

Chapter 8 – Setting Up Waybills and Car-orders

In this chapter, we're going to set up waybills and car-orders so that we can finally getting cars moving on the railroad. Before we start to set up the waybills and car-orders, we need to make sure we understand the meanings of three terms:

- A bill-of-lading is a piece of paper that states what the load is, where it originates at, what the destination is and what the charges are.
- A waybill includes this information but also has the car initials and number ⁽¹⁾.
- A car-order is an order from a customer for a certain number cars of a certain type on a certain day.

As explained in The Recipe Book, using car-orders in addition to waybills may seem like a bit of an "extra step", but there are a number of reasons for this:

- This is the prototype practice of how customers orders cars – the quantity of cars, the car type and the car capacity.
- Using explicitly stated car-orders gives you control over your traffic and removes the "dice throwing" element that is often part of operations software.
- Car-orders allow you to model day-of-the-week changes in traffic levels.

One more item to note: ProTrak reserves the first 20 waybills for its own use. Waybills 1, 2, 3 and 18 are used for locomotive fuel and sand. Waybills 4 to 12 are for the user defined Car Service Directives (more on that later) and waybills 13 to 17, 19 and 20 are used for track maintenance loads. It is important to keep this in mind if you do any sorting of waybills. Since the first 20 waybills are special and ProTrak always leaves them in their assigned place excluding them from any sort.

Quick Traffic

In this chapter, we are going to set up waybills and car-orders, so to understand the process, please follow along. When you set up your own railroad, Jim Moir has put in place a method of generating traffic, both the on-line customers and staging-to-staging or overhead traffic to make the start-up task easier. The process to create the quick traffic is detailed in Appendix I. In order for us to

¹ In ProTrak, technically we create bills-of-lading and car-orders only and allow ProTrak to generate the waybills. In reality, in model railroading, the terms waybill and bill-of-lading are used interchangeably and for simplicity and consistency purposes, we'll always use the term waybill in our discussions

understand the process however, we'll do things the 'long way' – select and/or enter every item required on each waybill and each car-order.

Offline Shippers

Now that we've got those items out of the way, let's set up some waybills.

We've currently got two customers at Berwick - North Star Engineered Lumber (NSEL for short) and Wilson & Sons Scrap Metal (Wilson's for short). Both of these industries need either to have something shipped to them (in the case of NSEL they need OSB (oriented strand board), lumber and adhesive) or to have a destination for their loads. In our demonstration railroad, the 'customers' that will fill these needs are located 'somewhere else' – in other words, an offline industry which will be accessed through the staging yards. Later we'll set up things to ship goods from one online industry to another.

In the section of The Recipe Book where customers are discussed, there is a section on Offline Industries. While the Recipe Book indicates that this section is optional, we will discuss how the use of offline industries enhances realism on a model railroad. When you look at the list of offline customers that comes with ProTrak you will see that a very substantial number of offline industries are already defined. On your own railroad, you may find that you need to define an offline industry, but I suspect that you will find there is probably one already defined in ProTrak that will suit your needs. Let's take a quick look at the list of offline customers.

1. From the ProTrak toolbar, click on "Traffic" then select "Offline Shippers & consignees" from the dropdown list. Figure 8-1 shows this window.

Offline Shippers & Consignees					
No.	Firm Name	City/State	Plant Name	Primary Commodity	Railroad
10	Anglo-America Clays				STLM3s
11	Arthur Farmers EVCo				
12	BASF Wyandotte				
13	Bay State Milling				
14	Shurtleff				
15	Worthington Creamery				
16	J.M. Huber	,GA		clay	SR
17	Mazda	,MI		cars;steel	GTW
18	International Milling	,MN		flour	
19	Canada Packers	Calgary, AB		boxed beef	C&NE
20	Cominco	Calgary, AB		muriate of potash	CN
21	Chipman ICI	Calgary, AB		fertilizer	CP
22	Safeway Foods	Calgary, AB		food warehouse	CP
23	Canada Malting Co	Calgary, AB		malt	CP
24	Haines-Robinson	Calgary, AB		plastic pellets	CP
25	Dupont Canada	Edmonton, AB		hydrogen peroxide	CN
26	Gainers	Edmonton, AB		meat packer, pork	CN
27	Neste Oy	Edmonton, AB		methyl butyl ether	CN
28	Hood's Peat Moss	Edmonton, AB		sphagnum peat moss	CN
29	Procor	Edmonton, AB		tank car cleaning	CP
30	Sheritt, Inc	Milwaukee, WI		fertilizer, oil, gas	CN
31	B.F. Goodrich, Scottf	Ft Saskatchewan, AB		resins, vinyl	CN
32	Canfor	Grande Prairie, AB		lumber	CN
33	Cargill Ltd	High River, AB		beef packer	CP
34	Occidental Petroleum	Ram River, AB		sulphur	BN
35	Esso Chemical	Redwater, AB		ammonium phosphate	CN
36	Alberta Newsprint	Whitecourt, AB		newsprint	CN

Figure 8-1

As is evident by the windows 'movement handle' at the right side of the window, this list is quite large. I've just given you a sample of the list here.

As we discussed a couple of paragraphs ago, we need to have four types of offline industries – one type to ship lumber and OSB, one type to ship adhesives, one type to receive the finished joists and a final type to receive scrap metal. Let's find a possible OSB supplier for NSEL as well as a possible recipient of NSEL's finished product.

- Click on the **column heading** marked "Primary Commodity". This will sort the list in alphabetical order by commodity. Since plywood and OSB are similar we can assume that a company that produces plywood also produces OSB. Scroll down on the list until you see "plywood" in the "Primary Commodity" column. You should see an entry for Georgia Pacific (its line 857 on my screen). That is a possible supplier of the OSB for NSEL.
- Scroll back up the window until you see "lumber"⁽²⁾ and you will see an entry for "Ryan Homes Co" (line 169 on my screen). That could be a destination for the joists produced by NSEL.

² In some cases you may see the word "lumber" preceded by a semi-colon (;). This simply indicates that there used to be a different commodity listed here previously. Since ProTrak sorts

4. We can do the same thing for the dimensional lumber (2x4s, etc) as well as for the adhesive material that NSEL requires. Similarly, we can find a steel plant that will accept the scrap metal shipped by Wilsons. We won't belabor the point; however you can search these out if you want.

The object of doing these searches was to show you just how many industries there are in the list of off-line shippers, and to show that in all likelihood, anything you want to receive or anything you want to ship can be accommodated using the provided data.

Let's go ahead and create a waybill to get OSB shipped to NSEL. Before we do that, however, click on "Close" to close the "Offline Shippers & Consignees" window as we'll use different methods when we actually reach the point where we need to use an off-line industry.

Waybills

1. To create or edit a waybill, on the ProTrak toolbar, click on "Traffic" and select "Bills of Lading and Waybills" from the dropdown list. Figure 8-2 shows what you should see. (A larger version of Figure 8-2 is in Appendix C).

Bill of Lading/Waybills, showing: 72 available, of: 72 total

#	Nxt	Kind	Commodity	Wgt	Tra...	Freq'y	Shipper/City	Shpr Siding	Consignee/City	Csgn Siding
1		T	diesel fuel	4	in		/	NYC01s	fuel track/	FST-Yd
2		LQ	sand, traction	mt	in		Kraft Sand Dune/Lewes, DE	NYC01s	Engine terminal/First Statio	FST-14
13			ties, rr, creos	34	local		/		/	
14			rail bonds	68	local		/		/	
15			rail	68	local		/		/	
16			empty	mt	local		/		/	
17			empty	mt	local		/		/	
18		HM	steam coal	5	in		/	NYC01s	coal track/	FST-Yd
19			empty	mt	local		/		/	
20			empty	mt	**OV		/	NYC01s	/	NEW04s
21		T112J	propane	61	out	1/2	Country Propane/First Statio	FST16a	Team track/First Statio	STL03s
22		HT	gravel	35	in	always	Anderson Bros./Johnson, VT	NYC01s	Team track/First Statio	FST-14
23		HM	gravel	47	in	always	Hagersville Qua/Hagersville,	CHI02s	Bonnechere Feed/First Statio	FST-14
24		HM	gravel	52	in	always	Canada Crushed/Dundas	NYC01s	Bonnechere Feed/First Statio	FST-14
51		T111	clay slurry	64	in	always	Anglo-American/Sandersville	STL03s	Tennessee Pulp/Second Stati	ACT-11
52		T112J	LPG	35	in	always	Koppers Co/Dubois, PA	CHI02s	Country Propane/First Statio	FST16a

Change Bill Of Lading Clear Special Waybills Check/Correct Rates

Figure 8-2

2. Some words of explanation about some of the information on the window are in order.
 - a. The column headed "Traffic" shows:
 - "in" for traffic from staging to an online customer
 - "out" for traffic from an online customer to staging

in strict alpha-numeric order, there may be two groups of entries for lumber – as is the case on my screen – one preceded with the semi-colon and the other without the leading semi-colon.

- "local" for traffic from an online customer to another online customer.
 - "***OV" (overhead) for staging to staging traffic.
- b. The column headed Freq'y is the frequency of shipment – always means every day, 1/x means once in 'x' days.
 - c. The button "Check/Correct Rates" sets the rates on all waybills to allow waybills to be "always used" ⁽³⁾.
 - d. You can see which waybills are in use in car-orders by clicking on "Edit" on the ProTrak toolbar, then choosing "Show" and then "Show waybills assigned to customers" from the dropdown lists.
3. Let's actually work on a waybill. We'll be adjusting the shipper, the consignee, the type of car required, the load/commodity and the shipping options. Double-click on waybill 21 (remember waybills 1 to 20 are reserved). Figure 8-3 shows what the window should look like. Note that the shipper and consignee data fields in your window may differ from what is shown here.

³ It is possible to set waybill rates high or low enough that the waybill is only used occasionally. This function is used to provide for occasional use of waybills and variety in traffic.

Uniform Bill of Lading. Not Negotiable: 21 of: 72 available, of: 72 total

Shipper city	First Station
company	Country Propane
siding number	FST16a
Consignee city	First Station
company	Team track
siding number	STL03s

Load/Commodity	propane	STCC	29 121 11
Ordered car kind	T112J		
Scaled weight	62.0	tons	
Volume:	2952	gallons	

Perishable handling

Ship during months JFMAMJJASOND

Charges \$ 545.57 @ 0.44 /cwt @ 100 % division

Make this shipment One session in 2

Shippers routing via connections

Loaded car will be offline until tomorrow

Continuing in transit 0

☐ Test for possible cars for this shipment

Manual Data Entry

☐ Show online data

Cancel Save Save and Close

Figure 8-3

4. If you notice in Figure 8-3, the right-hand panel is blank with a grey background with the exception of the statement "Manual Data Entry". If the right-hand panel already has data in it go to step 6.
5. Since we want to use the online station data we've already entered, we need to check the box at the bottom of the right-hand panel which is labeled "Show online data". The right-hand panel should now have a white background and may actually have data displayed (see Figure 8-4). Don't worry if there is no data in the right hand panel, data will appear as we click on various data fields.

6

Uniform Bill of Lading, Not Negotiable: 21 of: 72 available, of: 72 total

Shipper city: First Station
 company: Country Propane
 siding number: FST16a
 Consignee city: First Station
 company: Team track
 siding number: STLM3s

Load/Commodity: propane STCC: 29 121 11
 Ordered car kind: T112J
 Scaled weight: 62.0 tons
 Volume: 2952 gallons

Perishable handling
 Ship during months: JFMAMJJASOND

Charges \$ 545.57 @ 0.44 /cwt @ 100 % division
 Make this shipment: One session in 2

Shippers routing: via connections
 Loaded car will be offline until: tomorrow
 Continuing in transit: 0

☒ Test for possible cars for this shipment

All stations on PRO

###	Stations	Zone
1	East Staging	EAS
2	Castle Rock	CAS
3	JT Junction	JTJ
4	Berwick	BER
5	Actonvale	ACT
6	West Staging	WST

☒ Uncheck for Manual Data Entry

Cancel Save Save and Close

Figure 8-4

- Click on the "Shipper company" data field (tt) and you'll see that the right-hand panel now has an abbreviated list of all shippers with the online shippers shown first followed by the offline shippers (see Figure 8-5). Note that the offline shippers in your list may vary from what is shown in Figure 8-5, depending on what original version of ProTrak you have.

Uniform Bill of Lading, Not Negotiable: 21 of: 72 available, of: 72 total

Shipper city: First Station
 company: Country Propane
 siding number: FST16a

Consignee city: First Station
 company: Team track
 siding number: STL03s

Load/Commodity: propane STCC: 2912111
 Ordered car kind: T112J
 Scaled weight: 62.0 tons
 Volume: 2952 gallons

Perishable handling
 Ship during months: JFMAMJASOND

Charges \$ 545.57 @ 0.44 /cwt @ 100 % division
 Make this shipment: One session in 2

Shippers routing: via connections
 Loaded car will be offline until: tomorrow
 Continuing in transit: 0

☐ Test for possible cars for this shipment

ProTrak Industries (All states)

###	Spot	Firm	City
3	ACT-14	Team track	Actonvale
4	ACT17a	Twin State F	Actonvale
5	ACT17b	Twin State F	platform loa
7	BER-11	Wilson & Son	Berwick
8	BER-10	North Star E	Berwick
10	STLM3s	Anglo-Americ	
11		Arthur Farn	
12		BASF Wyandot	
13		Bay State Mi	
14		Shurtleff	
15		Worthington	
16		J.M. Huber	.GA
17		Mazda	.MI
18		Internationa	.MN
19		Canada Packe	Calgary, AB
20		Cominco	Calgary, AB
21		Chipman ICI	Calgary, AB
22		Safeway Food	Calgary, AB
23		Canada Malt	Calgary, AB
24		Haines-Robin	Calgary, AB
25		Dupont Canad	Edmonton, AB
26		Gainers	Edmonton, AB
27		Neste Oy	Edmonton, AB

Show ☒ by Commodity ☐ by State
☒ Uncheck for Manual Data Entry

Cancel Save Save and Close

Figure 8-5

7. Click on the "Show ... by Commodity" radio button. You will see the window shown in Figure 8-6 pop up. Type "lumb"⁽⁴⁾ in the "Commodity shipped by industry" data field then click on "OK".

Commodity or STCC?

Commodity shipped by industry >

Cancel OK

Figure 8-6

8. The right-hand panel should now show a number of entries where "lumber" or ";lumber" are shown as the commodity (See Figure 8-7). You should also note that these entries are ordered in state/province order then in city order within the state/province. From the list we'll select Simpson Timber in Korbel, CA by double-clicking on that entry (it's

⁴ Use the least amount of characters that you can to locate the commodity.

the 10th entry in my version). Note that the "Shipper city" (tt) data field has also been updated to show "Korbel, CA".

Uniform Bill of Lading: Not Negotiable: 21 of: 72

Shipper city: Korbel, CA
 company: Simpson Timber Co
 siding number: FST16a
 Consignee city: First Station
 company: Team track
 siding number: STL03s

Load/Commodity: propane STCC: 29 121 11
 Ordered car kind: T112J
 Scaled weight: 62.0 tons
 Volume: 2952 gallons

Perishable handling
 Ship during months: JFMAMJJASOND

Charges \$ 545.57 @ 0.44 /cwt @ 100 % division
 Make this shipment: One session in 2

Shippers routing: via connections
 Loaded car will be offline until: tomorrow
 Continuing in transit: 0

☐ Test for possible cars for this shipment

ProTrak Industries by: lum

###	Firm	City	Commod
32	Canfor	Grande Prair	lumber
41	Jachin Lumbe	Jachin, AL	lumber
49	Georgia Paci	Crossett, AR	lumber, p
58	CAPTAN; Toyot	Delta, BC	alum. wr
60	Crowsnest Fo	Elko, BC	lumber
73	Northwood Mi	Prince Georg	lumber
75	West Fraser	Quesnel, BC	lumber
77	Ainsworth	Savona, BC	lumber
84	West Fraser	Vancouver, B	lumber
89	Collins Pine	Chester, CA	lumber
96	Simpson Timb	Korbel, CA	lumber
110	Coors Brewer	Golden, CO	aluminum
123	Builders Sup	Jewett City,	lumber
125	Landon Lumbe	Madison, CT	lumber
126	OC Lounsbury	N Willamanti	lumber tr
131	Windham Lumb	South Windha	lumber tr
140	Georgia Paci	Cross City,	woodchi
170	Bennett Lumb	Princeton, I	lumber
173	Nu-Way Distr	Aurora, IL	lumber tr
176	Transbulk Di	Chicago, IL	lumber tr
191	Northlake Re	Northlake, I	lumber tr
245	Quaboag Tran	Bondsville,	lumber tr
258	Cohenno Truc	Stoughton, M	lumber X

Show ☐ Customer
☒ Uncheck for Manual Data Entry

Cancel Save Save and Close

Figure 8-7

9. Note that as soon as we make changes to any data field, the label for the radio button at the bottom of the left hand panel ("Test for possible cars for this shipment") is disabled (grayed out).
10. Click on the "Shipper siding number" (tt) data field. We'll assume that the dimensional lumber produced by Simpson Timber gets routed through St. Louis on its way to NSEL. From the list in the right-hand panel, double-click on the 3rd entry – "STL03s St. Louis, MO". This is one of the staging tracks that we set up earlier.
11. Click on the "Consignee company" (tt) data field and from the right-hand panel, double-click on "BER-10 North Star". Note that since this is an online customer, in addition to the "Consignee company"(tt) data field both the "Consignee city" (tt) and "Consignee siding number" (tt) data fields have been updated automatically.
12. Next we need to set up the commodity details. Click on the "Load/Commodity" (tt) data field. Scroll down in the list in the right-hand

panel until you find "dimensional lumber" – this should be about line 548. Double-click on the "dimensional lumber" entry to select it.

13. You will note that in addition to the "Load/Commodity" data field being changed, so are the "STCC" (tt), "Scaled weight" (tt) and "Volume" (tt) data fields ⁽⁵⁾.
14. At this point, something doesn't look right. We've set the commodity to dimensional lumber, yet the "Volume" data field shows "33616 gallons". Obviously dimensional lumber doesn't come in gallons so the volume designation of gallons must be related to the "Ordered car kind" field. Click on the "Ordered car kind" (tt) data field and you should see a list of car types appear in the right hand panel. We'll ship the dimensional lumber on center-beam flat cars. As you can see from the list in the right-hand panel "FBC" doesn't appear, however if you remember from setting up the cars, if you first double-click on "FB" then click on the "Show ... Specific" radio button at the bottom of the right hand panel all of the "F" car variations will appear. From the list, double-click on "FBC".
15. At this point, you will notice that the "Volume" label and data field have been removed since they are no longer applicable and that two new data fields – "Liveload" (beside the "Scaled weight" data field) and "Inside Length" (below where the "Volume" label and data field were) - have appeared. Figure 8-8 shows these fields.

The "Scaled weight" item is one that needs a great deal of discussion – more than we can undertake at this time. The subject of weighing and filling a car will be dealt with in Appendix M which will be published later. For now we'll leave the "Scaled weight" data field as is.

⁵ When it comes to the volume and scaled weight data fields, it is Jim Moir's recommendation that you use one or the other but not both. From Jim: "I usually tell the user to enter reasonable 'tons' and check 'volume'." If when you go to save a changed record you get a "Volume and weight don't match" error message, this is likely the cause. Delete one or the other of the fields and allow the system to adjust it based upon the other field.

Uniform Bill of Lading: Not Negotiable: 21 of: 72

Shipper city: Korbel, CA
 company: Simpson Timber Co
 siding number: STL03s
 Consignee city: Berwick
 company: North Star Eng. Lmbr
 siding number: BER-10

Load/Commodity: dimensional lumber STCC 24 219 19
 Ordered car kind: FBC
 Scaled weight: 63.0 tons Liveload: 0.0 oz
 Inside Length: 20 ft
 Perishable handling
 Ship during months: JFMAMJJASOND
 Charges \$ 554.68 @ 0.44 /cwt @ 100 % division
 Make this shipment: One session in 2
 Shippers routing: via connections
 Demurrage free time: tomorrow
 Continuing in transit: 0
☐ Test for possible cars for this shipment

All stations on PRO

###	Stations	Zone
1	East Staging	EAS
2	Castle Rock	CAS
3	JT Junction	JTJ
4	Berwick	BER
5	Actonvale	ACT
6	West Staging	WST

Show ☐ in Staging ☐ by Cities
☒ Uncheck for Manual Data Entry
 Cancel Save Save and Close

Figure 8-8

16. "Liveload" is the actual weight of any load that you may have in this car⁽⁶⁾. ProTrak uses the total weight of the car plus the weight of the load to determine its resistance and therefore it's potential for any stringlining⁽⁷⁾. For example, if you had a gondola weighing 3.1 oz and a plaster casting of a load of gravel, say, which weighs 5.6 oz, the program uses the weight of the two ($3.1 + 5.6 = 8.7$) in determining the car's resistance. For now we'll leave the "Liveload" data field set at "0.0". Note that the "Liveload" data field will only appear for open cars – open hoppers, gondolas, flat cars, etc. since it is difficult to add a weighted load to an enclosed car – a box car for example.
17. "Inside Length" for bulkhead flatcars is the distance, inside, between the two bulkheads. This data field reflects the minimum length bulkhead flat car that we want used with this waybill. Since the FBC cars we've entered in Chapter 6 are 80 feet long, we'll use the dropdown arrow

⁶ See Appendix A for a definition and more information on 'liveload'.

⁷ See Appendix A for a definition of 'stringlining'.

beside the "Inside length" (tt) data field to select "60 ft" – the maximum size in the list.

18. Another thing to note is that the "Perishable handling" data field and label may have disappeared as soon as you left the "Ordered car kind" data field. It is extremely unlikely that an open car (a flat car for example) will ever be used to handle perishable goods.
19. We'll leave the "Ship during months" (tt) data field unchanged at "JFMAMJJASOND" as this plant runs year round. (The letters JFMAMJJASOND", of course, represents the first letter of each of the 12 months).
20. The two data fields associated with "Charges" (tt) will also be ignored at this point. This is an advanced feature which allows you to track the costs and earnings (hypothetically, at least) and try to 'tweak' things to make your railroad as 'profitable' as possible. Many users never bother with this as they just want to run trains!
21. Click on the "Make this shipment" (tt) data field arrow and change it to "Every time ordered".
22. The last three data fields – "Shippers routing" (tt), "Demurrage free time" (tt) and "Continuing in transit" (tt) ⁽⁸⁾ - will also be left as is. Your window should now look like Figure 8-9. As always, the data in the right-hand panel may be different depending on which data field your cursor is in.

⁸ This data field is typically used with unit trains. Two waybills are created – an empty and a loaded and the "Continuing in transit" of the two waybills are assigned to each other. Cars in the unit train are alternately assigned to the load and empty waybills as the train reaches its origin/destination and is loaded/unloaded.

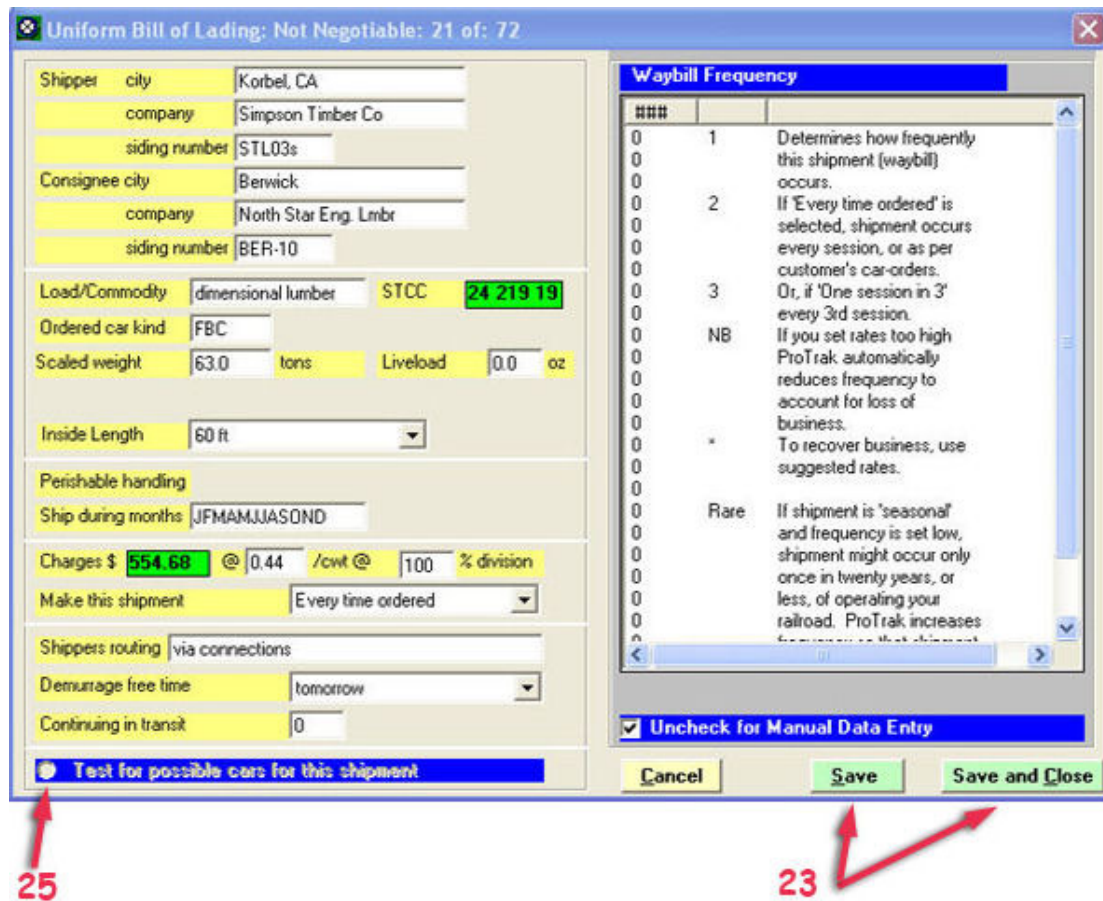


Figure 8-9

23. Look at the very bottom of the window. As you can see, there is both a "Save" and a "Save and Close" button on the right-hand side of the window. As we noted in step 13, the "Test for..." radio button at the bottom of the left hand panel is disabled as soon as we change any data field. If you click on the "Save" button, the data will be saved but you will be left in the current window. Once the data has been saved, the "Test for..." radio button becomes enabled again. Clicking on "Save and Close" on the other hand, saves the data, closes the "Uniform Bill of Lading: Not Negotiable: 21 of 73" edit window and returns you to the "Bills of Lading/Waybills" window.

24. Click on the "Save" button ⁽⁹⁾. The "Test for..." radio button is now enabled and we can perform that test.

⁹ If you receive the "Volume and weight don't match" error message, go back and review the footnote to the "Volume" and "Scaled weight" data fields earlier in this section.

25. At this point you may see a window like the one in Figure 8-10. If you do, and since we will be creating our own car-orders, we'll click on "No" and you'll be returned to the "Uniform Bill of Lading..." window.

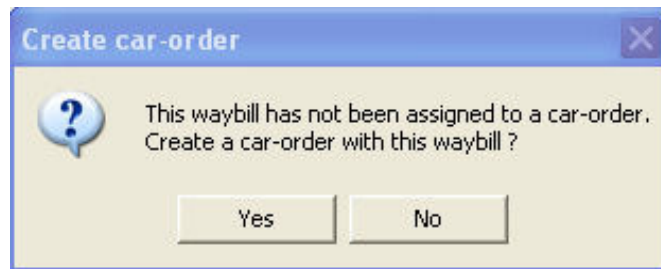


Figure 8-10

26. Click on the "Test for..." radio button, and in the left-hand panel you should see the two FBC cars – BCIT 873075 and SSAM 38710 – that we set up in Chapter 7 ⁽¹⁰⁾.
27. When you have checked to see that all the data in the left hand panel is correct and that the two FBC cars appear in the right-hand panel, click on "Save and Close".
28. At this point you'll be returned to the "Bills of Lading/Waybills" window.

¹⁰ When entering your own data, if for some reason no cars show in the right-hand panel even though you know there should be cars shown, check the "weight capacity" and "volume" of the cars themselves. With boxcars, especially, check the volume. For 40' boxcars, the volume should be in the neighborhood of 2700 cu ft. When entering waybills for these boxcars, the volume should be somewhat less. Other cars will have proportionally larger or smaller volumes. Note that if you adjust the waybill volume you will get a popup window asking "Correct the weight to match the volume". Click on "Yes" and the label for the "Scaled weight" data field is changed to read "Fill to load".

Figure 8-11 shows what the “Bills of Lading/Waybills” window should look like at this point.

Bill of Lading/Waybills, showing: 72 available, of: 72 total										
#	Nxt	Kind	Commodity	Wgt	Traf...	Freq'y	Shipper/City	Shpr Sid...	Consignee/City	Csgn Siding
1		T	diesel fuel	4	in		/	NYC01s	fuel track/	FST-Yd
2		LO	sand, traction	mt	in		Kraft Sand Dune/Lewes, DE	NYC01s	Engine terminal/First Statio	FST-14
13			ties, rr, creos	34	local		/		/	
14			rail bonds	68	local		/		/	
15			rail	68	local		/		/	
16			empty	mt	local		/		/	
17			empty	mt	local		/		/	
18		HM	steam coal	5	in		/	NYC01s	coal track/	FST-Yd
19			empty	mt	local		/		/	
20			empty	mt	**OV		/	NYC01s	/	NEW04s
21		FBC	dimensional lumber	63	in	always	Simpson Timber/Korbel, CA	STL03s	North Star Eng./Berwick	BER-10
22		HT	gravel	35	in	always	Anderson Bros./Johnson, VT	NYC01s	Team track/First Statio	FST-14
23		HM	gravel	47	in	always	Hagersville Qua/Hagersville,	CHI02s	Bonnechere Feed/First Statio	FST-14

Figure 8-11

The Recipe Book has the following comments about waybills:

- Each customer should have at least 2 waybills ⁽¹¹⁾;
- Each car kind should have at least 2 waybills.

so we need to go in and make changes to at least 10 more waybills:

For North Star:

- 1 additional for the dimensional lumber (2x4)s;
- 2 for the OSB;
- 3 for the shipment of the finished joists;
- 2 for the adhesive – every third day;

For Wilsons:

- 2 for scrap metal.

Table 4 of Appendix B has a list of all of the waybill changes we’ll be making to create the ten waybills. Where the table has “****” shown for the value of a data field, it will be updated automatically by one of the other fields so you don’t need to enter anything in that field.

Using the data in Table 4, change Waybill 22 using the process shown in steps 6 through 26 but substituting the information from Table 4. After making the changes, clicking on the “Test for...” button should show the same cars as listed in step 29. Once you’ve made changes to Waybill 22, have clicked on “Save and Close” and have answered “No” if asked about creating a car-order you are

¹¹ If there are un-intended or un-noticed restrictions, cars may not load, causing frustration. If there are more waybills for the program to choose from, ones with varying weights and volumes, there is a higher probability that one of the weight/volume combinations will match a particular car. Having more cars means that there is a higher chance that cars will be made available to load on the first try.

returned to the “Bills of Lading/Waybills” which should look like Figure 8-12.

Bill of Lading/Waybills, showing: 72 available, of: 72 total

#	Nxt	Kind	Commodity	Wgt	Traf...	Freq'y	Shipper/City	Shpr Siding	Consignee/City	Csgn Siding
1		T	diesel fuel	4	in	/	/	NYC01s	fuel track/	FST-Yd
2		LO	sand, traction	mt	in	/	Kraft Sand Dune/Lewes, DE	NYC01s	Engine terminal/First Statio	FST-14
13			ties, rr, creos	34	local	/	/	/	/	/
14			rail bonds	68	local	/	/	/	/	/
15			rail	68	local	/	/	/	/	/
16			empty	mt	local	/	/	/	/	/
17			empty	mt	local	/	/	/	/	/
18		HM	steam coal	5	in	/	/	NYC01s	coal track/	FST-Yd
19			empty	mt	local	/	/	/	/	/
20			empty	mt	**QV	/	/	NYC01s	/	NEW04s
21		FBC	dimensional lumber	63	in	always	Simpson Timber/Korbel, CA	STL03s	North Star Eng./Berwick	BER-10
22		FBC	dimensional lumber	63	in	always	Landon Lumber/Madison, CT	STL03s	North Star Eng./Berwick	BER-10
23		HM	gravel	47	in	always	Hagersville Qua/Hagersville,	CHI02s	Bonnechere Feed/First Statio	FST-14
24		HM	gravel	52	in	always	Canada Crushed/Dundas	NYC01s	Bonnechere Feed/First Statio	FST-14
25		XL	bookpaper	35	**QV	always	Can InterNat Pa/Gatineau	NYC01s	Sweat Shop Prin/Lawrence ...	STL03s

Figure 8-12

We’ve now got two waybills to supply the dimensional lumber, but we still need the OSB. We’ll change waybills 23 and 24 using the data from Table 4. When you narrow the suppliers using the commodity (step 7), use “ply” for plywood. Note that there was no “liveload” field, but rather a field labeled “Car quality” appeared. A definition and a brief explanation of Car Quality can be found in Appendix A. For now we’ll leave this field as it appears.

When you click on the “Save” button, you will likely see a window like the one in Figure 8-13. We will click on the “No” button as we will be creating our own car-orders.

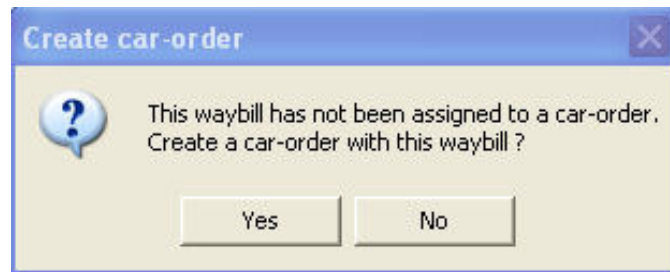


Figure 8-13

When you click on the “Test for possible...” button, you should see two cars listed – MRL 30004 and UP 170509. If no cars show, go back and read the footnote in paragraph 25 above and change the waybill volume.

After creating waybills 23 and 24, Figure 8-14 shows what the “Bills of Lading/Waybills” window should look like.

Bill of Lading/Waybills, showing: 72 available, of: 72 total										
#	Nxt	Kind	Commodity	Wgt	Traffic	Freq'y	Shipper/City	Shpr Siding	Consignee/City	Csgn Siding
1		T	diesel fuel	4	in		/	NYC01s	fuel track/	FST-Yd
2		LD	sand, traction	mtl	in		Kraft Sand Dune/Lewes, DE	NYC01s	Engine terminal/First Statio	FST-14
13			ties, rr, creos	34	local		/		/	
14			rail bonds	68	local		/		/	
15			rail	68	local		/		/	
16			empty	mtl	local		/		/	
17			empty	mtl	local		/		/	
18		HM	steam coal	5	in		/	NYC01s	coal track/	FST-Yd
19			empty	mtl	local		/		/	
20			empty	mtl	**OV		/	NYC01s	/	
21		FBC	dimensional lumber	63	in	always	Simpson Timber/Korbel, CA	STL03s	North Star Eng./Berwick	BER-10
22		FBC	dimensional lumber	63	in	always	Landon Lumber/Madison, CT	STL03s	North Star Eng./Berwick	BER-10
23		XM	plywood	63	in	always	Georgia Pacific/Savannah, GA	STL03s	North Star Eng./Berwick	BER-10
24		XM	plywood	63	in	always	Columbia Plywood/Presque Isle	CHI02s	North Star Eng./Berwick	BER-10
25		XL	book/paper	35	**OV	always	Can InterNat Pa/Gatineau	NYC01s	Sweat Shop Prin/Lawrence KS	STL03s
26		XM	mtl return	mtl	in	1/9	/	CHI02s	brokerage enrou/	Nxt-Yd

Figure 8-14

One last item we need to produce the joists is adhesive. Change waybill 25 with the information from Table 4. When you narrow the suppliers using the commodity (step 7) use "adh" for adhesive. You'll notice that nothing changed in the right-hand panel. Let's see if we can find a listing under "glue". Click on the "Show ... Industry" radio button (this will show all industries again) and then when the radio button selection changes, click in the "Consignee company" data field. Now click on the "Show ... by Commodity" radio button again and enter "glue". Still no change to the list. We'll have to try a different tactic. We know that modern adhesives are usually produced by chemical companies so let's see if we can find one of those.

From the data for Waybill 25 in Table 4, we can see that IMC Chemicals is located in Sorbin, ME. We can use the "Show ... by States" radio button to narrow down the listing of industries. First we need to click on the "Show ... Industry" radio button and then when the radio button display changes, click on the "Show ... by State". When the selection box shown in Figure 8-15 appears, type the letter "M". If "MX, Mexico" appears, type "M" a 2nd time and you should see "MA, Massachusetts". You can either click on the dropdown arrow and then select "ME, Maine" from the list or keep typing "M" until "ME, Maine" appears. You should now see a change to the list in the right-hand panel. Only those industries in Maine (ME) are shown, and they appear in city order. Scroll down in that list until you see IMC Chemicals in Sorbin, ME then double-click on that entry.

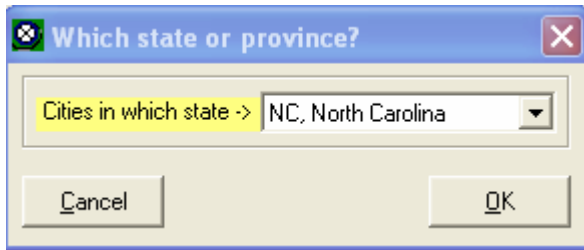


Figure 8-15

Two things to notice:

1. We've asked for the adhesives to be shipped in a type "LU" car. When you test for possible cars, you'll get the message "No car for this shipment". We've added an "LU car so why didn't it show up? If you remember, even though we added it, we disabled it so ProTrak correctly indicates that there are no cars available. We'll have to go back and enable that car later.
2. Unlike FBC cars, with LU cars there is no "Liveload" nor "Inside Length" data fields to deal with. Enclosed cars (LU, XM etc) are managed by their volume and since they are enclosed, from a model railroader's perspective, it is difficult to add and remove a load – the car has to be taken apart – therefore no "liveload".

We'll add one more waybill for adhesive so use the data for Waybill 26 in Table 4 to add the waybill. Once waybill 25 and 26 have been changed Figure 8-16 shows what the "Bills of Lading/Waybills" window should look like.

Bill of Lading/Waybills, showing: 72 available, of: 72 total										
#	Nxt	Kind	Commodity	Wgt	Traffic	Freq'y	Shipper/City	Shpr S...	Consignee/City	Csgn Siding
1		T	diesel fuel	4	in		/	NYC01s	fuel track/	FST-Yd
2		LO	sand, traction	mt	in		Kraft Sand Dune/Lewes, DE	NYC01s	Engine terminal/First Station	FST-14
13			ties, rr, creos	34	local		/		/	
14			rail bonds	68	local		/		/	
15			rail	68	local		/		/	
16			empty	mt	local		/		/	
17			empty	mt	local		/		/	
18		HM	steam coal	5	in		/	NYC01s	coal track/	FST-Yd
19			empty	mt	local		/		/	
20			empty	mt	**DV		/	NYC01s	/	NEw04s
21		FBC	dimensional lumber	63	in	always	Simpson Timber/Korbel, CA	STL03s	North Star Eng./Berwick	BER-10
22		FBC	dimensional lumber	63	in	always	Landon Lumber/Madison, CT	CHI02s	North Star Eng./Berwick	BER-10
23		XM	plywood	63	in	always	Georgia Pacific/Savannah, GA	STL03s	North Star Eng./Berwick	BER-10
24		XM	plywood	63	in	always	Columbia Plywoo/Presque Isle	CHI02s	North Star Eng./Berwick	BER-10
25		LU	adhesives	85	in	always	IMC Chemical Pl/Sorbin, ME	CHI02s	North Star Eng./Berwick	BER-10
26		LU	adhesives	85	in	always	Delta Chemicals/Searsport, M	CHI02s	North Star Eng./Berwick	BER-10
27		LO	grain	99	**DV	always	Agri-Sales Elev/Colling, MI	CHI02s	IMPEX Elevator/Portland	NYC01s
28		XM	corn	35	**DV	always	Reese Farmers E/Reese, MI	CHI02s	IMPEX Elevator/Portland	NYC01s

Figure 8-16

We've got everything coming in to NSEL to allow them to produce the joists. Now we need to set up some waybills to allow the finished joists to be shipped.

Adding a Commodity

Before we start to change the next waybill, let's check to make sure that we have "engineered lumber" in our list of commodities. If it's not there, we'll add it.

1. On the ProTrak toolbar, click on "Edit", then from the dropdown lists choose "Find" then "Find a Commodity or Lading". The window shown in Figure 8-17 will appear.

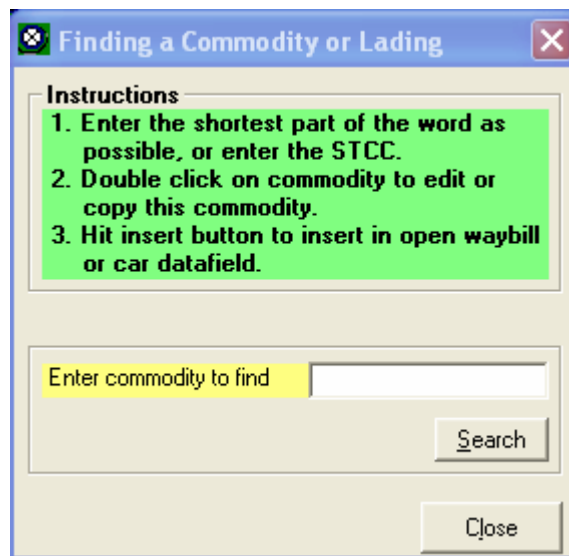


Figure 8-17

2. Enter "lum" in the "Enter commodity to find" data field and click on "Search". You'll now see the window shown in Figure 8-18.

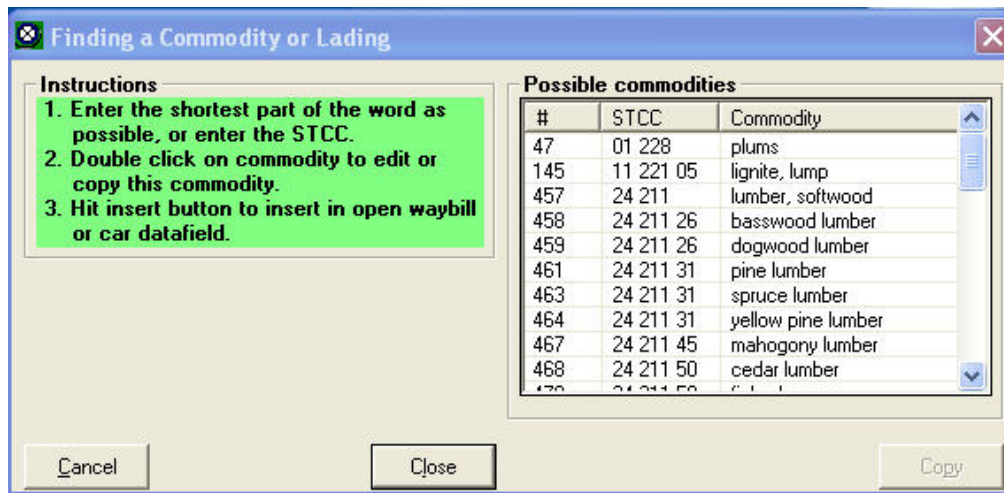


Figure 8-18

3. As you can see, the list in the right-hand panel shows all commodities which have the phrase "lum" in the commodity name, no matter where. Because of this, you see "plums" and "lignite, lump" as well as a bunch of entries with the word "lumber" in them. If you scroll through the list, you'll see that there is no entry for "engineered lumber".
4. Scroll down in the list until you come to an entry which reads simply "lumber". We're going to use this commodity to add a new commodity to the list. **Single click** on this entry and you will notice that the button at the bottom right of the window marked "Copy" has now been enabled. Click on "Copy" and you'll see the window shown in Figure 8-19.

Changing commodity: 1857 of: 1857

Commodity/contents: lumber

Major Industrial Group: lumber

STCC commodity code: 24 211 80

Car load rating (100 scale): 64

Minimum car load weight: 30000 lbs

Resulting car quality (after use): A

Typical lading weight: 61.0 tons

Usual car kind (AAR mechanical): XM

Commodity density: 27 lbs/cuft

Notes >

ProTrak/UFC Ladings

###	STCC	Lading
1	0100099	horsefeathers
2	01129	cotton, raw
3	01131	barley
4	01132	corn
5	01133	oats
6	01134	rice
7	01136	rye
8	01136	sorghum grains
9	01137	wheat
10	01139	grain, nec
11	01141	cottonseeds
12	01142	flaxseeds
13	01142	tares
14	01143	peanuts
15	01144	soybeans
16	01149	oil kernels
17	0114950	rapeseed
18	01151	lawn seeds

☒ Uncheck for Manual Data Entry

Cancel OK

Figure 8-19

- The majority of the data fields are just as we want them, but we need to make a couple of changes. Click on the "Commodity/contents" (tt) data field and insert the word "engineered " in front of the word "lumber" (don't forget the space at the end of the word "engineered").
- The only other field we want to change is the "Usual car kind (AAR mechanical)" (tt) data field. Click on the "Usual car kind..." data field and type "FBC" over the existing "XM"¹². Your window should now look like Figure 8-20.

¹² Even though you would expect to see a list of car kinds in the right-hand panel, the "Help data" only exists for the commodity, not for the car type so all car types must be entered manually.

Changing commodity: 1857 of: 1857

Commodity/contents: engineered lumber

Major Industrial Group: lumber

STCC commodity code: 24 211 80

Car load rating (100 scale): 64

Minimum car load weight: 30000 lbs

Resulting car quality (after use): A

Typical lading weight: 61.0 tons

Usual car kind (AAR mechanical): FBC

Commodity density: 27 lbs/cuft

Notes >

ProTrak/UFC Ladings

###	STCC	Lading
1	0100099	horsefeathers
2	01129	cotton, raw
3	01131	barley
4	01132	corn
5	01133	oats
6	01134	rice
7	01136	rye
8	01136	sorghum grains
9	01137	wheat
10	01139	grain, nec
11	01141	cottonseeds
12	01142	flaxseeds
13	01142	tares
14	01143	peanuts
15	01144	soybeans
16	01149	oil kernels
17	0114950	rapeseed
18	01151	lawn seeds

☒ Uncheck for Manual Data Entry

Cancel OK

Figure 8-20

- Make a note of the "STCC commodity code (24 211 80) then click on "OK" to accept the changes. You will see the window shown in Figure 8-21.

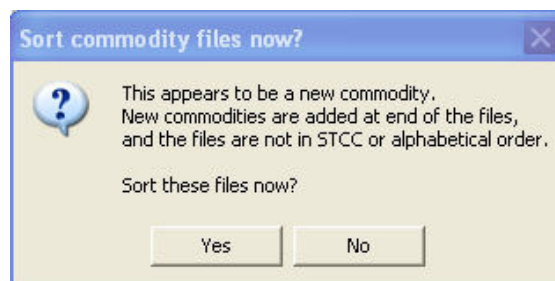


Figure 8-21

- Click on "Yes" to sort the "Uniform Freight Classification (Commodities)" list to put the "engineered lumber" entry in the logical sorted order.
- Two separate progress windows will appear, one after the other, as the sorting takes place and when the sorting has completed, you will be placed in the "Uniform Freight Classification (Commodities)" list. (See Figure 8-22).

Uniform Freight Classification (Commodities)							
No.	Commodity	Major Industrial Group	STCC	Car Kind	Car Quality	Avg Weight	Notes to Classification
473	oak, white	lumber	24 211 50	XM	B	61	
474	walnut	lumber	24 211 50	XM	A	61	
475	walnut lumber	lumber	24 211 50	XM	B	61	
476	lumber, Canadian	lumber	24 211 60	FB	B	61	
477	maple veneer	lumber	24 211 70	XM	B	61	
478	lumber	lumber	24 211 80	XM	A	61	
479	lumber, Canada	lumber	24 211 80	FBC	B	61	
480	lumber, softwo	lumber	24 211 80	TOFC	A	61	
481	engineered lumber	lumber	24 211 80	FBC	A	61	...
482	ties, sawn, railroad	OCS	24 212	GB	C	61	
483	hardwood dimen stck	lumber	24 214	XM	A	61	
484	hardwood dimen stck	lumber	24 214 30	XM	A	61	
485	hardwood dimen stck	lumber	24 214 39	XM	A	61	
486	hardwood flooring	lumber	24 216	XM	A	61	
487	dimensional lumber	lumber	24 219	XM	A	61	
488	balsa lumber	lumber	24 219 10	TOFC	A	61	
489	tongue and groove	lumber	24 219 53	XM	B	61	
490	shingles	lumber	24 291	XM	C	61	
491	cooperge stock	lumber	24 292	XM	C	61	
492	sawdust	lumber	24 293	XM	C	61	

Figure 8-22

10. We need to verify that "engineered lumber" has been added to the list of commodities. The list in Figure 8-22 is in STCC commodity code order so scroll down in the list until you see 24 211 80 in the "STCC" column.

There are four entries with 24 211 80 in the STCC column and the last of these will be "engineered lumber" (entry 481 in Figure 8-22). Click on "Close" to close the "Uniform Freight..." window and you'll be returned to the "Bills Of Lading/Waybills" window.

11. If, for some reason, you have managed to get a commodity in the list that you didn't want, follow the following steps to delete it:

- In the "Uniform Freight Classification (Commodities)" window double-click on the commodity to be deleted.
- In the "Changing Commodities..." window, blank out the "Commodity/contents" data field then click on "OK".
- From the ProTrak tool bar, click on "Edit" then select "Sort", "Sort Commodities" and then "Sort by Commodity or contents".
- Repeat step 11b above, but select "Sort by STCC (Standard Transportation Commodity Code)".

It is important to do both sorts as there are two separate commodity files and unless both are sorted, the deleted commodity will not be removed.

12. While we haven't done this, we could use the same process to add "OSB" as a commodity. Once OSB was added to the list, waybills 23 and 24 could be changed to show OSB as the Load/Commodity rather than plywood.

13. One last note on adding a commodity. If you repeat the process of clicking on "Edit", then choosing "Find" and then "Find a Commodity or

Lading”, you will discover that you are immediately placed into the “Finding a Commodity or Lading” window (See Figure 8-18) rather than being given the option of entering a search string. This action has been done deliberately to allow the user a chance to make several ‘copies’ of items found in the previous search. Clicking on “Cancel” cancels the existing search and the search string entry window (Figure 8-17) is redisplayed. Click on “Close” to close the “Uniform Freight Classification (Commodities)” window. You should now be back at the “Bills Of Lading/Waybills” window.

More Waybills

Now that we’ve added “engineered lumber” to our list of commodities, we can use it in our waybills. Using the information in Table 4, change waybills 27, 28 and 29. Note that NSEL will ship most of their finished joists in FBC cars, but a small portion will be shipped out in the LU cars. Since these are the first “loads out” waybills, we’ll step through waybill 27 and show you a few other things that we can do.

1. In the “Bills of Lading/Waybills” window, double-click on waybill 27. Figure 8-23 shows what the edit window should look like.

Uniform Bill of Lading. Not Negotiable: 27 of: 72 available, of: 72 total

Shipper city	Colling, MI		
company	Agri-Sales Elevator		
siding number	CHI02s		
Consignee city	Portland		
company	IMPEX Elevator		
siding number	NYC01s		
Load/Commodity	grain	STCC	20 419 90
Ordered car kind	LO		
Fill to Scaled	99.0	tons	
Volume:	4500	cubic feet	
Perishable handling			
Ship during months JFMAMJJASOND			
Charges \$	1247.40	@ 0.63 /cwt @ 100 % division	
Make this shipment	Every time ordered		
Shippers routing via connections			
Not subject to demurrage.			
Continuing in transit	0		
<input checked="" type="radio"/> Test for possible cars for this shipment			

ProTrak Industries (All states)

###	Spot	Firm	City
3	ACT-14	Team track	Actonvale
4	ACT17a	Twin State F	Actonvale
5	ACT17b	Twin State F	platform loa
7	BER-11	Wilson & Son	Berwick
8	BER-10	North Star E	Berwick
10	STLM3s	Anglo-Americ	
11		Arthur Farne	
12		BASF Wyandot	
13		Bay State Mi	
14		Shurtleff	
15		Worthington	
16		J.M. Huber	,GA
17		Mazda	,MI
18		Internationa	,MN
19		Canada Packe	Calgary, AB
20		Cominco	Calgary, AB
21		Chipman ICI	Calgary, AB
22		Safeway Food	Calgary, AB
23		Canada Malti	Calgary, AB
24		Haines-Robin	Calgary, AB
25		Dupont Canad	Edmonton, /
26		Gainers	Edmonton, /
27		Neste Oy	Edmonton, /
28		Wood's Post	Edmonton, /

Show ☒ by Commodity ☐ by State

☒ Uncheck for Manual Data Entry

Cancel Save Save and Close

Figure 8-23

- Click on the "Shipper company" data field, then from the right-hand panel, double-click on "BER-10". You'll notice that the "Shipper city" and "Shipper siding number" data fields have also been updated.
- Click on the "Consignee company" data field. In the right hand panel, at the bottom, click on the "Show ... by Commodity" radio button, and enter "lum" in the "Commodity received by industry" search criteria entry field and press "OK".
- In the list in the right-hand panel, you'll see "Builders Supply / Jewett City" (in my case this appeared almost half way down the panel). This sounds like a building supply facility, rather than a lumber producer, so we'll use Builders Supply as our consignee. Double-click on "Builders Supply". As in the past, you'll notice that the "Consignee city" data field has also been updated.
- Click on the "Consignee siding number" data field, and from the right-hand panel, double-click on "CHI02s".

Up to this point, everything should be familiar to you as it is just like the actions you've taken on the first six waybills. Up until now, we've simply

scrolled down the list of commodities until we found the one we're looking for. We'll look at a different way to find a commodity.

6. Click on the "Load/Commodity" data field. From the ProTrak toolbar, click on "Edit" then select "Find" then "Find a Commodity or Lading" from the dropdown lists. You'll see the window in Figure 8-24.

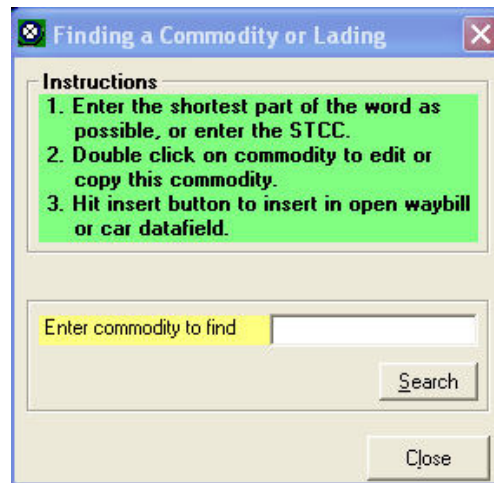


Figure 8-24

7. As you did previously, enter "lum" and click on "search". You should now see the window shown in Figure 8-25.

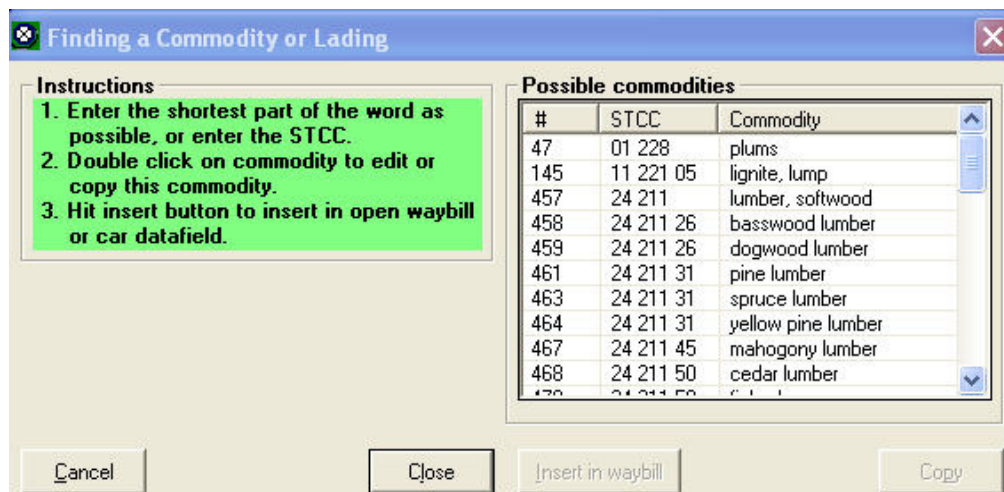


Figure 8-25

8. Scroll down in the listing under "Possible commodities" until you see engineered lumber. As with other lists, the list in Figure 8-25 is in STCC order so you need to be looking for an STCC of 24 211 80.

9. If you compare Figure 8-25 to Figure 8-18 you will notice that there is an additional button marked "Insert into waybill" although it is presently disabled (grayed out) ⁽¹³⁾. Initially, the new button is disabled since there has not been any selection made from the list.
10. Once you have scrolled down to the "engineered lumber" entry and **single clicked** on it, you will notice that the "Insert in waybill button" has become enabled. Click on the "Insert..." button and the "Finding a Commodity or Lading" window will close and you will be returned to the "Uniform Bill of Lading: Not Negotiable: 27 of 72" window. You will notice that the "Load/commodity" data field now contains the words "engineered lumber".
11. Click on the "Ordered car kind" data field and change it to "FBC".
12. Click on the drop-down arrow beside the "Inside Length" data field and select "60 ft" from the list.
13. Click on the "Make this shipment" data field dropdown arrow and select "Every time ordered" from the list.
14. Click on "Save" and your waybill should now look like Figure 8-26.

¹³ You may wonder why the "Insert into waybill" button wasn't active when we looked at the "Finding a Commodity or Lading" window in Figure 8-18. The reason is that in Figure 8-18, we had activated the "Finding a Commodity or Lading" function without having a waybill open in edit mode. In Figure 8-25, we have activated the function while a waybill was open. You'll agree that this makes sense. Unless there is a waybill open, we cannot insert a commodity into a waybill. In fact if we tried to insert a commodity without a waybill being open, we would have no way of knowing which waybill the commodity was being inserted in – not a good situation.

Uniform Bill of Lading: Not Negotiable: 27 of: 72

Shipper city	Berwick
company	North Star Eng. Lmbr
siding number	BER-10
Consignee city	Jewett City, CT
company	Builders Supply
siding number	CHI02s

Load/Commodity: engineered lumber STCC 24 118 80

Ordered car kind: FBC

Scaled weight: 35.0 tons Liveload: 0.0 oz

Inside Length: 60 ft

Perishable handling

Ship during months: JFMAMJJASOND

Charges \$ 441.00 @ 0.63 /cwt @ 100 % division

Make this shipment: Every time ordered

Shippers routing: via connections

Loaded car will be offline until: tomorrow

Continuing in transit: 0

☐ Test for possible cars for this shipment

Car Lengths

###	Firm
0	
0	
0	
0	
0	
0	
0	
0	

☒ Uncheck for Manual Data Entry

Cancel Save Save and Close

Figure 8-26

15. If you wish, you may click on the "Test for possible cars..." radio button to see which cars will be available, although it is not absolutely necessary since we've already established that there are two FBC cars available.
16. If everything looks correct, click on "Save and Close" to return to the "Bills of Lading/Waybills" window.
17. Repeat steps 1 through 16 for waybills 28 and 29 using the data from Table 4. Note that the "Ordered car kind" for waybill 29 is "LU" rather than "FBC". Since the car type is "LU" rather than "FBC" there is no "Inside Length" data field to change. The other thing to note is that at this point, we do not have any LU cars so the "Test for possible cars..." check will show no cars available.

Once waybills 27, 28 and 29 have been changed, Figure 8-27 shows what the "Bills of Lading/Waybills" window should now look like.

Bill of Lading/Waybills, showing: 72 available, of: 72 total										
#	Nxt	Kind	Commodity	Wgt	Traffic	Freq'y	Shipper/City	Shpr Si...	Consignee/City	Csgn Siding
1		T	diesel fuel	4	in		/	NYC01s	fuel track/	FST-Yd
2		LO	sand, traction	mt	in		Kraft Sand Dune/Lewes, DE	NYC01s	Engine terminal/First Statio	FST-14
13			ties, rr, creos	34	local		/		/	
14			rail bonds	68	local		/		/	
15			rail	68	local		/		/	
16			empty	mt	local		/		/	
17			empty	mt	local		/		/	
18		HM	steam coal	5	in		/	NYC01s	coal track/	FST-Yd
19			empty	mt	local		/		/	
20			empty	mt	**OV		/	NYC01s	/	NEW04s
21		FBC	dimensional lumber	63	in	always	Simpson Timber/Korbel, CA	STL03s	North Star Eng./Berwick	BER-10
22		FBC	dimensional lumber	63	in	always	Landon Lumber/Madison, CT	CHI02s	North Star Eng./Berwick	BER-10
23		XM	plywood	63	in	always	Georgia Pacific/Savannah, GA	STL03s	North Star Eng./Berwick	BER-10
24		XM	plywood	63	in	always	Columbia Plywoo/Presque Isle	CHI02s	North Star Eng./Berwick	BER-10
25		LU	adhesives	85	in	always	IMC Chemical Pl/Sorbin, ME	CHI02s	North Star Eng./Berwick	BER-10
26		LU	adhesives	85	in	always	Delta Chemicals/Searsport, M	CHI02s	North Star Eng./Berwick	BER-10
27		FBC	engineered lumber	35	out	always	North Star Eng./Berwick	BER-10	Builders Supply/Jewett City,	CHI02s
28		FBC	engineered lumber	35	out	always	North Star Eng./Berwick	BER-10	Ryan Homes Co/Thurmond, MD	CHI02s
29		LU	engineered lumber	35	out	always	North Star Eng./Berwick	BER-10	Donohue Inc./Comtois, PQ	CHI02s
30		XL	auto wire harne	25	**OV	always	IMPEX, Portland/Portland, ME	NYC01s	American Motors/Detroit	CHI02s
31			mt return	18	**OV	1/9	Toyota/Portland, OR	CHI02s	IMPEX, Toyota E/Portland	NYC01s

Figure 8-27

We've now got all the waybills we need for NSEL, at least to start with. We still need to set up two waybills for Wilsons. If you remember, Wilsons gets no shipments in, but ships scrap metal out in type "GB" cars. We'll use the data in Table 4 to change waybills 30 and 31. When searching by commodity for the consignee, use "steel" in the search data field. Once you have made all the changes, Figure 8-28 shows what the "Bills of Lading/Waybills" ⁽¹⁴⁾ window should now look like.

¹⁴ It is possible to sort the waybills by clicking on any of the column headings (the "Kind" heading, for example). It is important to remember that waybills 1 through 20 are **never** sorted. All sorting starts with waybill 21.

Bill of Lading/Waybills, showing: 72 available, of: 72 total										
#	Nxt	Kind	Commodity	Wgt	Traffic	Freq'y	Shipper/City	Shpr Siding	Consignee/City	Csgn Siding
1		T	diesel fuel	4	in		/	NYC01s	fuel track/	FST-Yd
2		LO	sand, traction	mtv	in		Kraft Sand Dune/Lewes, DE	NYC01s	Engine terminal/First Statio	FST-14
13			ties, rr, creos	34	local		/		/	
14			rail bonds	68	local		/		/	
15			rail	68	local		/		/	
16			empty	mtv	local		/		/	
17			empty	mtv	local		/		/	
18		HM	steam coal	5	in		/	NYC01s	coal track/	FST-Yd
19			empty	mtv	local		/		/	
20			empty	mtv	***OV		/	NYC01s	/	NEW04s
21		FBC	dimensional lumber	63	in	always	Simpson Timber/Korbel, CA	STL03s	North Star Eng./Berwick	BER-10
22		FBC	dimensional lumber	63	in	always	Landon Lumber/Madison, CT	CHI02s	North Star Eng./Berwick	BER-10
23		XM	plywood	63	in	always	Georgia Pacific/Savannah, GA	STL03s	North Star Eng./Berwick	BER-10
24		XM	plywood	63	in	always	Columbia Plywoo/Presque Isle	CHI02s	North Star Eng./Berwick	BER-10
25		LU	adhesives	85	in	always	IMC Chemical PI/Sorbin, ME	CHI02s	North Star Eng./Berwick	BER-10
26		LU	adhesives	85	in	always	Delta Chemicals/Searsport, M	CHI02s	North Star Eng./Berwick	BER-10
27		FBC	engineered lumber	35	out	always	North Star Eng./Berwick	BER-10	Builders Supply/Jewett City,	CHI02s
28		FBC	engineered lumber	35	out	always	North Star Eng./Berwick	BER-10	Ryan Homes Co/Thurmond, MD	CHI02s
29		LU	engineered lumber	35	out	always	North Star Eng./Berwick	BER-10	Donohue Inc./Comtois, PQ	CHI02s
30		GB	scrap iron	67	out	always	Wilson & Sons S/Berwick	BER-11	LTV Steel/Henepin, IL	CHI02s
31		GB	scrap iron	67	out	always	Wilson & Sons S/Berwick	BER-11	Nucor Steel/Crawfordvil	NYC01s
32		RB	potatoes	35	***OV	always	Carter Agway/Presque Isle	NYC01s	National Grocer/St Louis, MO	STL03s
33		LO	salt, bulk	93	***OV	always	Sterling Salt/Watkins Glen	CHI02s	Cabot Farmers C/Walden, VT	NYC01s

Figure 8-28

18. If everything looks good, click on "Close" to close the "Bill of Lading/Waybills" window.

Car-orders

At the beginning of this chapter we alluded to ProTrak using both waybills and car-orders. Now that we have some waybills set up, let's look at car-orders. In its simplest form, a car-order is a request from a customer to the railroad to supply one or more cars of a particular type (XM for example) and to deliver them on a specific day of the week (Monday, perhaps). The car-order may also be a request from a customer to pick up one or more loaded cars for delivery to another location. The railroad then uses these orders to locate empty cars and put them in a train which will deliver them to the customer, or to pick up the loaded cars and deliver them to the appropriate location, be it another customer that the railroad serves, or to an interchange point where a different railroad will move them on towards the customer. As I'm sure you understand, in some cases several different railroads may be involved in the shipment before the loaded car reaches its final destination.

We're going to make our first foray into moving cars really simple. Let's go ahead and set up some car-orders for one of the two customers at Berwick – Wilson and Sons Scrap Metal.

1. Click on "Traffic" on the ProTrak toolbar then choose "Car-Orders to/from online customers" from the dropdown list. Figure 8-29 shows what you should see.

Car-orders: Customers and Loading Points								
No.	Firm name	City/State	Siding name	SPOT	Capacity	Occ	Switchi...	Blk#
1	Actonvale Station	Actonvale		ACT-01	5 PAX			
2	Weigh scale	Actonvale	weigh scale	ACT08z	Cars: 3	0	202	22
3	Team track	Actonvale	team track	ACT-14	Cars: 3	2	202	19
4	Twin State Fruit	Actonvale	door spot	ACT17a	Cars: 2	1	202	F-2
5	Twin State Fruit	Actonvale	platform loading	ACT17b	Cars: 2	0	202	F-5
6	ACT Yard	Actonvale		ACT-Yd	5 tracks			
7	Wilson & Sons Scrap Metal	Berwick	scrap iron /40211	BER-11	Cars: 3	0	202	29
8	North Star Eng. Lmbr	Berwick		BER-10	Cars: 5	0	202	F-32
9	reporting point	Berwick	set off track	BER02y	Cars: 0	0		
10	Anglo-America Clays			STLM3s	---			0

Figure 8-29

- Double-click on line 7 – Wilson and Sons Scrap Metal. And the window shown in Figure 8-30 will appear.

Rule 15 Record of Car-Orders

Order cars on which day ? Monday

Customer 8 name Wilson & Sons Scrap Metal

Track spot BER-11 track scrap iron /40211

There are presently 3 car-orders at this spot

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	All days
3 carloads	0 carloads	0 carloads	0 carloads	0 carloads	0 carloads	0 carloads	0 carloads
clay slurry							
Show details	Show details	Show details	Show details	Show details	Show details	Show details	Show details

Verify Car-orders Close

Figure 8-30

This window shows the details of the cars slated to be delivered to Wilsons. As you can see there are three cars of clay slurry ordered however these are a holdover from the previous data (depending on your version of ProTrak you may or may not see this). You will note that this window allows us to order for each day individually, or for "All days" (last column). If we had an industry such as a coal fired power plant, we know that that industry requires 'X' carloads of coal each and every day. The last column is useful for industries of that type. Another thing to note is that this window only allows us to deal with 5 waybills per day; however we can order more than one car per waybill. Let's go ahead and order some cars for Wilsons.

3. If the "Order cars on which day" data field doesn't already show "Monday", click on the dropdown arrow beside the data field and select "Monday" from the list.
4. Click on the "Order cars" button, and the window shown in Figure 8-31 will appear.

Rule 15: Agency Record of a Shipper's Request for Cars

Location: 7 Wilson & Sons Scrap Metal
 SPOT/Track: BER-11 scrap iron /40211
 City: Berwick
 Car-orders for: Monday

Car-orders

	Load/waybill	carloads	Delivery in
1) Load/waybill	51	3	OK today
2) Load/waybill	0	0	
3) Load/waybill	0	0	
4) Load/waybill	0	0	
5) Load/waybill	0	0	

Available siding length at this spot: 149 feet
 Track length required for these orders: 0 feet

Cancel OK

Possible Bills-of-Lading/Waybills

###	<=>	Kind	Lading	SPOT	Company/City
30	out	GB	scrap iron	CHIC2s	LTV Steel/Hene
31	out	GB	scrap iron	CHIC2s	Nucor Steel/Cie

Figure 8-31

- If you look at the data in the right-hand panel, you will see the two waybills that we created where Wilsons is the shipper. The 2nd column indicates whether this is raw material coming in, or the finished product going out.
5. If there was no left over car-order in the "Rule 15 Record of Car-Orders" window (Figure 8-30) you can go on to the next step. To clear out the old "clay slurry" data, refer to Figure 8-31, place your cursor on the "1) Load/waybill" data field and erase the "51" that is shown there and then move to the right (press the Tab key) to the corresponding "carloads" data field and also erase the "3" shown there.
 6. Click on the "1) Load/waybill" data field then go to the right-hand panel and double-click on waybill 30, the load of "scrap iron" to be shipped to LTV Steel. You will note that the associated "carloads" data field was also updated to read "1". We have the option of asking for more than one car, so let's ask for 2 cars. Click on the first "carloads" data field and change the value from 1 to 2.

- Click on the "2) Load/waybill" data field and from the right-hand panel double-click on waybill 31 – the 2nd carload of scrap iron, this one for Nucor Steel. We'll leave the carloads data field at 1. At this point Figure 8-32 shows what the "Rule 15: Agency Record of a Shipper's Request for Cars" should look like.

Rule 15: Agency Record of a Shipper's Request for Cars

Location: 8 Wilson & Sons Scrap Metal
 SPOT/Track: BER-11 scrap iron /40211
 City: Berwick
 Car-orders for: Monday

Car-orders	Delivery in
1) Load/waybill 29 carloads 2	In 8 days
2) Load/waybill 30 carloads 1	OK today
3) Load/waybill 0 carloads 0	
4) Load/waybill 0 carloads 0	
5) Load/waybill 0 carloads 0	

Available siding length at this spot: 149 feet
 Track length required for these orders: 168 feet
 There are 1 too many cars ordered today

Cancel OK

Possible Bills-of-Lading/Waybills

###	<->	Kind	Lading	SPOT	Company/City
29	out	GB	scrap iron	CHIC2s	LTV Steel/Hene
30	out	GB	scrap iron	CHIC2s	Nucor Steel/Cre

Figure 8-32

- Let's look at something in this window which may not be readily understandable. First, to the right of the "carloads" data fields there are boxes under the column heading "Delivery in" (tt). This shows, for both cars-orders "OK today", indicating that the car-orders can be filled today. In some cases you may see things like "In 8 days" or "In 2 weeks" again indicating when the car-orders can be filled. This field is managed by ProTrak and is computed using a number of pieces of information, some of which are controlled by you, the user (ex. seasonal and infrequent waybills); but much of this "learned" by ProTrak as the program is used. At the start, most of the time you should see this read "OK today", but as ProTrak works with the data and 'learns' ⁽¹⁵⁾ how your railroad operates, you may see the message "In 'X' days" (or weeks), or "Seasonal" appear more frequently.

¹⁵ The Recipe Book states "The information may take 5 to 10 sessions to become valid, and may take many more sessions to reach an average value".

The second item to be looked at is the data field at the bottom of the left hand panel – the one titled “Track length required for these orders ... feet”. A potential discrepancy occurs in this field when the waybill length is assumed for a particular car kind. For example, with tank cars the volume matters, not the length so the length is approximated by ProTrak based on the volume of the car. Since the actual length⁽¹⁶⁾ ⁽¹⁷⁾ has not been used the calculation of the length required may be incorrect.

9. One last item to note is the statement near the bottom of the left hand panel which reads “There are 1 too many cars ordered today”. Why did this statement appear as soon as we ordered the third car of scrap? If you remember, we have only set up two GB cars, but we are asking that three cars be shipped. In order to eliminate the “too many cars ordered” problem, we will either have to adjust the car-orders to ship only two loads or add one or more GB cars. We’ll deal with that later.
10. Click on “OK” to close the “Rule 15: Agency Record of a Shipper’s Request for Cars” window and return to the “Rule 15 Record of Car-Orders” window. That window should now look like Figure 8-33.

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	All days
3 carloads	0 carloads	0 carloads	0 carloads	0 carloads	0 carloads	0 carloads	0 carloads
scrap iron							
scrap iron							
Show details	Show details	Show details	Show details	Show details	Show details	Show details	Show details

Figure 8-33

¹⁶ Jim Moir’s comments paraphrased: The waybill ‘length’ is set at 15 feet to fool ProTrak’s carloading routine into accepting any car. In ProTrak’s car-order track capacity routine there is some logic that recognizes that waybill length is not used so it uses a ‘suitable’ car length. This may make the ‘Track length required’ value incorrect; however it should be reasonably close.

¹⁷ The Recipe Book has this statement “A ‘required length’ greater than the ‘available length’ may be entered. If there are multiple SPOTs on the same track, the program will ‘borrow’ track length from another SPOT to allow placement of a car”.

11. You will note that the data field in the top right of the window labeled "There are presently ... car-orders..." has the value "3" in it. We can check where this came from. If you look at the bottom of each column of car-orders you will see a radio button marked "Show details". Click on the "Show details" under Monday's car-orders. Figure 8-34 shows the window that should be displayed.

Car-Order Details

Summary for Monday

Firm name: Wilson & Sons
 Firm city: Berwick
 Track name: scrap iron /40211
 Track SPOT: BER-11
 Track length available: 149
 Track length used: 168

Total number car-orders to spot: 3
 Number of cars ordered today: 3
 Number of cuts of cars today: 3
 Number of Switches per day: 1

Switching Trains

First train: 202
 2)
 3)
 4)
 5)
 6)

Waybill Details

Waybill / Lading	Months/Season	Frequency	Blocked/#	Shipper	SPOT	Consignee
30 scrap iron	JFMAMJJASOND	every week	Not/2	Wilson & Sons	CHIC2s	LTV Steel
31 scrap iron	JFMAMJJASOND	every week	Not/1	Wilson & Sons	CHIC2s	Nucor Steel
0						
0						
0						

Close

Figure 8-34

12. The explanation for the "3" in Figure 8-33 (step 12 above) can be found by looking at the lower half of the window in Figure 8-34. You will see a column headed "Blocked/#". The first value in each of the fields under that heading has the word "Not". This indicates that the cars are routed individually rather than as a single group (block) of cars. The second value (the one following the "/") is the one which will explain the "3". The 2nd value is the number of cars ordered in each of the waybills. In this case waybill 30 asks for 2 cars while waybill 31 asks for 1 car giving us the total of 3 car-orders.

13. There is a lot more information here about what is going to happen at Wilsons on a Monday. Starting in the top left corner of the upper portion of the window:
- The first four data fields are already familiar to you. The last two data fields show how long the siding is and how much of it is already in use (the later may be different on your screen). As you

can see, the three car-orders require 168 feet, yet only 149 feet is available. This is another issue we'll have to deal with later.

- b) In the top middle, we can see the number of car-orders that have been asked for, as well as how often this industry is going to be switched.
- c) In the top right section we can see that Wilsons is going to be switched by train 202.
- d) The lower section gives us the details of the waybills. We can see the details of each of the shipments - everything from what the commodity is, what season of the year is will be shipped (in our case every month), how often it is shipped, whether this is a block of cars (ours are "Not") and how many cars have been requested. Also shown are who the shippers are, who the consignees are, and what the shipper (loads in) or consignee (loads out) SPOTs will be.

14. Click on "Close" to close the "Car-Order Details" window and return to the "Rule 15 Record of Car-Orders" window.

15. There is one more button to examine – the one at the bottom left marked "Verify Car-orders". Click on this button and ProTrak will verify all car-orders to make sure that the shipper, consignee and siding SPOTs exist. If there are any errors found, you will get a message similar to that in Figure 8-35. Your message may have a different shipper and/or consignee. Each car-order that is in error will cause this message to be displayed. For our purposes, we will click on "Yes" to have the invalid car-orders deleted. If there are no errors, the only thing you will see is the "Verifying" progress bar moving (see Figure 8-36). The progress bar will appear immediately to the right of the "Verify Car-orders" button. In our case, since we have so few car-orders, the progress bar may be just a flash.

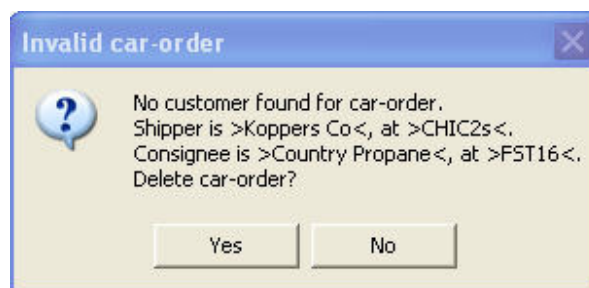


Figure 8-35

*Figure 8-36*

16. Click on "Close" to close the "Rule 15 Record of Car-Orders" window and return to the "Car-orders: Customers and Loading Points" window.
17. Click on "Close" again to close the "Car-orders: Customers and Loading Points" window to clean up the screen.

We've now got everything we need, hopefully, to allow us to have some cars moved on our railroad. In the next chapter we'll run some sessions and examine what happened, or perhaps didn't happen, and then if necessary make some changes.

Summary

In Chapter 8 you have done the following:

- Created waybills for customers on our railroad.
- Added a new commodity.
- Created car-orders for one customer.

You have learned about the following:

- The differences between bills-of-lading, waybills and car-orders and how they are treated in the model railroad world.
- Why ProTrak uses both waybills and car-orders.
- How to search for a commodity.
- How to add a commodity using an existing commodity as a template.
- How to search for customers by State/Province.

You should see:

- Our customers shown in the "Bills Of Lading/Waybills" window as well as in the "Car-orders: Customers and Loading Points" window.
- The new commodity "engineered lumber" in the "Uniform Freight Classification (Commodities)" window.
- Car-orders for one of our customers.

We've now set up some of the waybills and car-orders for the new railroad and can move on to Chapter 9 where we'll finally set about moving cars to the customers on our railroad.