small yard. A "y" track is a single track. (Although this may be revealing a miscommunication or misconception here.)

A "small yard" is a "Yd" with 1, 2, or 3 tracks.

Two different animals:

- A Yd (yard) is where trains can exchange cars;
- A "y" (a single track), generally speaking, is used primarily in the odd event you need a reporting location for a turn, and almost nothing else.

2) Our fellow operators are way over-using the "y" track.

The reason for the purpose of "the "y" track data field is to get you to think about what the track is for.

- Is it just a 'reporting point' for a turn? In which case do you want cars setoff here, and if not, make the track 'short'.
- Is it a second track (a 'passing siding')? In which case why is this track even defined?
- Is it a place where you temporarily stuff cars that are overloading a customer's spot? Is this the best place, or would it be better to leave those cars on a hold track in a Yd yard?

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## S - Car Routing Topics

S.1. - How are cars assigned for loading?

**Question:** I have since run a paper Thursday, which has a car-order for "pig iron", but no gondolas were in staging that day, so no orders got filled. What happens?

**Answer:** Need to clarify...

1. If there is just **one** empty, suitable car, regardless of where that car is on your railroad, that car will be assigned to this loading/traffic.
2. If there are **two or more** empty, suitable cars, the program prioritizes suitable empty cars, according to:
  - a. The car service rules (CSR) for your era (e.g. ownership, car routing orders); and then,
  - b. Closest location to shipper (where "closest" includes being in trains running across the railroad, at that moment); and then, perhaps, more minor criteria such as:
  - c. For example, substitute for car kind or capacity for "railroad convenience".

The point is if there is a car that is even remotely suitable, **anywhere** on the railroad, the program will assign it.

Back to the "one car" case:

If the program finds only **one** empty and suitable car, for this waybill, whether the car is:

- In staging
- At an online customer
- In a storage yard, or other yard,
- Crossing the railroad being home-routed
- Foreign or home road,

It doesn't matter. The program will route the car to the shipping point (whether that is online or in staging). Once the car is there (for example at that shipper in staging), then it is loaded.

An example:

This "assertiveness" of the program is why you can get, in some cases, oddities such as "300 cu ft of electric motors" in an 85-ft, 10,000 cu ft high cube, and even though the 85-footer can't fit in the consignee's spur. Which is why, under "Query", you can transfer a lading from a large car to a smaller car.

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S.2. - Will a car be delivered on the day its car-order is for?

Question: If I have a car-order on Monday, does that mean the car will be delivered on Monday, or that the car will originate from wherever it's coming from on Monday?

Answer: The latter. If the car-order is for "Monday", ProTrak would start the empty on its way on Monday. The empty might take a few hours to a few days to get its loading point.

In reality, the prototype car-order is for "delivery on the day". If the car-order is for Monday, the railroad is supposed to deliver the empty on Monday (not saying that actually happens though. The "bunny food" cars shown on the ProTrak website from last summer took 6 weeks to arrive after ordered day, and they came from all of 65 miles away.)

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S.3. - Why & how does ProTrak route a bad ordered car for a BoL?

**Question:** I have about 250 cars in the system, of which probably 75 are XM. When I ran my first operating session I had two different waybills filled (which is what should have happened). ...I noticed that the two XM cars that were ordered to fill the waybill are bad ordered and home shop for repair. ...If these cars are bad ordered, why didn't the program route them to the shops and fill the waybill with good cars.

**Answer:** The program did (or tried to...).

But when the program cannot find any cars of a high enough quality it will use a lower quality car. If the program uses/assigns a lower quality car, then the program will either send the car to cleaning, or to RIP to be upgraded. Then the car is routed to its loading point. Two examples:

- If the waybill requires an "A" quality car (clean and tight), and there are no clean "A" cars available, the program will look for "X" (non-clean "A") cars. If it finds and assigns a suitable "X", then that car is routed to cleaning. ("X" becomes "A" by cleaning.)
- If the waybill requires an "A" quality car, and there are no "A" cars or "X" cars available, the program will look for "B" cars or "Y" (non-clean "B" cars). If it assigns a suitable "B" or "Y", then that car is routed to RIP to be upgraded to "A".

The bad ordering is something else. Somewhere during previous operations, the car had triggered a hotbox, or the person running ProTrak listed this car as bad-ordered (using Query). The car probably matches the required waybill quality.

The program is sending the car to RIP to be repaired. You can manually "fix" a car by clicking "Transportation/Check Operations Diagnostics" on the ProTrak Standard toolbar and then click the "Repair hotboxes" button. Or just allow the car to be routed through RIP.

As you operate with ProTrak, your railroad develops a "history". This history carries forward and may affect future operations.

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S.4. - What should I do if cars are not getting to on-line customers?

Question: Just to make sure that I understand, you are saying that you update the customer data by clicking in "Edit/Show/Show switching trains" on the ProTrak Standard toolbar, right? How often should we do this? Just once to get everything in sync, or before each session?

Answer: No, "Edit/Show/Show switching trains" will not "update the customer data". "Edit/Show/Show switching trains" does not even touch the customer data. You may think that what you want to do is update the customer data, but...

"If the switching trains are not picking up cars, or setting off cars, and you can see the cars sitting in a yard, then click "Edit/Show/Show switching trains". This rebuilds the file that tells the program which trains serve which customers."

In normal circumstances, you do not have to use this menu option. The program runs this where this is necessary.

However, in recent data that I have seen where (a lot of) customers have been deleted and created, and the data "got messed up", the program error detection cannot deal with such royally messed up data. So, when the program attempts to run the equivalent of "Edit/Show/Show switching trains" behind the scenes, it is forced to abandon the routine, and the switching-train file stays out-of-date.

In that case, the user running "Edit/Show/Show switching trains" will correct the switching trains data file.

If a train has been changed or a customer has been changed, then it will not hurt to click "Edit/Show/Show switching trains". When someone sends me their data, the second thing I do is click "Edit/Show/Show switching trains".

It really, really helps if only a few pieces of data are changed at any one time, and if ordinary care is taken in changing and managing data.

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S.5. - Why do cars assigned to trains change as a session progresses?

**Question-1:** Why are my cars not being sent as soon as the switcher is opened and the YM yard update has been run?

**Answer-1:** The classification routines check "capacities" - as well as finding a routing.

The capacities being checked include industry length and plate, staging track curvature and plate, subdivision car-length, maximum weight and plate, train length for all trains in present routing, ping-ponging, and other items. If an "insufficient capacity" is encountered the car is not assigned to a train (and another routing is looked for) - at that moment.

**Question-2:** Why are they (all of a sudden) placed on the train halfway through the session?

**Answer-2:** ProTrak is a real-time program.

Circumstances changed somewhere on the railroad (cars got picked up from customers, cars got moved on "y" tracks) and the program is taking advantage to advance cars.

**Question-3:** Why are not all of them being delivered if there is room at the customer and in the train?

**Answer-3:** Another "capacity" somewhere. In this case probably "y" track capacity.

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S.6. - Why do car positions in a yard change between sessions?

Question 1: I have two transfer trains that run between the two main yards that repeat as needed throughout the session.At the end of the session, these are the last two trains still in the train lineup window. Regardless of how many cars are assigned to both of these trains, I will run them. I then close the session and run the session update.

Each time I start a new session, there are cars assigned to these trains, sometimes 20 or more cars. Is this normal?

Answer 1: You are running in "session mode", where the number of trains goes down, towards zero, towards the end of the session. This means that the number of trains available to route trains on becomes zero. A non-routed car in a yard (in Yard Operations mode) will be on the "hold track" - i.e. it will **not** be in a class track.

When you run the "Daily Summary" (in "session" mode), all the trains now are available to route a car on. The program will find a route, and "assign" cars to trains. Meaning, by "assign", give the class track the cars should be placed on.

The cars will be on an arrival track, or a hold track; the "instruction" to use is the "Tag" list (the inventory list).

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Oddly, in over 27 years of actual hands-on operating with computer-based lists, I have never noticed this as a problem. I prefer to work a yard, and on (Operations session) start-up it has become second-nature to ask for the Inventory. Then work the hold/arrival to class any leftover cars from the previous session.

I think this is an advantage of actually operating on one's own railroad - things that may appear to be a 'problem' on a computer screen really aren't - "out on the railroad".

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But of course, "Continuous Operations" does away with the arbitrary "session stop to reset". And the whole issue goes away.

Question 2: Regarding the cars at the end of a session, there are no cars left on "hold" or the arrival track as far as my computer/paper session goes. I do classify all of them. I couldn't figure out where all these cars would be located at the end of the session.

Answer 2: I am 100% sure you hit the "Classify button" when you report a train at a yard.

But towards the end of the session, that does **not** mean the cars got classified (placed on a class track). In session-mode, the program uses the available train remaining trains to route cars. No trains, no route. Few trains, lesser chance of being routed ("today").

You can check this at two places (you are using Yard Operations).

1. "Exceptions/Show cars in trains". If a car got classified it will be:
 - assigned to a train if the train is in that yard,
 - but probably as a pickup and it will be on the class track (for the originating block at that yard) for that train.

Better yet:

2. "Yard Operations/List cars in yard". New window. The list that pops up is the list of "Non-routed cars" at that yard. Now click the "Yard Check" button on that window.

- Cars assigned to trains, will be listed as "+for: 123", where 123 is the train symbol, with all cars in destination/block/train order (all the cars for one train are listed, as an originating block, together).
- All other cars are **non-routed**.

Highlight a car on the list. The "Classify" button becomes active. Click "Classify".

- If the car stays as was on the list, it cannot be routed and as far as the program (in Yard Operations mode) is concerned it is in "Hold" (or on an arrival track).
- If the car 'disappears' from the row on the list, it got classified.
- Even better yet:

Out on the railroad... when you print the "cutlist", the list will show "Hold", if the car cannot be classified. And you will see the cars on the "Hold" track(s).

In "Yard Operations" mode, all the cars at a "Yd" yard are in one big pool called "ABC-Yd", by 'public' listed location.

Internally, the program (as above) is either:

- classifying a car to an originating block (for a train), by your "Push to" data;
- or "Holding" cars; or
- leaving the cars on an arrival track (by you clicking "Hold" instead of "Classify").

But a car will show as being at "ABC-Yd" whether it is classified, in hold, or Held" ...in Yard Operations mode.

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### S.7. - How do Staging tracks, Regions and Trains affect car routing?

**Question:** I have multiple staging tracks for the same destination/region. For example, there are 5 staging tracks to Indianapolis, all the same region with five trains destined for them during a session. Each scheduled train is assigned to one staging track.

At Gresham Yard, I have classification tracks for each destination/region. As cars arrive at the yard they are placed on their appropriate class track.

When either a track is full or when a train is arriving to make a pickup, I would expect that any car on that track that is going to that region should be put on that train if there is capacity (I know that there may sometimes be exceptions but it shouldn't be that often).

I have found that cars sitting on all my outbound tracks have been assigned to different trains going to that specific destination/region, and when a switchlist or workorder is printed for a train going to that location, usually there are cars that are not placed on that train even though there is capacity.

As I understand it correctly, the train that these cars are pre-assigned to may be running later in the session but the problem is that these cars start to clog the class track as they build up.

The biggest complaint that I get from yard crews is that cars in the yard destined for a specific location are not being placed on a train heading for that location and the train departs with less than its max capacity. This is also true for the yard transfers.

My question is, can ProTrak leave these cars unassigned to a destination/region until a train is either inbound to the yard for a pickup or a train originating at the yard is called, and a Workorder or switchlist is requested for the train?

**Answer:** If you have multiple trains going to the same destination, and all the trains are classified in a Yd-yard to the same track, then you must manually advance cars to earlier trains (if that is what you want to do).

The program attempts to assign cars to the first train out, but if that train is full then the program tries the second, 3<sup>rd</sup> or 4<sup>th</sup> train. At the beginning of the session, it is likely that the second train will still be in staging and at maximum length. So at the beginning of the session it is probable that cars outbound from the class track will be routed out on the 3<sup>rd</sup> or 4<sup>th</sup> train.

Advancing cars to the earliest train requires a manual command....an Exception. To get cars advanced to the earliest train:

1. On the ProTrak Standard toolbar click on "Exceptions/Show cars in trains" to open the "Listing of all cars assigned to trains";
2. Click the column header (symbol) for the 4<sup>th</sup> train (the last train out). This will advance all cars assigned to the 4<sup>th</sup> train to the earliest train.
3. Repeat this for the 3<sup>rd</sup> and 2<sup>nd</sup> trains, until the present train is at maximum length;
4. There may be cars that are not routed, because all trains were full (over length). Click "Yardmaster/Yard Operations" (which should be open all the time), and click on List/Print all cars in yard. Check under the "Destination" column for cars going to this destination. If there are cars listed, click "Yardmaster/Route cars at Yards and customers". This will route all cars that will "fit" in the earliest train.

Having multiple trains going to the same destination from the same classification track is unusual. It is common to attempt to keep cars out of yards, by bypassing yards down the route as much as possible. If you have sufficient traffic to have 4 complete trains, then this traffic should be classed to the ultimate destination. For example, instead of classing to just Indianapolis (the next yard north), it would be more usual to block (and class) to, for example, Detroit, Chicago (or several of the interchange yards in Chicago) and Cincinnati.

If you have a shortage of class tracks, then you could still class to the one track, but then trim to the individual blocks as the destination train's cut-off time approaches.

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S.8. - How can a RSM car be loaded at only certain customers?

Question: I have been using RSM for a standard meat refers, and RSMS for a Swift meat refers, and RSMA for an Armour meat refers. The icing routine will not work for those type of cars, it must be RS and RS only.

I have been trying to find a way to work around it, but have run into problems. I can change the cars to RS and make them for meat loading only and that cures half of my problem. The other half is keeping the Armour refers from going to the Swift plant for loading and visa-versa. I can make these cars when my return to either Swift or Armour, but then I don't have any place to store them, at either Swift or Armour. The RSM cars after changing to RS could go to either plant.

Your help in making this work would be appreciated.

Answer-1: Put a return to specific customer restriction on the appropriate cars, Joe... Answer yes to the question after you've done it. That will restricts the cars to both loads to OR from the specific customer you're assigning the car to.

Answer-2: This is the "Buffalo Beef" problem, so named because Howard Garner pointed this out to me for that customer on his railroad.

There, the cars directed "empty return to Buffalo Beef" would clog up the spot, as empties, preventing waybilled-cars from getting spotted. The program recognizes this issue, by checking the spot capacity and moving >empty< assigned cars >only close to< the assigned spot. "Close too" means a 'y' track or a Yd on the route on the service train. "Close to" can be far away, it can mean another station.

The empties are placed at the "return spot" (for an online customer) only if waybilled (or if the spot is gy-normous).

So, you should be able to do what is stated in Answer-1 above.

Answer-3: Meat reefers have certain rules (demurrage and cleaning) attached to them in the Car Service Rules. The program follows those rules. Therefore the program identifies a meat reefer following the actual car kind. A meat reefer is a "RAM".

As was mentioned in Answer-1 above, you should assign cars to a customer using the "Return empty" data field and selecting whether this a National or spot-specific assignment.

("National" means loading can be for e.g. "Swift at any spot"; "specific" means e.g. for "Swift only at AAA-12")

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### S.9. - How are empty cars routed including using storage yards?

**Comment:** Here is what is really happening:

1. A (non-waybilled) car, made empty by unloading at a customer, is routed to "999-Yd";
2. When the car is routed to be picked up by a local service train, the routing is changed to the first "Yd" in the service train's route;
3. After the car has been picked up, the car is moved towards that "Yd".

One of four things will now happen:

- a) If the car is a foreign (non-home road car) car, the car is re-routed to its home point (a staging or close to an online customer)
- b) If the car is a home road car (system reporting marks), then it is set off as a "storage" empty;
- c) If the car is assigned a car-order, or CSD, while moving, it is re-routed on the car-order route;
- d) Only if the user has designated a storage yard for the destination "Yd", is the >empty home road< car re-routed to the designated storage yard.

In the case of (d) if the designated storage yard also is a "Yd" >and< has a storage yard assigned, then the car will be routed to the next or second designated storage yard, unless (c) has happened. But this routing is an unnecessary complication and should be avoided (instead, route directly to the final storage yard).

It is important to note that "Yd" yards (in ProTrak) have an infinite capacity. A car routed as in (b) or (d), to a "Yd" yard, will come to a stop at the >first< Yd it comes to.

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S.10. - What causes cars to be returned to their default yard?

Question: A very large number of cars were returning to the default yard. Any idea what we could have done to cause the cars to return to the default yard?

Answer:

1. Empty home road cars, with no car-order assignments;
2. Cars ordered to a customer (siding number) that no longer exists;
3. Cars directed to return empty to staging track that no longer exists;
4. Car directed to NYY01s, CHIC02s, STLM3s or FST-Yd;
5. A deleted staging track;
6. A deleted customer;
7. "Edit/Empty all cars";
8. A car that (model weight) weighs less 0.05 oz;
9. A car with a "" {blank} siding number;
10. A waybill with a non-valid siding number (that got assigned to a customer);
11. A car not at a valid customer (siding number), a valid staging track, or a valid train symbol;
12. A non-valid waybill (for loading car at staging in OV traffic);
13. A car in a Yd yard that is no longer valid;
14. A car assigned to go to "cleaning" and the cleaning siding number no longer exists;
15. A car assigned to go to "RIP" and the RIP siding number no longer exists;
16. A car manually deleted from a train (at "Transportation/Re-Block").

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S.11. - How can you set up a track to store cars?

**Question:** I'm trying to setup a track to store stock cars that is associated with a yard. What do I need to do?

**Answer:** A number of people have done this... so I will just describe what they do.

First, when car has a "return empty to" siding number assigned, the car can be loaded >only< at that siding, and the waybill-origin-siding number must be that siding number.

Second, only 'customers' can have cars delivered or originated.

Here's one way to set up a storage track, from which 'loading' can originate:

1. Set up a customer. In your case, set one of the yard tracks as the 'customer'. The siding number must be a valid customer siding number (not a "y" track). This is the same idea as a rip track, a cleaning track or a hold track at a yard. Just another customer.  
We are going to do the same thing as for "pre-icing".
2. Have the stock cars "return empty to" this customer (the storage track at the yard).
3. You already have loaded movement waybills from the stock-loading customer (let's say customer siding number AAA-12).
4. Set up an empty movement waybill from the customer (the storage track at the yard) to AAA-12. Make the Continuing-in-transit number the waybill for the loaded movement from AAA-12.

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T - Time and Date

T.1. - How do I control the dates on reports and lists?

Question: Could you please explain how the dates on the switchlists and other reports work?

Answer: This is totally under your control.

On the ProTrak Standard toolbar click on "Administration/Era, Date and Minimum Rates" to open the "Era Date & Minimum Rates" window. See the two checkboxes: "Use computer date for month" and "for day".

- The program always uses your "year".
- If you click on "month", the program uses the current date for month.
- If you click on "day", the program uses the current day. Note Comment #3 in the "instruction pane" of this window.

Otherwise the program uses the operating date you select in the "Operating date is" fields of this window. This date stays the same forever.

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T.2. - What is the significance of customer pull times?

**Question:** I am looking at setting up my train schedules in "Scheduling/Train Schedules"; but when I go to "Traffic/Customers" and look at the trains working that customer the pull times have not changed. Is this pull time different than the train schedule?

**Answer:** The pull time is the earliest time the customer can be worked. If the switching train serving that customer:

- a. Leaves the yard serving the customer before the pull time, the car is left at that (the nearest) yard; and/or,
- b. Gets to the customer before the pull time, the car will not be listed on the switchlist to be worked.

The program compares the fast clock time (top center on the "Operations" window) with the pull time when the switchlist is printed or when the "Yardmaster/Route cars at Yards and Customers" runs.

Obviously, for this function to work, the fast clock has to be "on".

- If the clock is "off" all cars are worked regardless of any listed pull time.
- If the pull time is "blank", "00:00", "12:01 am" or "11:59 pm", cars are worked regardless of clock time.

I think you can see that there is no connection between "customer pull time" and "train scheduled time at stations".

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T.3. - How does time pass?

Question: How does time pass? Let's say I run a Monday session and deliver a car to an industry with a 48-hour unloading time. If I then immediately run a Friday session, does ProTrak deduce that 4 days have gone by, the car must be unloaded by now? Or does it instead count each session you run as 24 hours, regardless of which days of the week the sessions are (so if I kept running Monday sessions the third one would have the car unloaded)? (I could be happy with either answer; I'd just like to know which.)

Answer: Mostly the latter. But it ("how does time pass?") depends on whether fast-clock is on or off and whether the time period is longer than 1 day.

1) Days: In "session mode" (which is what is available now), with the clock off, the program counts sessions. One session = 1 day. Doesn't matter which day-of-the-week.

2) Day: In "session mode", with the clock off, "1 session" (= 1 day) is when all the trains with cars have completed.

3) Day: In "session mode", with the clock on, "1 session" (= 1 day) is when all the trains with cars have completed and the fast-clock has turned over 24 hours. (Usually the trains take longer than the 24-hour day.)

4) Months: The program counts the number of sessions per actual month. To convert to "months" (locomotive inspections, for example), the program uses the computer-clock-month divided by "average number of sessions per month" and that becomes 1 month on the model railroad.

- That is, instead of "30 sessions = 1 month", the program scales the month time frame so that, on average, 1 real month = 1 railroad month. That way, if you always operate in 1956 (for example), you will operate through 12 railroad months and the months stay in sync with the computer clock. i.e. April outside = April on the railroad.

~~~For times less than 1 day:

5) If the fastclock is on, the program times everything on the fast-clock time.

6) If the fastclock is OFF (or Paused), fast-clock events are OFF. For example, timed waybill loadings default to 24-hour. Where the program absolutely needs to know the time (for example, train speeds and distances) the program uses the fast-clock ratio.

~~~~~

T.4. - How is the Fast Clock used in ProTrak?

Question: How is the fast clock used in ProTrak?

Answer: The fast-clock is there to synchronize events across the railroad. E.g. suppose you have a yard near each end of the railroad which pass trains to each other; and if the trains leave at the ~same time, congestion at both yards will be minimized. The fast-clock will be a guide to the yard-operators for when they need to have the trains ready to depart – and for the dispatcher when he needs to start each train. Maybe not exactly on the listed time - but at least near the same time.

Thus the "calltime" printed on the train-consist.....

In the program, you can turn the fast-clock "on", "pause" it and "reset" the time. You can operate with the clock "off" and, using the reset, advance the fast-clock manually.

1. If the fast-clock is "on" the calltime on the train-consist is the present time.
2. If the clock is off and the train is at its first location, the call time is the listed (planned) calltime.
3. (A change in next Update)... if the clock is "off" the calltime, shown on the train consist, will be the last reported time. This works best if the fast clock is manually advanced (remember clock is off otherwise "1"... the clock is on, with the actual time).

~~~~~

## U - Passenger Train Operations

U.1. - Can Road Name be used to determine train assignment?

**Question:** I'm having a little bit of trouble determining how to make two express boxcars go to their proper trains. One car is a MP car and the other is ATSF. Both trains, one an MP and the other ATSF, go from the FTW station to the HOU. station. Both cars go from the post office in FTW to the post office in HOU.

How do I make the MP car go in the MP train and the ATSF car go in the ATSF train?

**Answer:** Both trains use exactly the same start and end points, in other words they are identical trains, just different engines and cars.

I would assign both cars to their proper train, so that they stay with the consist at all times ("Transportation/Reblock/Assign a passenger car"). ProTrak would not route either to the post offices in either city. You won't need WB's nor car-orders. You could add a daily order to the yardmaster in both cities, saying to move the cars to the post office. ProTrak would not control them.

~~~~~

U.2. - Are there new load limits on "B" and "M" cars?

Question: I just noticed that all the "B" and "M" cars now have "load limits". When I re-enter the "P" and "specific type" info, the load limit disappears. The "P", "D" and "C" cars continue "not" to have any load limits. Is this something new? .Are you planning to incorporate some new effects for passenger trains??

Answer: Yes, twice over. New, and new effects for baggage and mail cars.

The program now recognizes two "categories" of passenger cars - those that can carry 'stuff' and those that carry only PAX - people... The cars that can carry 'stuff' have load limits ... and eventually the waybills/car-orders will reflect the weight and volume limits. The use of "head end" traffic cars (modern AmTrak) is what is driving this.

~~~~~

## V - Continuous Operations topics

V.1. - How is train data changed in Continuous Operations?

**Question:** When we are in continuous, is there a specific time that we can make changes? Specifically, when can we change data for individual trains?

**Answer:** In "Continuous Operations", changes to a train, that is not running, can be made outside of Operations at any time. A new lineup is formed by the program.

If the train is showing "mvg" in the list of trains, no changes can be saved. I.e. the train has to be at its origin terminal for changes to take effect.

Time of day does not matter.

~~~~~

V.2. - When can customer, waybill and car-order data be changed?

Question: How about adding customers and adding or changing car-orders? Most of this stuff is frozen until the daily summery is run.

If trains are at their final destination, can they be changed?

Answer: Adding waybill and car-orders, from within the "Operating day/session" in Continuous Operations.

Not sure about adding anything that changes the railroad geometry to the Operations menus. For that we can go out of Operations and make the changes there.

~~~~~

## W - Turn Train Topics

W.1. - When is double reporting a turn train at turning point required?

**Question:** When do I really need to double report my turn at its turning point location?

**Answer:**

1. The double-reporting is required only if there are pickups at the turning point which also get setoff at the turning point.

It is "safe" to double report, but seldom necessary (as the condition of internal movement at the turning point seldom happens).

2. For setoffs, the "Yardmaster/Route cars at yards and customers" is needed >only< if there are facing point customers on the return leg \_and\_ the cars for the facing customer(s) are delivered to the turning point Yd or y by \_another\_ train.

For pickups, the "Yardmaster/Route cars at yards and customers" assigns the pickups, when the train is at or after the turning point and before the car's location.

If the facing-point-customer setoff cars are in the train on the outbound leg, there is no need to click "Yardmaster/Route cars at yards and customers". If there are pickups, then there is a need.

~~~

For 1 and 2 above, I would be suggesting that the user examine the train, on-screen. At the reporting window, in the right-hand pane. Then a decision can be made whether to double-report and/or "Yardmaster/Route cars at yards and customers". (I would also be looking at Exceptions/Cars in zone, looking for "route-able" cars.

Some of our experienced ProTrak users like "checklists" of "do this". I prefer to advise folks to think, to go slow and look at what the windows are 'saying'.

3. The latest version (276) of the program adds a "*FP" warning under the "Handling" column, for a car for a "facing-point customer".

~~~~~

## W.2. - How are switchlists and worklists used for turns

**Question:** In general, for training purposes for my crews, how would you teach them to use the four list/reports when they get to the turn?

**Answer-1:** I use a pencil (or pen) a lot while working a switching train... or any train. On the railroad here I have pencil holders spread around the railroad.

1. When I get a train list, the first thing I do is compare the actual standing order of the train with the listed standing order. This can be done on a pull-by as we leave the yard (if you trust car-control and the yard) or by "walking the train" before it leaves.

At this point I may re-block the train, to correct standing order or, if there are cars missing ask for a corrected list. I definitely leave the yard in standing order as the "customer blocking" has been carefully set up to make switching easier.

2. Then, as part of the check, I draw lines across the car-portion of the list, between zones. Helps me visualize the work.

I may even draw lines between spots within a town... as I did with Adam 16 and Adam 10, because ADM had both facing and trailing spurs and the lines separate them for planning runarounds.

3. When I get to the turning point, I compare the pickups listed on the train-list with cars at the spots. Three ways:

- a. compare the "spot list printout" with the "train list". The spot list printout lists all cars on-hand at that zone and is printed 'before the session', or 'after car distribution time'. The spot list printout should be posted on the fascia (simulating the "waybill box" for the zone, or the agent/operator location). The spot list printout will show which cars stay, and which cars are moved (leaving town or moving within the zone).
- b. call car-control and ask. Car-control can look at "Exceptions /Show cars in trains", and if he sees "extra cars" then I know there are more pickups than listed on the train list.
- c. walk the spots, and checking the cars on-spot with the cars listed on the train list "Pickups".
  - - If all the cars there are listed as pickups, then that's that.
  - - If the zone is extensive, then I could (do "a" or "b", or) just switch spot-by-spot
  - less "simulated" walking. {On your railroad, not so 'simulated' walking...}

I work from the in-bound list, picking-up then setting-off (either all at once, or spot-by-spot... depending on the trackage in the zone).

While still working the zone, I ask for an outbound "train list". But as close to "leaving time" as possible, from when >I< think I will be leaving. (This outbound train list may/will be the result of double-reporting – or single-reporting depending on what car-control sees is in-zone or on his "Exceptions /Show cars in trains" report.)

- the issue here is "timed cars". Car-control should know if there are "timed cars" (icing, loading...) by watching "Exceptions /Show cars in zones" (the "Hrs" for each car shows as counting down). If the train crew regularly works the zone/train (yo... Andy!) they will know whether a customer may have a timed car. Either way the train crew (and car-control) will print the outbound list taking into account all the time issues... having talked.

Yes, I use the "train list" to check that I have all the cars, ...and only the cars I should!

- Generally, on your railroad, I would not care about standing order on the way back, because the yard is all about putting cars in order, and the yard can get an "alpha" cutlist (ordered by car initials/number). However:
- if the switching-train is going up/down grades then I definitely block to standing order (the computer has worked out the train dynamics and is telling me where to put the empty hoppers (weighing 2 oz.), or loaded (liveload) hoppers, or combinations of short-long cars.
- if the switching-train has hazmats, or other load restrictions (logs, gravel, flats) then I block to standing order, for the return trip.
- If the train list shows "fcg" listed for a car, I block that "facing point" car at the head end on the way back (Springfield, on your railroad).

With the return/outbound list printed, and the train 'set' I should ask for a "spot list printout", and post it (waybill box, or agent/operator) - especially if there is going to be a later job working the same zone.

**Answer-2:** Here are some basic procedures we use on the GM&O with respect to switchlists/worklists and standing order...

#### Standing Rules for Train and Yard Crews

- Yardmasters have the responsibility of ensuring that blocks of cars being added to a train are in the correct blocking order before working the train's consist.
- If time permits, yardmasters are directed to ensure that each train is switched into the standing order indicated on the outbound switchlist. Otherwise, the conductor is responsible for re-blocking their train as

practical enroute to the next yard to expedite switching. (The goal here is to get trains in and out of yards as quickly as possible!)

- Upon leaving any yard the conductor must do a rolling audit of their train according to the switchlist. Cars need not be in standing order but only need to be accounted for on the switchlist. If the train has no work between yards then standing order need not be maintained (leave that for the next yard to sort out!)

Worklists: I have completely stopped using the worklists here. While they are great for a new operator to get familiar with the paperwork I cut them out in favor of saving paper (we go through about a ream of paper for each session on the GM&O).

We also keep pencils strategically placed around the railroad as well as clipboards for conductors to use for writing purposes (instead of using the benchwork as a desk!).

~~~~~

W.3. - How are cars blocked for facing & trailing point customers?

Comment: Blocking

A car being delivered to a "facing point customer" (a customer whose access switch is a facing-point movement for the present service train) is blocked at the rear of the service train, in blocking-number order. "1" is at the rear (next to the caboose, if used), 2 is next ahead, etc...

Switching

1. For a unidirectional train, a car being delivered to a "facing point customer" is always set off (if within the present switching zone).
2. For a turn, a check is made on train direction and train location. (Assuming the customer is within the present switching-zone):
 - If a "facing point customer" is before the turning point, the car is not setoff;
 - If a "facing point customer" is at the turning point, the car is setoff;
 - If a "facing point customer" is after the turning point, the car is setoff.

~~~~~

W.4. - How is a turn with facing point customers run?

**Comment:** With a turn, with facing point customers, **you must click** "Yardmaster/Route cars at Yards & customers", >when the train is at the turning point< to get pickups at facing point customers assigned to the train.

~~~~~

W.5. - How is Today's Conditions/Switching at customer spurs used?

Question: In Transportation/Today's Operating Conditions, how do most of layout owners set the option "At customer spurs, switching is done by turn"? I thought ProTrak automatically set facing point moves to be on the return leg, but this seems to suggest otherwise.

Answer: This is a global control to turn off switching on the return leg. This may require the conductor to figure out a "run-around solution" on the way up the hill.

~~~~~

## X - Special Situations and Topics

X.1. - How do ferry operations work?

**Question:** What is the proper way to set up ferry operations? Do I need a staging track (virtual) in Port Huron as a connection to the world?

**Answer:** The setup you need is the >exactly< the same as any other situation. Except for the ferry itself. Everything else is the same.

The ferry:

- works between two "Yd" yards, and nothing else works between those Yd yards.
- is a turn, Yd A, then Yd B then back to Yd A (the "yard sidings") - has a number of tracks and each track has a length. That's the ferry's capacity. The other settings are optional.

Over in Port Huron you need destinations: staging tracks and/or customers. A train, or trains work those destinations:

- trains need to go from the Port Huron "Yd" to the staging tracks
- trains need to work the customers.

Waybills/car-order need to direct cars to/from those customers and staging tracks - exactly as with any other staging track or customer.

~~~~~

X.2. - How do Passenger Operations compare to Freight Operations?

Question: At a High Level What are the Difference / Similarities between Passenger and Freight Operations in ProTrak

Answer: There are four differences in passenger operations from freight operations:

1. Passenger operations use "01", rather than "Yd" for the "place" where trains can exchange cars;
2. Passenger trains can work with fixed consists, somewhat like freight unit trains,
3. Passenger operations uses specific car kinds.
4. You need to check for non-desired interactions with freight operations.

Other than that, freight and passenger are the 'same'. Waybills, car-orders, local-service trains and road trains.

~~~

First, on (4). This is mostly about the 'accident' of having a freight local service train work the same spot as a passenger local service train does. Generally you do not want that, as it creates a 'leak' (of cars) between freight and passenger. The program has a routine to check for "Interactions"... see: "Help/Check Passenger Traffic"; this will find any interactions.

~~~

On (1). Instead of "Yd" yards, passenger traffic has "01" passenger stations. You set up a passenger station, say "AAA-01", as customer, and have passenger trains report at this location. If two passenger trains work the same "01", they may exchange cars there.

As with a "Yd", an "01" is a location with infinite capacity. Any number of cars can be spotted, or stored, there.

An "01" is **not (just)** the short length of track in front of the station building. An "01" passenger station could have 2, 4 or 10 long tracks... all locations where cars could be placed with the car-location siding number "AAA-01". >Just like a Yd yard<.

~~~

On (2). Passenger trains can have cars permanently assigned. This is done at "Transportation/Re-block trains between sessions/Assign cars to a Passenger train". Passenger cars assigned here have their "unloading time set to "-24 hours", which tells the program to not setoff these cars.

As well,

- any number of other cars can be routed on the same passenger train that has cars permanently assigned. This routing happens in the same way that routing happens for freight cars.
- You have customers.
- There are spots/customers worked by a passenger-local-service train. This makes this customer a 'passenger customer'.
- The car is routed based on the waybill origin and destination, and the train "routes".

Having cars assigned a waybill can happen in two ways, both of which are identical to the "freight" traffic methods:

1) Use the CIT feature on waybills. Create passenger waybills that reference each other. Assign a car one of the waybills.

Or:

- 2) You create waybills that start or terminate at a passenger customer.
- Create car-orders, that call the waybills
  - The Daily Summary invokes the car-order and assigns the waybill to a car (if it can find a suitable car)
  - A car assigned a waybill is routed based on the waybill origin and destination siding number, and the train reporting locations. (Exactly like freight traffic.)

~~~

I need to mention... the passenger and freight routines are separate in the program.

~~~

Only certain car kinds are recognized as passenger cars, usually by first letter only. The AAR standard kinds are used:

- any "B" baggage car
- any "C" coach
- any "D" diner
- any "E"
- any "M" mail car which is not a MW maintenance of way
- any "P" passenger car

If you select the car kind from the right hand data pane (the built-in data) you will be fine.

~~~

Summary.

Passenger traffic is much like freight traffic in its logic. Just use "01" passenger stations in place of "Yd" yards.

~~~~~

## Index

### A

AAR Car Codes..... L-83  
Active staging .....L-135  
Adjacent zone switching ..... L-55  
Alternate symbol .....L-64, L-66, L-130

### B

Backing up data ..... L-10  
Bad order ..... L-92  
Bad ordered cars .....L-185  
Blocking in a train ..... L-52, L-53  
Branch line ..... L-22

### C

Car blocking ..... L-52, L-53  
Car kind ..... L-84, L-85, L-101, L-102  
Car length ..... L-76, L-109, L-135  
Car service directive ..... L-91  
Car weight.....L-76, L-77, L-88  
Car-order.... L-97, L-98, L-99, L-105, L-106, L-185  
Bad order ..... L-39  
Changing train ..... L-70  
Clean out track . L-37, L-41, L-42, L-43  
Cleaning track.....See Clean out track  
Continuing in transit..... L-103, L-109  
Customer capacity ..... L-32  
Customers ..... L-25  
Cutlist .....L-158, L-162, L-164, L-172

### D

Data backup ..... L-10, L-18  
Double track ..... L-23  
Default yard ..... L-20  
Deleting a train ..... L-66

Demurrage free time..... L-33  
Demurrage time.See Demurrage free time  
Double reporting.. L-166, L-167, L-200

### E

Embargoed ..... L-35  
Extra train ..... L-61, L-64

### F

Facing point switch .....  
..... L-29, L-31, L-203, L-204  
Fill to load .....L-108

### H

Hazardous material ..... L-96  
Hotbox ..... L-90, L-92

### I

Icing track ..... L-39  
Idler car ..... L-89, L-94  
Importing car data ..... L-75  
Inside length ..... L-109, L-113  
Interchange track ..... L-44, L-45, L-46

### J

Job extra ..... L-64, L-65

### L

Largest minimum radius ..... L-20  
Line-up..... L-47, L-49, L-68, L-69  
Line-up of trains ..... *See* Line-up  
Liveload..... L-88, L-100, L-106  
Load, removable ..... *See* Liveload  
Loading/Unloading time..... L-33  
Local customer switching..... L-55  
Long lists..... L-14

Lost data ..... L-10

## **M**

Milepost ..... L-21

Minimum radius ..... L-20

Multiple SPOTs..... L-24, L-27

## **N**

Not in service..... L-77

## **O**

Off line customer ..... L-25

Overhead traffic..... L-131, L-132

## **P**

Paired sidings ..... L-28

Private owner ..... L-72

## **R**

Region ..... L-126, L-189

Removable load ..... *See* Liveload

Reporting point..... L-47, L-53, L-55

Reporting prior to printing switchlist  
.....L-168

RIP track ..... L-42

## **S**

Scheduling..... L-57

Siding capacity..... L-32

Siding name/commodity ..... L-28

SPOT or ZTS (Zone/Track/Spot)  
Code Formats (W) ..... L-25

SPOTs, multiple ..... L-24, L-27

Second section ..... L-64

Spot length..... L-24

Staging track ..... L-46

Staging track .....  
.... L-121, L-122, L-123, L-126, L-189

Standard Transportation Commodity  
Code..... *See* STCC

Station numbers ..... L-21

STCC..... L-95, L-96

String diagram..... L-21, L-63

Subdivision ..... L-22

Switching zone..... L-52

Switchlist..... L-156, L-163, L-201

System road ..... L-72, L-74

## **T**

Targeted Waybill.....L-116

Timetable ..... L-57

Trailing point switch..... L-29, L-31

Train consist list.....L-163

Train direction ..... L-60, L-67

Train jobs..... L-69

Train length limit.....  
..... L-49, L-50, L-51, L-62

Train symbol/number ..... L-70

Train class..... L-63

Team track..... L-35

Train schedule ..... L-71

## **U**

UMLER Car Codes ..... L-83

Update ..... L-15, L-18

## **W**

Waybill .....L-97, L-99, L-106

Weigh scales .....L-82, L-175

Worklist.....L-201

Workorder ..... L-156, L-164

## **Y**

y track.....  
L-47, L-55, L-57, L-180, L-181, L-183

Yard blocking..... L-23