Modelling a Q.R. S Class wagon.

by Stephen COLCLOUGH

I have been fascinated with two very different types of goods wagons since I began modelling Queensland Railways. The first was the S Class of wagons and the other was the H Class of Wagons.

The interest began when I saw some years ago before their withdrawal from Q.R. rails. There were two S Class wagons hauling a load of logs into Brisbane from Ipswich. Whilst I can't say for sure I guess that they came from the Brisbane Valley Line.

This sighting, my one and only, led me to research the types and styles of timber carrying wagons that Q.R. had. There are some classic shots of the S Class wagons in many books, both empty and loaded. Have a look in Rails to the Tableland to see what a lot of big logs looks like on a snaking train of S Wagons. A shot of a B18 1/4 with 2 empty S wagons and a BBV van on the now disused Kilcoy Branch in the Book 'Look out for another train' is a classic in its own right. They are but a few of the shots I admire. I will now show you some photographs out readily available books on Q.R. that will show you S wagons in use over the years. The books are available from either the Turntable or direct from the Australian Railway Historical Society. They also print a monthly publication called the Sunshine Express which often has photographs of wagons and their loads that is an invaluable source to the Modeller of Queensland Railways.

Photo's to be shown are listed here:

Book	
Look out for Another Train	S on Blackbutt Range
"	B181/4 with empty S wagons
"	B181/4 with S wagons with sheet timber
Rail to the Tablelands	S wagons being unloaded about 1925
"	B13 hauling some big logs down the range
"	S Wagons on a train at Kuranda
"	Timber to be loaded at Kulara
Look out for Train	PB15 at Corinda hauling S wagons 1966
"	C16 hauling cut timber in S wagons at Albion

The S wagons came in 20, 26, 30, 32 and 40 foot (WS) versions. They all had older style archbar bogies with 2 foot 2 inch wheels (7.5 mm spokes for us HO scale modellers). They had a lever style handbrake on one side only and all the stanchions used to prevent logs from falling off were 2 foot high. Chains were used to tie logs down.

Whilst I can't be sure I would like to bet that some of the chains went missing from time to time, especially out west in the black plains territory where bogging of vehicles was prevalent.

Making an S Class wagon is achieved in two ways. Firstly by scratch building and secondly by using castings. I have chosen the later for the ease of first time builders of Q. R. rolling stock.

The materials you can use to scratch build a S wagon are firstly by using North Eastern Timber products and I have done this. The problem being with this material is that it does tend to warp after time and you need to use a brass strip of considerable thickness to prevent this. The other material is Evergreen Styrene. Again warping may be a problem and the use of a brass strip may again be necessary.

The other way to produce the wagon is by using kits available on the market. I will describe the method of construction using these castings for the ease of those just getting into building Q.R. kits.

1 Wash all polyurethane parts in mild soapy water. (Dish washing liquid is fine)

2 Allow to dry. Any bent pieces may be straightened by immersing in boiled water for a short time then placed on a flat surface and allowed to cool.

3 Clear away any flash on all polyurethane parts with a sharp knife.

4 Sand the top of the underframe and the underneath of the top platform piece so that they are flat and level. This is easily accomplished by gluing a medium grade piece of sandpaper on a flat block of wood and allowing it to dry. Then rub the parts slowly up and down the paper checking constantly that you don't over sand any one place. A little at a time, be patient. The effort you put into doing this is shown up in the final wash!

5 Drill out your pre-located bogie holes, buffer holes, truss rod holes on the underframe and the stanchion holes on the top platform before any construction takes place. Refer to diagrams below.

6 Now take the top and underframe and dry fit over one another. The top should be marginally longer and wider. About a 1 mm. When satisfied with the fit glue together and allow the glue to dry.

7 Now fit your buffers and then your truss rods as per the diagram below which corresponds to your kit.

8 Now fit your handbrake. The handbrake starts with the V in the middle of the wagon and the handle facing the right hand end of the wagon.

9 Now fit your stanchions. They should be 2 scale feet high or 7 mm. Refer to diagrams below.

10 Fit Archbar bogies fitted with 7.5 mm 8 spoked wheels.

11 Paint black for pre 1970 and Q.R. grey for after that. All timber wagons have been withdrawn since the late 80's. Interestingly Q.R. never carried cut sleepers on timber wagons.

I have included for those who are interested a copy of the 1962 rules relating to the carrying of timber on S Wagons. This extract is from the Q.R. General Appendix, Book of Rules 1962. Also of interest is a copy of the plans of S Wagons should any of you wish to scratch build one for your layout.

You will find that the S wagon is one of the easiest wagons to build if your starting out in Q.R.. The wagons can be knocked about as much as you like as that occurred on the Railway after years of service. So it doesn't matter if you scratch build abilities are not real high as this wagon became battered and bruised very easily.

My first wagon I built was an S wagon made out of North Eastern Timber and after some months it formed the usual bow in the middle. Fortunately the bow meant that the wagon was sagging in the middle. I was not impressed that the love of latest modelling attempt was slowly going out of shape. But at an exhibition in Brisbane an experienced modeller came up to me and said *"Whoa. How did you get your timber wagon looking so bloody realistic?"*
My reply to this person was humble to say the least
"It took years to get it to that stage mate! If you've got an hour or so I think I could tell you".
He left scratching his head and I was left with a grin from ear to ear and an ego the size of the Empire State building. Oh for the joys of modelling! What is it they say "ones person rubbish is another ones treasure".

INSTRUCTIONS RE LOG TIMBER AND LONG ARTICLES

CONVEYANCE OF LOG TIMBER

571. The danger of overloading timber wagons is a matter which must receive constant and careful attention by the staff, who are particularly reminded that the weight of logs, which is computed by measurement, is considerably below the machine weight; and as the latter weight is the carrying capacity shown on the wagon, it is necessary, in arriving at the machine weight, to increase the measured weight by 40 per cent. For instance, a wagon of logs, the measured weight of which is shown as 7 tons 10 cwt., really weighs 10 tons 10 cwt. machine weight; and this important fact must be taken into consideration both in the loading of the wagons and the weight of the train. Where forwarding stations insert the weight of log timber on the wagon labels the estimated machine weight will be calculated in accordance with the instructions in the Goods By-law.

In cases where the weight is not obtainable guards will, for the purpose of computing the weight of trains, adopt an average gross weight of 18 tons per eight-wheeled wagon, including SJ wagons, loaded with log pine or hardwood, and 20 tons in the case of mine props for Mount Morgan, but when SR wagons are used for transporting log timber the estimated gross weight will be 25 tons.

If, however, there are any special circumstances, the particulars should be referred to the General Manager for a local ruling.

Timber or other traffic exceeding 50 feet in length must not be loaded without the permission of the District Officer. The details, lengths, quantity, and destination must be forwarded to the officer mentioned, who will decide what wagons are to be used.

All bridge girders occupying more than one truck must be approved of by the District Locomotive Officer and District Traffic Officer acting conjointly. The consignor shall submit the dimensions and weight of each piece and a diagram showing how it is proposed to load them.

Station-masters and officers in charge must always be careful to see that proper supervision is exercised over the loading of heavy timber and other traffic on wagons by senders, to prevent damage to wagons by careless loading, and to see that the weight is evenly distributed.

When logs are being loaded the loading must be evenly distributed over the wagon as fully loaded wagons are likely to suffer damage and breakage to sole bars unless the weight of the logs is well distributed over both bogies.

Log timber sent from stations where there is a station-master in charge must be measured at sending station, no allowance being made for bark. Receiving stations must make tests of forwarding station weights periodically by remeasuring consignments. A record of the check measurements must be retained for inspection by visiting auditors and traffic inspectors. The measurements of log timber from places not attended by a station-master must be taken at receiving stations.

Where logs are not measured on the truck by the staff the number of logs actually loaded on each truck must be counted, and the consignment note checked off and initialled as is required to be done in the case of other commodities. When the logs are not measured by the staff the invoice must be endorsed "Sender's measurements."

When Loaded at Places not Attended by a Station-master.—Whenever practicable without causing delay the guard is to count the number of logs on the truck and compare with the number appearing on the entry. The consignment note must be initialled and dated by the guard and any difference plainly noted thereon.

Unloading Stations.—The number of logs on each truck is to be counted and checked against the number appearing on the invoice or consignment note, and the number of logs inserted on the entry which must be initialled and dated by the checker. When wagons of logs are detached at isolated sidings entries must indicate that the number of logs on the trucks were counted by the guard.

Stations controlling isolated sidings are responsible for obtaining the measurement of log timber consigned thereto, and station-mistresses receiving regular consigments from other places not attended by a station-master must advise the District Officer, who will make the necessary arrangements for obtaining measurements.

A log timber measurement book (Form 46) is stocked by the Comptroller of Stores. All concerned must obtain a supply and enter therein details of all measurements taken and have the book available for inspection by Railway Auditors and Traffic Inspectors when called for.

Logs placed on timber stages must be securely chocked in order to avoid risk of their rolling off on to the line, and the person in charge of the station will be responsible for seeing this is done.

The practice of snigging logs in station yards, particularly metalled yards, is prohibited, and the names of any hauliers found offending in this respect must be taken and the matter reported.

Loaders of log timber must not be allowed to foul the main line without protection. Station-mistresses in charge of sidings where there are no fixed signals must place red flags at each end of the line being fouled; and any neglect to do this will be treated as a serious offence. At isolated sidings the line must not be fouled by loaders. Inspectors, guards, gangers, and all concerned must give this matter strict attention, and report any irregularities without delay.

METHODS OF LOADING LOG TIMBER AND OTHER LONG LENGTHS

572. Logs and piles which can be loaded on an "S" wagon must not be loaded on two single-bolster runner wagons.

When long articles which cannot be accommodated on a single timber wagon have to be loaded on two runner wagons, with a guard truck between, guards and drivers must be specially careful during the journey to see that the train is started and stopped with care, and that there is no rough shunting, which would endanger the draw-gear. Guards should always inform drivers when they have long articles resting on more than one truck on their trains.

Log timber and other long articles requiring runners must not be loaded until the runners are coupled to the wagons.

In all cases where runners are used the vehicles should be placed as near the rear of the train as possible.

When bolsters are taken out of trucks to allow of free movement under the load, they must be securely fastened in such a manner as not to permit the loading to touch them.

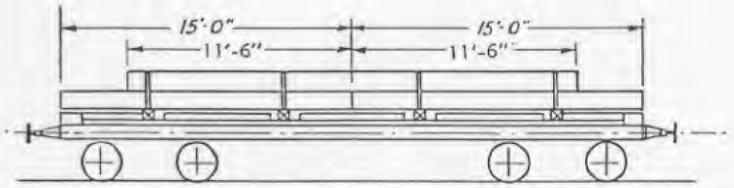
As a safeguard in the event of bolster chains or stanchions on trucks breaking or getting adrift in transit, one or more ropes, as may be required to secure safety, must be passed round the centre of each load to bind it together, but these lashings must not be fastened to the trucks.

When not in use the chains attached to bolster wagons must be coiled and made secure at the ends to prevent them working loose and slipping over the sides or ends of trucks, which would probably cause serious trouble.

(See also Clause 60 regarding the loading of long and heavy articles.)

Timber Loading Diagram No. 1.

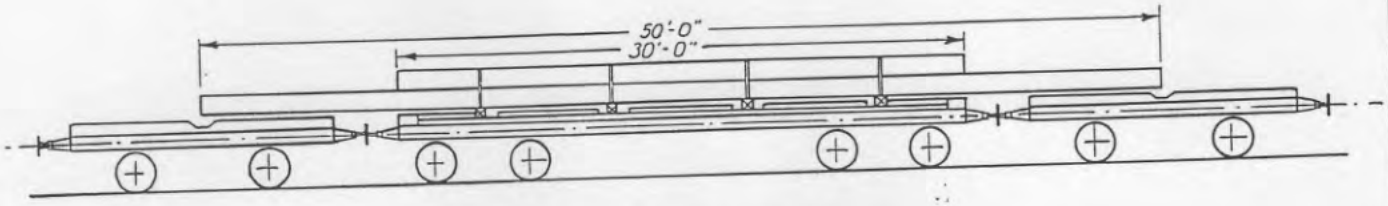
FOR LOGS 23'-0" TO 30'-0"



No. 1 diagram shows one "S" wagon for logs not less than 11 feet 6 inches, and not exceeding 30 feet, the weight not to exceed the carrying capacity of the wagon. The logs should be firmly lashed to each bolster.

Timber Loading Diagram No. 2.

FOR LOGS OVER 30'-0" TO 50'-0"



MAX. WIDTH OF LOADING 7'-0"

No. 2 diagram shows one 30 ft. "S" wagon carrying the load and two runner wagons acting as guards. Logs not more than 50 feet may be carried in this manner, the weight not to exceed the carrying capacity of the "S" wagon **and must be equally distributed over the "S" wagon** which carries the weight. The logs must be firmly lashed to all the bolsters of the "S" wagon, and, if necessary, blocked up so as to prevent all possibility of the ends fouling the runner wagons at change of grade. The logs should also be lashed together near the ends, **but not to the "runner" wagons.** The width of loading is not to exceed 7 feet.

Timber Loading Diagram No. 3.

FOR LOGS 33'-0" TO 42'-0"

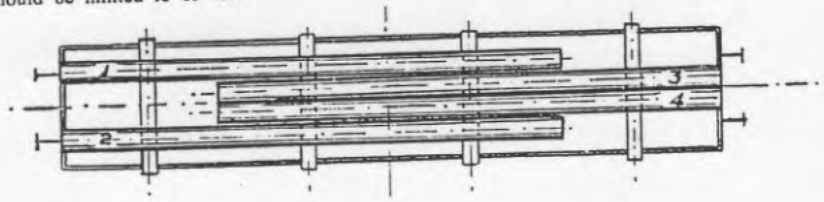
FOR LOGS 16'-6" TO 21'-0" & 33'-0" TO 42'-0"
ONE WAGON CLASS S.R. (42'-0")
MAX. LOAD - 20 TONS
MAX. WIDTH OF LOADING - 7'-0"

No. 3 diagram shows one "SR" wagon for logs not less than 16 feet 6 inches and not exceeding 42 feet. The weight not to exceed the carrying capacity of the wagon. The logs should be firmly lashed to each bolster. When used to load logs which have a length of 32 feet or under, the logs should be loaded from either end of the wagon, and only over the first three bolsters in the manner illustrated in the diagram shown hereunder.

The load must be evenly distributed over both sets of bogies so as to prevent undue stress to the centre of the underframe.

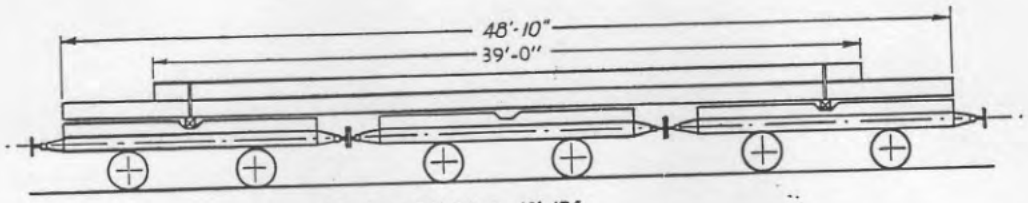
Additional logs may be loaded upon those placed on the bolsters, but these also must be loaded in similar manner, so that the load over each bogie will not exceed half the total load.

When sawn timber which is less than 31 feet in length is being loaded on to an "SR" wagon (i.e., not sufficiently long to rest on the four bolsters) the load should be limited to 15 tons.



Timber Loading Diagram No. 4.

FOR LOGS 39'-0" TO 48'-10"

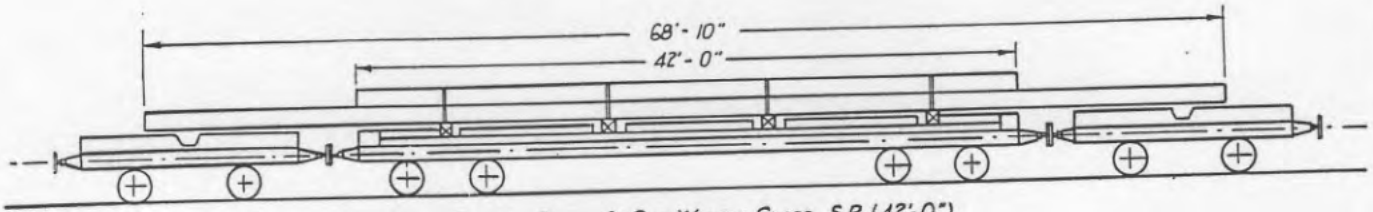


FOR LOGS 39'-0" TO 48'-10"
THREE WAGONS CLASS RUNNER
MAX. LOAD 13 TONS. 8 CWTS.
MAX. WIDTH OF LOADING 7'-0"

No. 4 diagram shows a method of loading logs not less than 39 feet and not exceeding 49 feet on three runner wagons. The bolster on middle wagon must be removed. The loading must not project beyond the ends of the outer trucks and must not be wider than 7 feet. The weight must not exceed the carrying capacity of the two loaded runner wagons. The logs must be firmly lashed to bolsters and to each other at two intermediate points.

Loading Timber Diagram No. 5.

FOR LOGS OVER 42'-0" TO 68'-10"

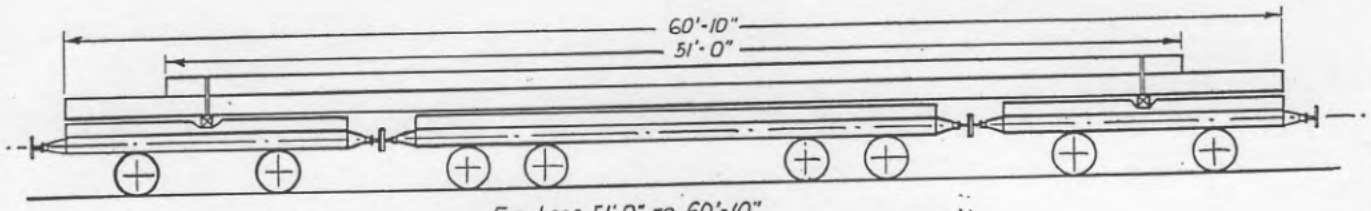


TWO WAGONS RUNNER CLASS & ONE WAGON CLASS S.R. (42'-0")
BOLSTER TO BE REMOVED FROM RUNNER WAGONS
MAX. WIDTH OF LOADING 6'-0"

No. 5 diagram shows one 42 feet "SR" wagon carrying the load and two runner wagons, acting as guards. Logs not more than 68 feet 10 inches long may be carried in this manner, the weight not to exceed 18 tons, and must be equally distributed over the "SR" wagon, which carries the weight. The logs must be firmly lashed to the bolsters of the "SR" wagon, and, if necessary, blocked up so as to prevent all possibility of the ends fouling the runner wagons at change of grade. The logs should also be lashed together near the ends, but not to the runner wagons. Bolsters to be removed from the runner wagons if used. The width of loading not to exceed 6 feet.

Timber Loading Diagram No. 6.

FOR LOGS 51'-0" TO 60'-10"

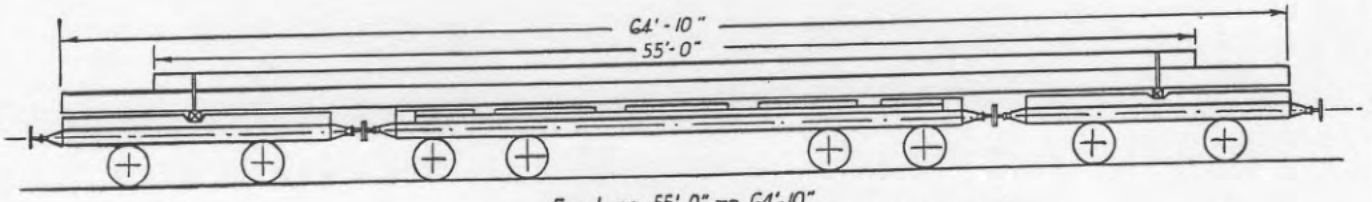


FOR LOGS 51'-0" TO 60'-10"
TWO WAGONS CLASS 'Q' & ONE WAGON CLASS 'P' (29'-5")
MAX. LOAD 13 TONS 8 CWTS.
MAX. WIDTH OF LOADING 7'-0"

No. 6 diagram shows a pair of runner wagons loaded with logs, which must not project beyond the outer ends of trucks, and be clear of the intermediate "P" wagon. Logs not less than 51 feet nor more than 61 feet in length may be loaded in this manner up to the carrying capacity of the two runner wagons; width of load not to exceed 7 feet. The logs must be securely lashed to bolsters and to each other at two intermediate points.

Loading Timber Diagram No. 7.

FOR LOGS 55'-0" TO 64'-10"

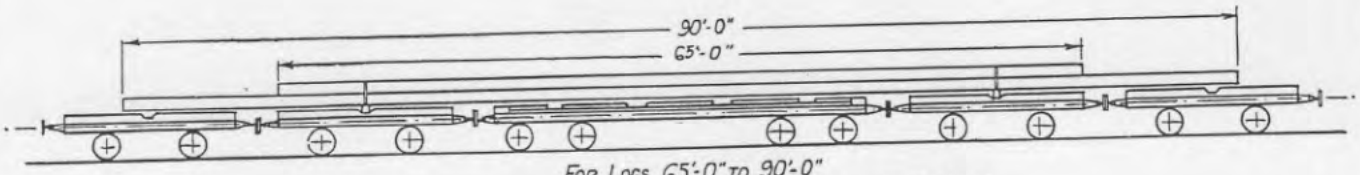


FOR LOGS 55'-0" TO 64'-10"
TWO WAGONS CLASS "Q" & ONE WAGON CLASS S. (33'-5")
MAX. LOAD 13 TONS. 8 CWTS.
MAX. WIDTH OF LOADING 7'-0"

No. 7 diagram shows two runner wagons and an "S" wagon loaded in a similar manner to the two runners and "P" wagon in diagram No. 6. Logs from 55 feet to 65 feet in length may be loaded in this manner with the same precautions as set forth in previous paragraph re diagram No. 6, and the bolsters of "S" wagon removed. Width of loading not to exceed 7 feet.

Timber Loading Diagram No. 8

For Logs 65'-0" to 90'-0"

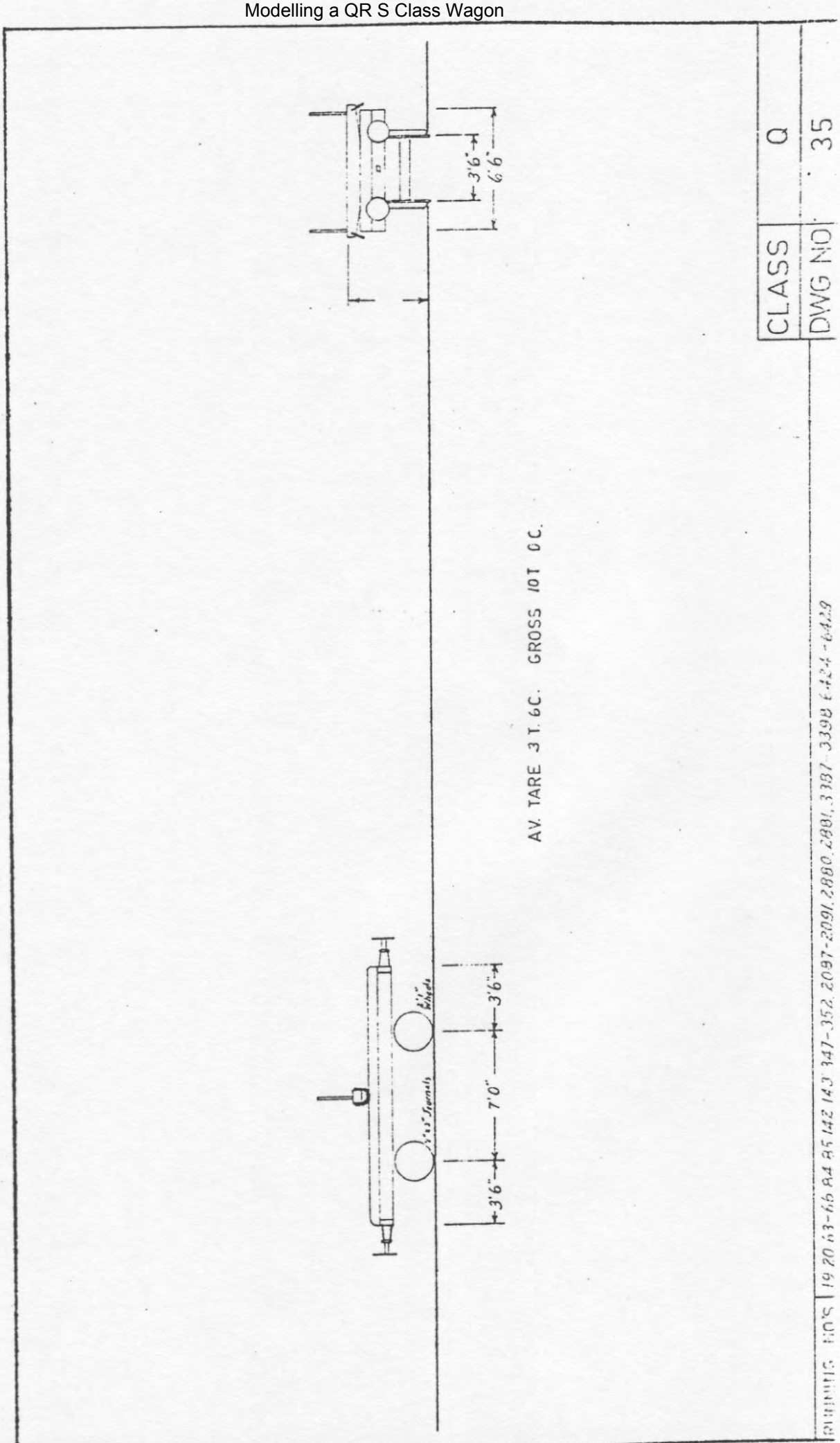


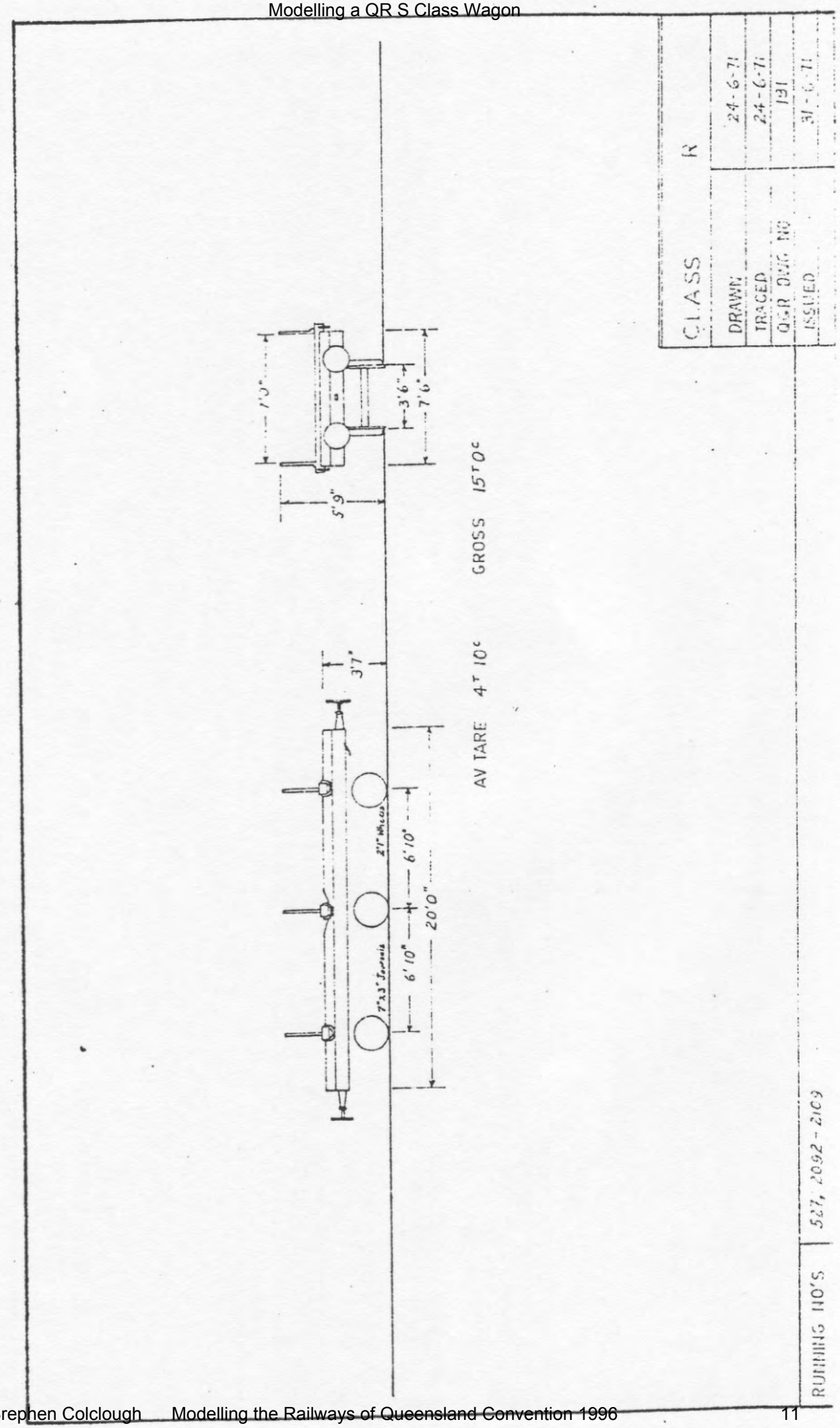
For Logs 65'-0" to 90'-0"
Four Wagons Class 'Q' & One Wagon Class "S" (33'-5")
Max. Load 13 tons 8 cwts
Max. Width of Loading 5'-0"

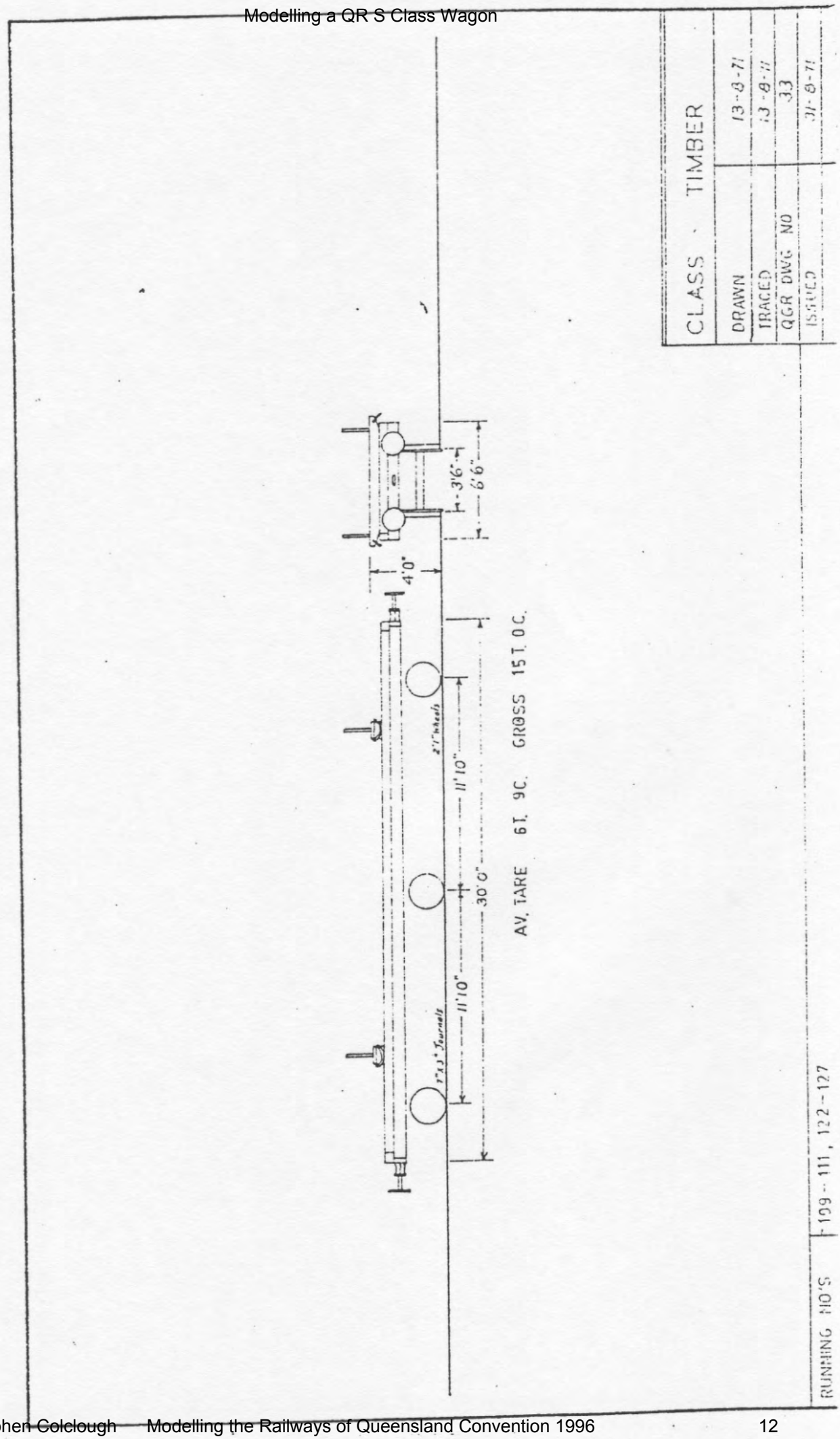
No. 8 diagram shows four runner wagons and one "S" wagon; the two end runner and the "S" act as runners only and must have the bolsters removed; logs 65 feet to 90 feet may be loaded in this manner up to the capacity of the two runner wagons. The logs must be securely lashed to bolsters and to each other at the ends, and at three intermediate points between bolsters. Owing to the long overhangs the logs should be blocked up to ensure clearance. Width of load must not exceed 5 feet, and the load must be in the centre of bolsters.

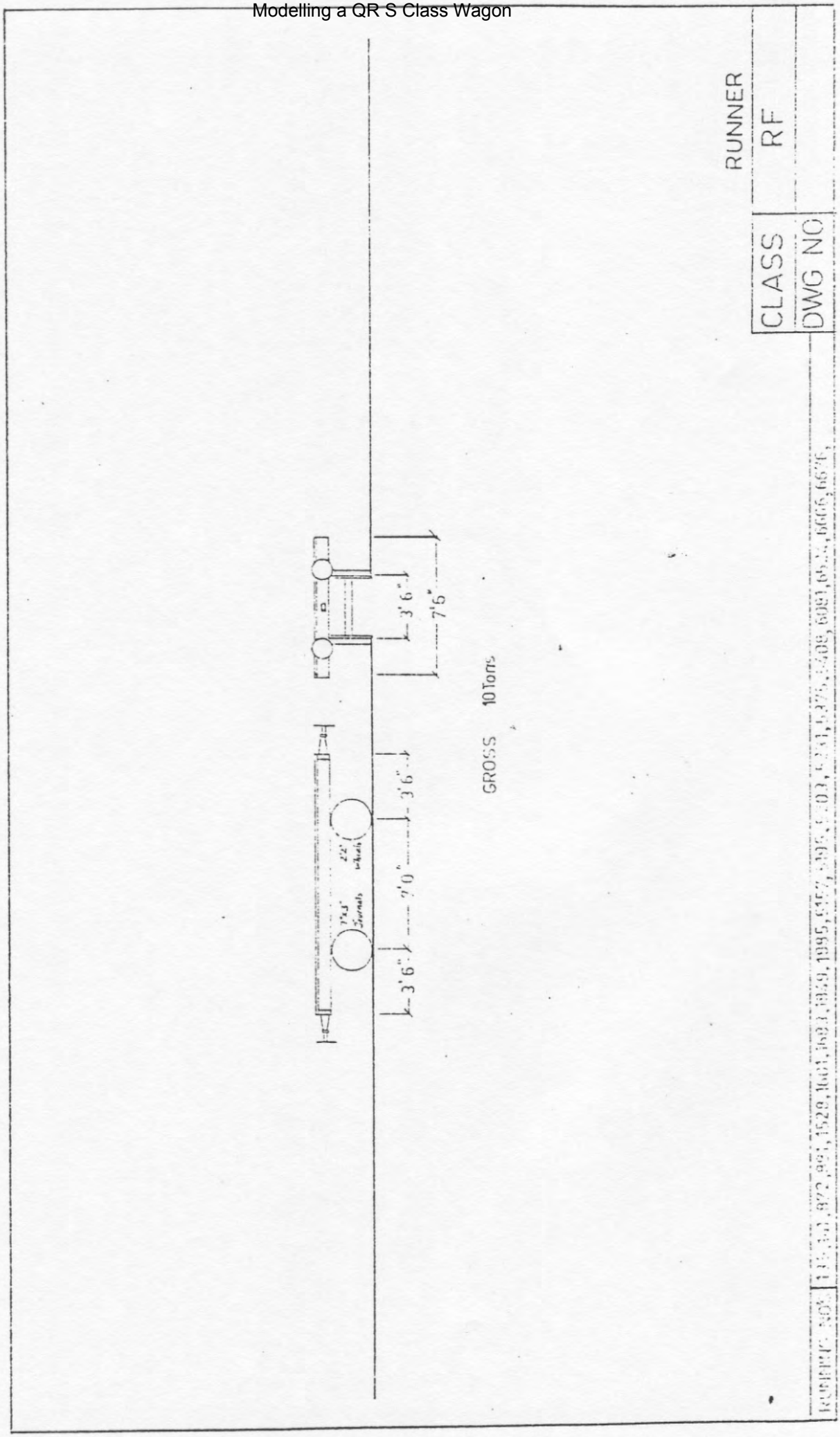
In all the diagrams except No. 2, the load on each carrying truck or bogie may be taken approximately to equal the weight of the timber on it to a point midway between the two carrying trucks or bogies. In No. 2, to equalise the load on the two bogies as much as possible the wagon should be loaded with the thick ends of alternate logs at opposite ends. In the case of an odd number of logs a margin should be allowed depending on the amount of taper of the logs.

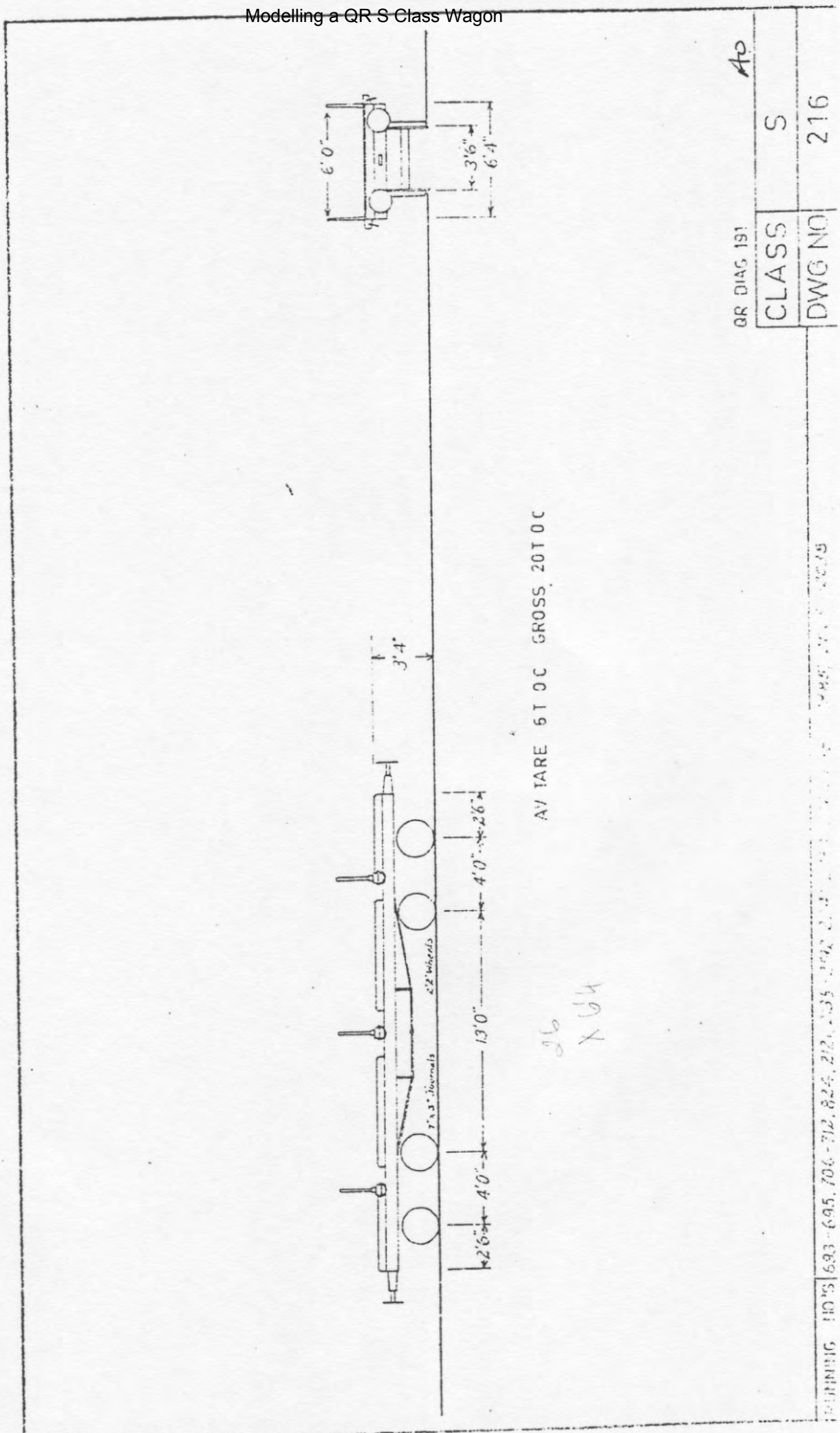
The practice of loading logs of long lengths in wagons in more than one layer is quite safe, so long as the carrying capacity of the wagon or wagons is not exceeded and pine packing or bark is used between the upper and lower layers. For instance, where the bottom layer consists of four logs the upper layer may be comprised of three.

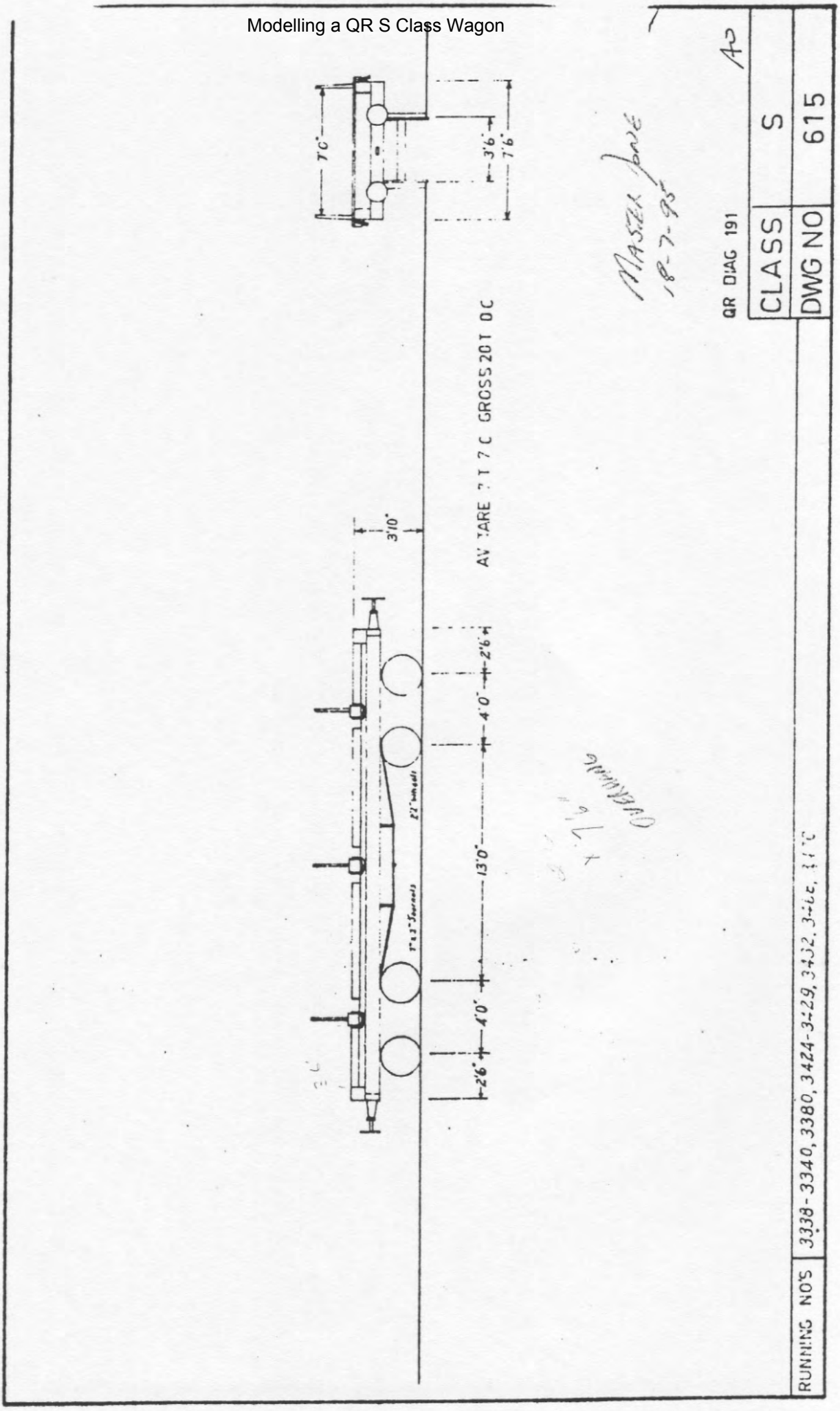

3'6"
6'6"
AV. TARE 3 T. 6C. GROSS 10T 0C.
3'6"
7'0"
3'6"
CLASS Q
DWG NO 35

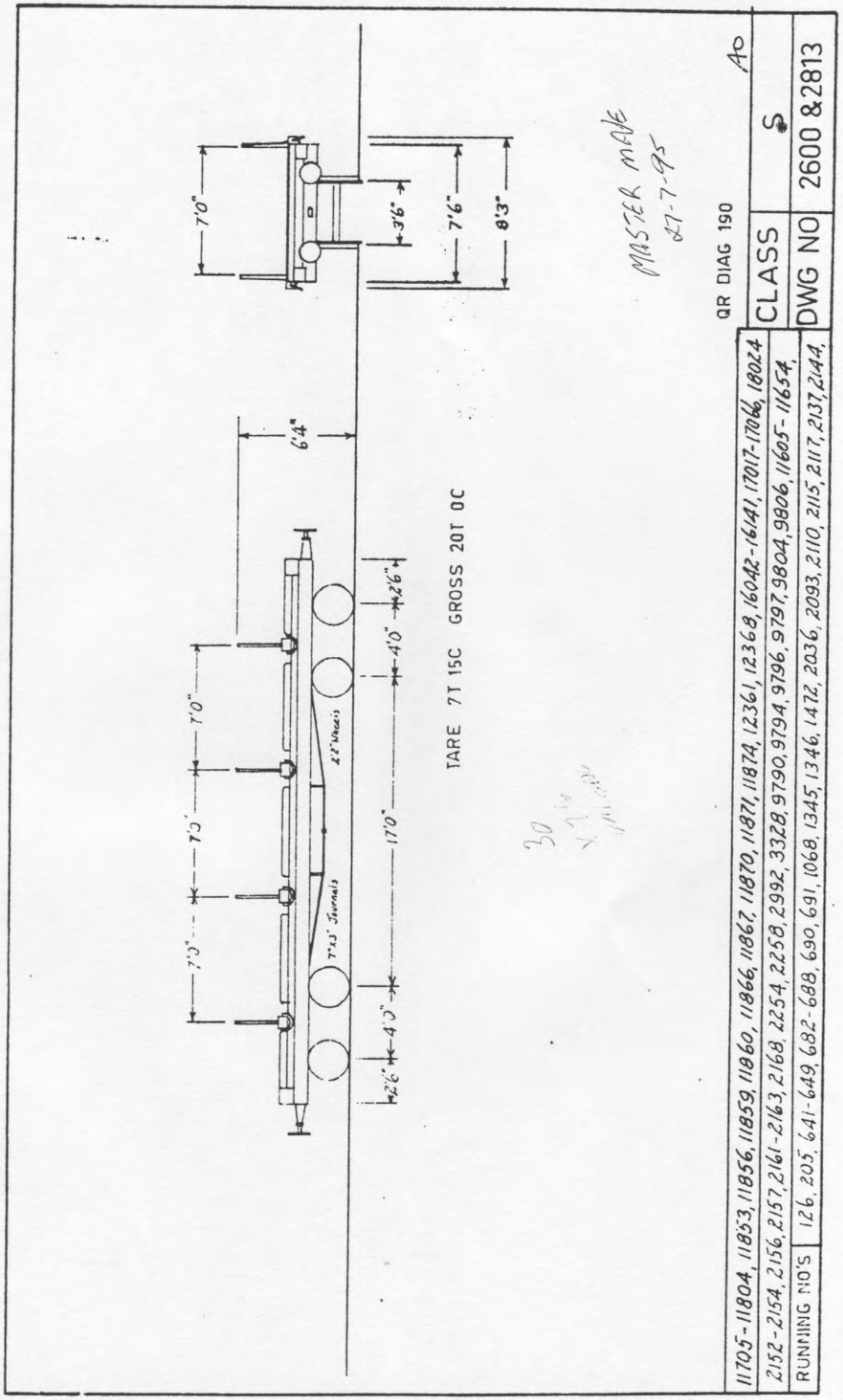

CLASS S
DRAWN 24-6-71
TRACED 24-6-71
QGR DWG NO 191
ISSUED 31-6-71
RUNNING NO'S 527, 2092-2109
GROSS 15T 0C
AV TARE 4T 10C
5'9"
3'6"
7'6"
3'7"
6'10"
6'10"
20'0"
2'1" Wheels
7"x3" Journals

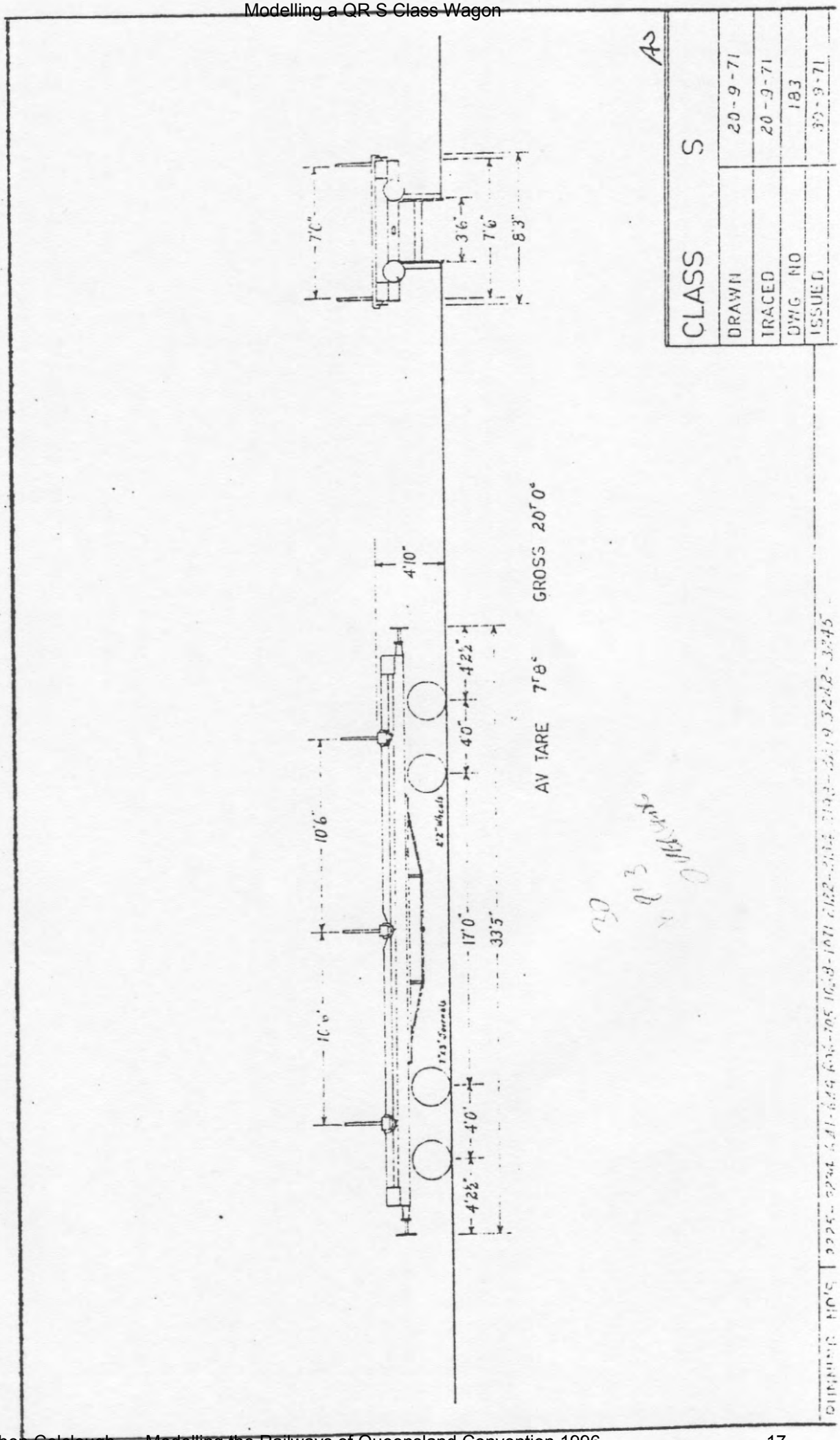

CLASS · TIMBER
DRAWN
13-8-71
TRACED
13-8-71
QGR DWG NO
33
ISSUED
31-8-71
RUNNING NO'S
199 - 111, 122 - 127
AV. TARE 61. 9C. GROSS 151. 0C.
4'0"
3'6"
6'6"
11'10"
30'0"
11'10"

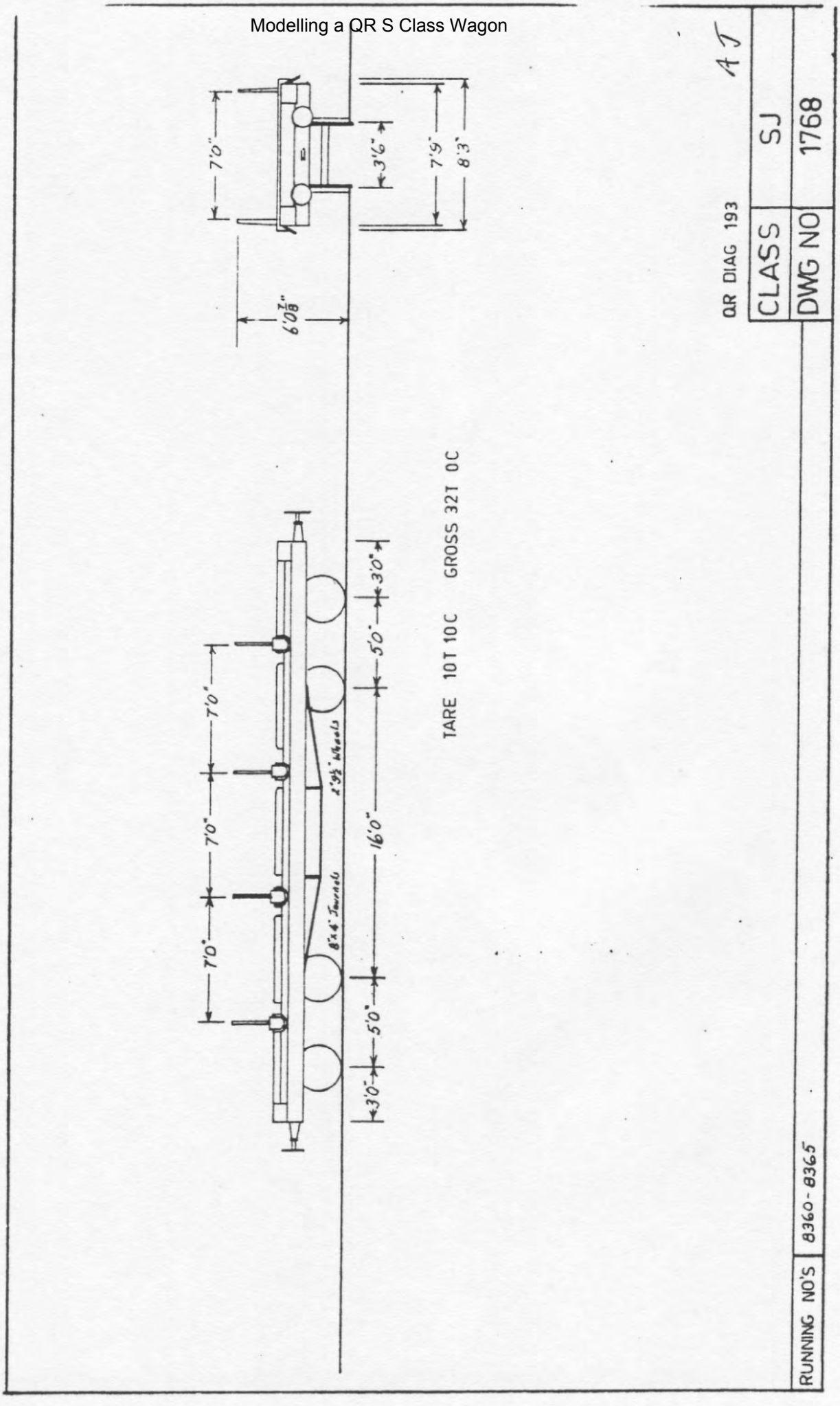

RUNNER
CLASS
RF
DWG NO
GROSS
10 Tons
3'6"
7'6"
3'6"
7'0"
3'6"

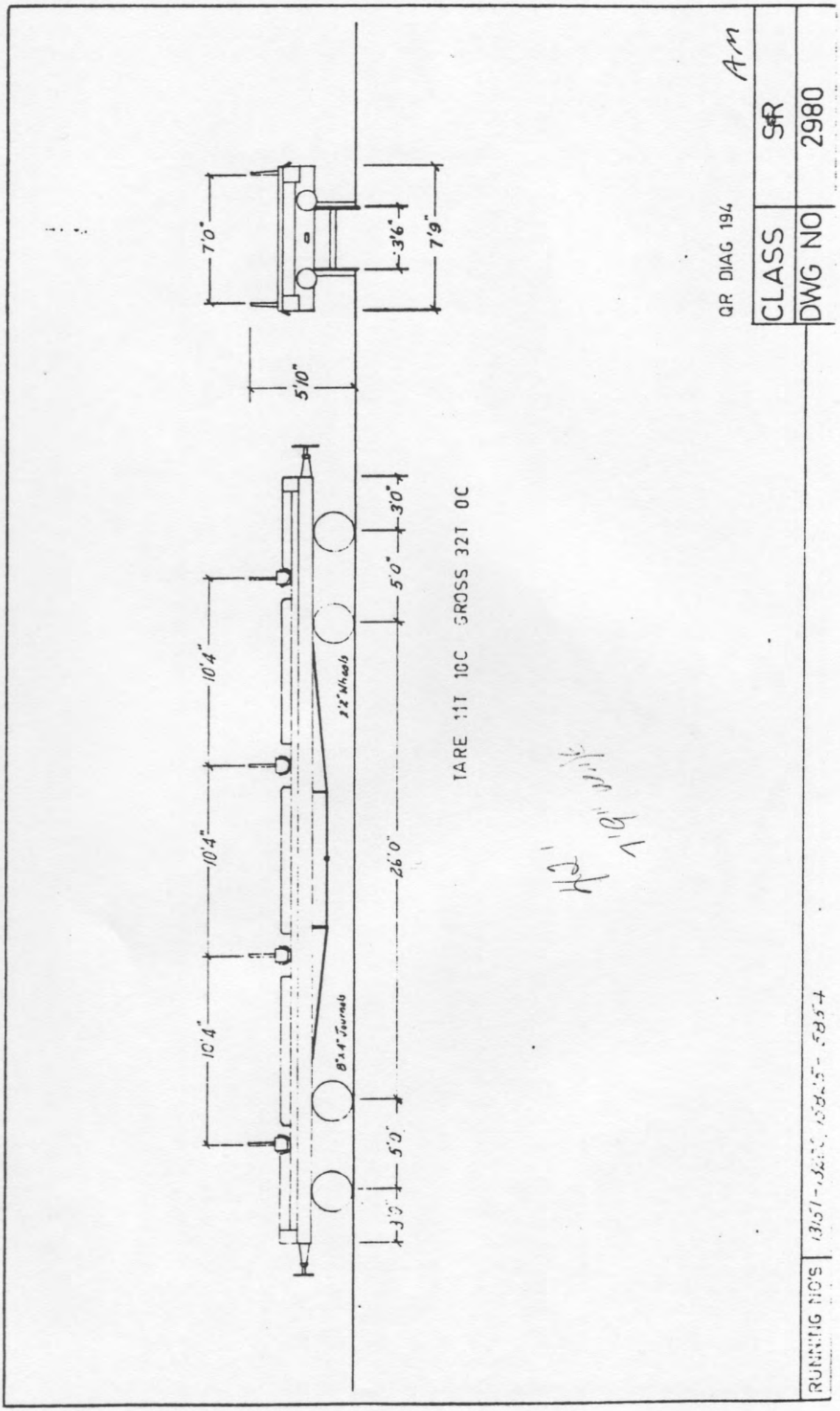

QR DIAG 191
CLASS S
DWG NO 216
AV TARE 6T 0C GROSS 20T 0C
6'0"
3'6"
6'4"
3'4"
4'0"
2'6"
13'0"
4'0"
2'6"
2'2" Wheels
7"x3" Journals


QR DIAG 191
CLASS S
DWG NO 615
RUNNING NOS 3338-3340, 3380, 3424-3429, 3432, 3446,
AV TARE 7 T 7 C GROSS 20 T 0 C
3'10"
13'0"
4'0"
4'0"
2'6"
2'6"
3'6"
7'6"
7'6"
MASTER Jones
18-7-95


7'0"
3'6"
7'6"
8'3"
6'4"
TARE 7T 15C GROSS 20T 0C
2'6"
4'0"
17'0"
4'0"
2'6"
7'3"
7'3"
7'0"
7'0"
MASTER MADE
27-7-95
QR DIAG 190
A0
11705-11804, 11853, 11856, 11859, 11860, 11866, 11867, 11870, 11871, 11874, 12361, 12368, 16042-16141, 17017-17066, 18024
CLASS
S
2152-2154, 2156, 2157, 2161-2163, 2168, 2254, 2258, 2992, 3328, 9790, 9794, 9796, 9797, 9804, 9806, 11605-11654,
DWG NO
2600 & 2813
RUNNING NO'S
126, 205, 641-649, 682-688, 690, 691, 1068, 1345, 1346, 1472, 2036, 2093, 2110, 2115, 2117, 2137, 2144,


CLASS S
DRAWN 20-9-71
TRACED 20-9-71
DWG NO 183
ISSUED 30-9-71
AV TARE 7'8"
GROSS 20'0"
7'0"
3'6"
7'6"
8'3"
4'10"
10'6"
4'0"
4'22"
17'0"
33'5"


7'0"
3'6"
7'9"
8'3"
6'0 7/8"
TARE 10T 10C GROSS 32T 0C
3'0"
5'0"
16'0"
7'0"
7'0"
7'0"
5'0"
3'0"
8'x4' Journals
2'9½" Wheels
QR DIAG 193
CLASS SJ
DWG NO 1768
RUNNING NO'S 8360-8365


QR DIAG 194
CLASS S&R
DWG NO 2980
RUNNING NOS
TARE 11T 10C GROSS 32T 0C
7'0"
3'6"
7'9"
5'10"
10'4"
10'4"
10'4"
26'0"
5'0"
3'0"
5'0"
3'0"
8"x4" Journals
2'2" Wheels