ACCRS HO Scale Rules, Standards and Guidelines of Operation

ACCRS Rules of Operation – HO Scale
Section 1

Obligations of Membership

(a) All HO Scale members will conduct themselves in accordance with the ACCRS Constitution and by-laws and in compliance with the rules set forth in these HO Scale Rules of Operation.

(b) All members that are active participants are urged to work an equitable number of shifts during the fair. Active membership means you attend regular club meetings (at least occasionally) throughout the year. For the purpose of the HO Scale rules only, a non active member is one on the roster who is unable to participate at any time. Non active members due to the nature of their work, infirmity, or place of residence who are in good standing are of course welcome to participate at the fair or any other HO activity as their personal lives dictate.

(c) As a member of ACCRS and a HO Scale member, they will, at any public event, conduct themselves in a manor to present a positive club image to the public. We have few rules regarding conduct but the ones we do have must be adhered to without fail. These are as follows.

(d) No member shall participate in any physical or verbal altercation with a member of the public. Retreat from any offence against a person of the public and seek assistance from Fairgrounds security or Police. Any provocation of a member of the public by an ACCRS member renders that HO Scale membership null and void at that instant.

(e) Public drunkenness will prompt a review of HO membership privileges and after consultation of the HO officers and ACCRS may result in termination of membership.

(f) Please wear clothing that is neat in appearance and clean.

(g) Do not be a party to any activity that endangers the visiting public in any way.

Operating Rules:

Operating Rule 1.0:
Running during business meetings:

During business meetings, no running on the layout or construction is allowed.

Operating Rule 2.0:
Leaving trains on the layout

The general rule for parking a train on the layout is to put said train on an open track in the Hidden Yard or freight or passenger yard as appropriate. Leaving trains on the main is not acceptable. Cleaning trains and work train are to be returned to their sidings in the yards when through running them.

Operating Rule 3.0
Main line switches:

All main line switches are to be set to the main at the end of every operating session. This is to avoid collisions with parked trains. If trains are left in a siding for the next fair dispatcher or in yards, set a route past them through these areas for the same reason. Turn off the electrical blocks under all parked trains.

Operating Rule 4.0
Dispatcher:

When the layout is being operated by dispatch, the dispatcher controls the main panel and all movement on the railroad. The dispatcher's decisions are the final word if conflict arises. The dispatching duties may be shared between Cab 1 and Cab 2 operators if agreeable to both parties involved. No other member will operate the panel in any way unless the dispatcher agrees. Any special arrangement with the dispatcher expires at the end of that shift.

Operating Rule 5.0
Cleaning Car:

When operating trains on the layout, a track cleaning car must be in operation in at least one train. It is preferable to have a cleaning car or cleaning attachments in all operating trains but it might be impractical with certain types of equipment. If only one train is operating, it MUST have a cleaning car within

the train. Cleaning pads should be cleaned (alcohol with paper towel works well) frequently when in use.

Operating Rule 6.0
Junior Members:

Junior Members shall operate the layout only after receiving authorization from the trainmaster. The basis for authorization requires that, (a.) The junior member's sponsor be participating and supervising them, (b.) that the junior members motive power and rolling stock has been examined by the current HO Equipment Inspector and found to be operationally sound, (c.) that they and their sponsor have received instruction on how to operate the layout and control panels, and *(d) They should, if possible, participate in any clinics and seminars as may be conducted by the HO scale group.. (e.) Non compliance with rule 5.0, Section (a) through* (c) will prompt a suspension of layout privileges for the period of one month; further non compliance may cause termination of HO membership.

Junior Members, that have sufficiently shown that they are capable of operating the control panel and equipment and have been qualified by the Trainmaster, may have sections (a),(b) & (c) above, provisionally waived and be given operating rights similar to those of the Regular Members. Regular Members will still have seniority rights over a Junior Member.

Operating Rule 7.0

Nonmembers shall not be able to run trains without the supervision of a member or authorized junior members. Failure to meet this guideline will result in the nonmember not being able to run trains for a certain period of time even with supervision. A dispatcher must also be present in order for non members to run trains as they are most likely new to the layout.

Operating Rule 8.0
Dispatch Panels:

When shutting down Dispatch Panel and/or one of the other operation panels, all electrical switches should be set to the normal position. For example, the dispatch panel should have all turnouts and power switches set so that a freight train can run around the layout without need for the operator to throw any switches or power any blocks.

Operating Rule 9.0
Reverse Loops and Wyes:

Reverse loops are a means to reverse the direction of a train. The operational problem is that the track in the loop and the main line can be of opposite electrical polarities. The panels that have reverse loop control have indication as how to align a Cab's power toggles to enter and exit a loop or wye. While on the main, set the loop toggle as indicated to align the two polarities. When all powered engines are in the loop throw the main toggle in its opposite direction. This will align the polarity for the trains to re-enter the main.

Operating Rule 10.0
Staged Equipment:

The club has many industries that have what is referred to as “staged equipment”. For example the port has container trains, the grain facility has hopper cars, the paper plant has wood chip cars, and the refinery has tank cars, etc. If a member desires to run these type of cars in a train, the cars should be returned to the “staged” location when finished running the cars.

ACCRS HO Equipment Operation Standards
Section 2

Condition: All equipment will be in good working order and will be in presentable condition. Equipment should be painted (no undecorated equipment such as locomotives or cars) and not be missing handrails, or other obvious parts that will detract from the look of the equipment. All equipment that derails or is unable to complete an entire mainline cycle should be removed and checked for “standard” discrepancies.

Era mix: *During Shows and the Fair, any given train should be matched to an era that it is intended to represent. Modern container cars should not be run in a train of 1940's box cars. 1890's style equipment should not be pulled by a modern diesel. The layout is presenting an image to the Fair and show patron. The equipment mix should be reasonably correct and represent the era modeled. (Refer to Section 6)*

Operation: Trains should be run at realistic speeds and an attempt should be made to operate in a prototypical manner. The Fair patron is generally not interested in seeing something like "Thomas the Tank Engine" chases the speeding container train. Trains that cannot operate in a prototypical manner should be pulled from the layout and replaced with a train that can be operated

in a prototypical manner. All trains will be operated utilizing the right hand running rule.

Usage: Generally, members should not leave equipment on the layout. It should be placed in their locker or taken home. Some equipment is part of a display and should be left in the display. Display only equipment may not meet the operational requirements outlined above.

Be careful handling club and/or other member's equipment. Treat it respectfully and gently. Even in the best of situations, equipment fails and accidents will occur. Bad-order equipment should be removed to the designated bad-order box and a note made regarding the problem or how it was damaged. The club will designate a member to examine and repair bad-order club equipment.

Equipment on the layout: Members equipment (rolling stock, engines and/or cabooses) to be used on the layout, MUST meet the standards established for running on the layout. The designated car clerk will check each piece of equipment against the clubs standards and certify it meets the standards.

ACCRS Equipment Mechanical Standards
Section 3

The following standards are required for "ACCRS" operation.

Car weight – NMRA Standard of 1 ounce plus 1/2 ounce per inch of car length.
Example: a 40' car will weigh about 4 ounces.
a 50' car will weigh about 4 1/2 ounces.

Couplers - Kadee style knuckle couplers ***(the club standard)*** to be installed at the correct height. All couplers will be body mounted whenever possible. Exceptions would be for some passenger cars and 80' trailer flats/auto racks. **The knuckle should be activated by a spring, not a plastic extension**
note: trip pins must be correct height to clear track and switch points. Remove if preferred.

It is understood that from time to time members may wish to operate their own equipment that may not be compatible with Kadee style couplers. Examples may be European style equipment, Sargent style couplers, and even the old X2F couplers. Trains with this style of couplers are acceptable as long as they

operate independently without causing problems due to their couplers. If they are to be run in conjunction with club cars or locomotives, there must be a transition car(s) that would match the Kadee equipped car to the non standard coupler of the related club car(s).

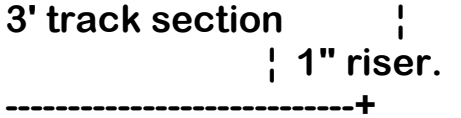
Wheel sets - Freight/passenger cars: No plastic wheels are allowed. All wheels must be metal. There are many sources of replacement metal wheel sets such as Intermountain (used by most members), Kadee, NWSL, ExactRail or JayBee. All wheel sets must be correctly gauged. Replace any wheel set that is out of round and causes the car to rock.

Athearn "Blue Box" Diesels: All will have replacement wheel sets installed such as those from suppliers such as NWSL and others. This simple change will enhance the performance of the unit and will minimize the dreaded "dirty wheel" problems. Some early Proto 2000 / Lifelike locomotives use the same wheel replacement sets and can benefit from replacement.

- All diesels and locomotives will have correctly gauged wheel sets. Correctly gauged wheel sets minimize or eliminate derailments on all rolling stock.

Trucks - All trucks must be "free" rolling and must allow an unaided car to roll down a test grade without assistance. Properly mount trucks to car body. The assembly should be free to rotate on the center pin and should be attached with a minimum of play so that the car rides level and does not rock from side to side. Attachment with screws is the preferred method of attaching trucks. Pins may fall out, but provided they are attached securely, are acceptable.

The following is how to build a test grade to check the rolling ability of a car to be used on the layout. Use a three foot section of flex track supported by a solid support like a yard stick or other piece of wood.



Rolling Stock and Analog Locomotive Usage
Section 4

The ACCRS has many freight and passenger cars and analog locomotives. These may be stored in yards, spurs, industry siding, etc. Many locations of these cars and locomotives are what would be called "Staged". An example would be the refinery in Oildale where a number of tank cars are "spotted" at the loading facility.

Hidden Yard: A large number of cars are stored in Hidden Yard. Hidden Yard tracks 1 though 4 are the assigned tracks for club freight cars. There is a 5-drawer metal tool cabinet beneath the Hidden Yard that is for additional storage of club cars. Typically only freight cars are stored in this cabinet.

Leyman Yard: Leyman yard also is a storage location and cars are typically stored or "spotted" in this location. Example: Auto Parts cars, auto racks, reefers and TOFC cars can be found staged in this area.

Grainger and Charmin: Grainger and Charmin are another place that cars are typically stored or staged. Example: Container cars in the port, grain cars at the grain elevator.

Passenger Yard: Passenger cars are typically stored or "spotted" in the passenger yard.

All ACCRS freight and passenger cars as well as all analog locomotives are there to be used by members. This equipment should be treated with respect and handled like you would handle your own equipment. If you consistently break or damage ACCRS club equipment, you will be limited to using you own equipment. These cars may be used by ACCRS members to create a train for use on the layout. ACCRS members may use their own power, supplement their power or exclusively use the ACCRS analog units.

Any car that sustains damage, ie, truck becomes detached, coupler cover falls off, a part breaks off, doesn't stay on the track, etc., should be removed from service. The car and any available parts from the damage should placed in the "To Be Repaired box", located upstairs. A note should be also provided, if the damage isn't immediately identifiable.

If you use cars from what might be called a "staged" or "spotted" site, these cars should be returned to that site when you finish using the cars. This prevents clogging up the yards, damage to the cars, and prepares the "scene" for the next set of visitors. If you definitely know the car was found in an

incorrect location, but you are now using it, it should be returned to the proper location.

Rules for making up trains:

Many times, Hidden Yard and/or other locations may have a complete set of cars that will make an adequate train for your use. Should this be the case, couple the locomotive set you have decided to use, ask the dispatcher if it is ok to come out of hidden, and it you receive an affirmative reply, proceed to move the locomotives and string of cars out of the location. When finished, return the sting of cars back to where you found them.

Should you wish a different combination of cars, you may select cars from the storage tracks and build a train on an empty track (this is particularly the case in Hidden Yard). When removing cars from one track and placing them on another, please be sure that any cars adjacent to the car removed are still on the track and not derailed. This will allow for the remaining cars to easily be moved and consolidated on the primary storage tracks (again, this is particularly important in Hidden Yard.).

Only a certain amount of cars can and should be stored on Hidden Yard tracks. Should you build a train, using cars from the metal storage cabinet, these cars should be returned to the storage cabinet and/or an equal number of cars, located on the Hidden Yard tracks, should be placed in the storage cabinet. When you finish using the stored cars, they can then be stored on the visible storage tracks when you are finished using them if you placed other cars in the storage cabinet.

Delicately detailed models, that are becoming increasingly available, should not necessarily be stored in the storage cabinet. If they are to be stored in the cabinet, make sure that they have sufficient space around them to be removed without damage. This also insures that placing them in the storage cabinet doesn't damage them.

Again, "TAKE CARE OF THE EQUIPMENT. TREAT IT LIKE YOUR OWN. CAREFUL PLANNED MOVEMENTS, OF THE CARS, IS CRITICAL TO PREVENT DAMAGE!!!"

DCC Locomotive Usage
Section 5

The ACCRS freight units were donated for use by ACCRS members. They need to be maintained and kept in good condition. In order to do that, the following rules apply to all ACCRS freight DCC locomotives.

- **The units must be checked out from the Trainmaster, the Assistant Trainmaster or person or persons designated by the Trainmaster. During shows and the Fair, someone should be on hand, at all times to facilitate the distribution of the ACCRS freight DCC locomotives.**

- **The units should be primarily used for shows and the Fair. They are not to be used indiscriminately on DCC run nights.**

- **The freight locomotives sets are as follows (SW paint unless noted):**
  C424/slug B-unit/C424 (Atlas/Stewart/Atlas – all Kato drives)
  GP40/GP38/GP40 (Atlas/Atlas/Atlas)
  SD38/SD38/SD38. (Kato/Kato/Kato) one is a UP patch job.
  C44-9W (Kato)(3)
  U23B (Atlas) MofW lettering
  RSD-4/5 (Atlas/Kato) – Seaboard paint
  RS-3 (Atlas/Kato) – Central of Georgia paint
  SD60 (Proto 2000) EMD demo colors
  SD60 (Proto 2000) EMD lease colors
  GP60 / GP60 (Athearn Blue Box) EMD lease colors

Road #	DCC #	Unit Type	Company	Decoder Type
8301	7101	SD60	PK2000	NCE PK-SR
1	7010	SD60	PK2000	NCE PK-SR
3830	7130	GP38	Atlas	Atlas 3 Function
3836	7136	SD38	Kato	NCE D14SRP
3837	7137	SD38	Kato	NCE D14SRP
3838	7138	SD38	Kato	NCED14SRP
4040	7140	GP40	Atlas	Atlas 3 Function
4041	7141	GP40	Atlas	Atlas 3 Function
976	7176	C44-9W	Kato	NCE D14SRP
1014	7114	C44-9w	Kato	Digitrax
1104	7104	C44-9W	Kato	NCE D14SRP
9552	7152	U23B	Atlas	Digitrax D165IP

105	7105	RSD-4/5	Atlas/Kato	NCE D14SRP
108	7108	RS-3	Atlas/Kato	NCE DA-SR
5	7150	GP60	Athearn	NCE D14SRP
6	7160	GP60	Athearn	NCE D14SRP
890	7190	C424/425	Atlas / Kato	NCE D14SRP
892	7192	C424/425	Atlas / Kato	NCE D14SRP
SU01	7199	F3 B Slug	Atlas / Kato	NCE D14SRP

- **Of the above units, there are two groups of units that are less fragile and could be used for training new members on DCC run nights. These two groups are as follows.**
  C424/slug B-unit/C424 (Atlas/Stewart/Atlas – all Kato drives)
  GP60 / GP60 (Athearn Blue Box) EMD lease colors

- **The RSD 4/5 and the RS3 were thought to be useful on the Interurban line. That would be the best place for their use.**

- ***Before any member checks out a DCC unit, they must show, using a controller, that they know how to select a locomotive and program and delete a consist. They must show an understanding of how to identify and program a basic decoder using Decoder Pro.***

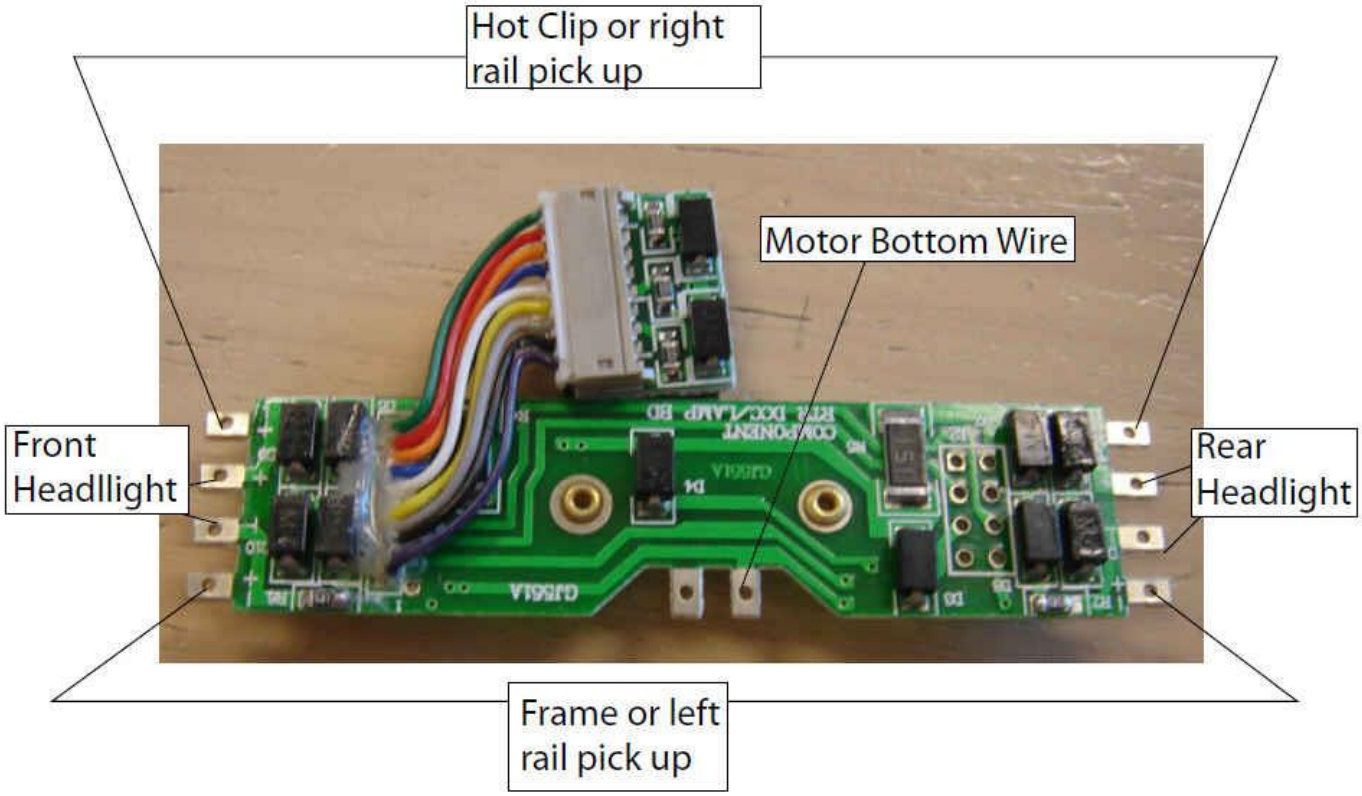
- **When any DCC unit is checked out, the condition will be noted and any non-repaired prior damage listed. When the unit(s) is/are returned, the condition will be noted. Any new damage will be assessed *and the member, if they have the skills may be asked to repair the damage. If damage is severe enough, they may be required to have it repaired or replaced, depending on the damage.* DCC units must have the consist cleared when the member finishes using the unit. Unless the consist is cleared, the next member using the unit will have to clear it using DecoderPro as they will not know what consist is in the decoder. *Consistent failure to clear the consist could result in suspension of the members use of club DCC locomotives*.**

- **Persons that consistently show that they can not handle ACCRS equipment, without damaging ACCRS equipment, will not be allowed to use the DCC locomotives.**

- **Members may use the locos as a set or supplement their equipment with one or more of the ACCRS DCC locomotives. ACCRS members should try to use their equipment first and not always depend on using ACCRS units for shows, the Fair and particularly during run nights when their**

equipment should be operated, maintained and problems discovered and fixed before the next show or Fair.

Simple way to convert Athearn “Blue Box” to Plug and Play DCC



Athearn Part # ATH 90616 ($14.98)
Converts "Blue Box" locos to "Plug and Play"
Use a decoder of your choice

Required lights are 1.5 V from 12 to 16 MA

Hidden Yard Usage
Section 6

1. **BACKGROUND**
   a. **Hidden Yard is the staging area for show trains where trains are setup and prepared for operation. It consists of 9 storage tracks, one exit direction, one entry direction and track selection switches – one located within Hidden Yard and another located at the main control panel.**

   b. **A large majority of Club cars are stored in this area, on tracks 1-2-3-4.** ***When running a train containing club cars, the cars must be spotted back on one of these tracks (if they are not from the staged locations – see Section 4) or they are to be put in the club storage cabinet beneath the Hidden Yard if those tracks are full.***

   c. **Others are generally left open for member usage. Working space is limited.**

   d. Lighting for the Hidden Yard is controlled by the master switch inside the door allowing access to the Port. There are two small fluorescent lights on the back wall that provide some minimal light to Hidden Yard, They are not controlled by the master switch.

2. **TRAIN SETUP**
   a. **Due to limited space *generally* only one or two persons can setup at one time. The track selection switch only powers one track at a time as well.**

   b. **During shows there should be coordination and commutation between members on who will be setting up trains and the tracks they will use.**

   c. Any non-club train staged on a track should not be removed, repositioned, changed, consist altered, DCC consist deleted. Communicate with members to determine who it belongs to and ask them if you have questions about the train..

   d. **Train length is limited by the length of the storage track number you choose. Do not exceed the yard limits. Not all tracks are of equal length.**

e. ***Member show trains can be left in Hidden Yard storage during show days only if they work an evening shift and are planning to be on the morning shift the next day. (or make arrangements with the Train Master to store it longer)***

f. **If you are transporting your train to the club you may use the exit door adjacent to Hidden Yard, but you need to ensure that is gets closed and secured after you are done with setup.**

3. ***DCC CONSIST SETUP***

a. ***You can perform DCC consist setup in Hidden Yard. If you need to do locomotive CV programming changes you need to do this on the upstairs programming track.***

b. ***Consist address number assignment is done using your two digit assigned numbers. Each member is given a set of two numbers. These also act as the first two digits of a locomotive number.***

c. ***There is no guarantee that your DCC consist address will be retained for use the next day – in cases where the Master Computer needs to be reset, your consist addresses will automatically get deleted. If you need to retain your DCC consist address for the next day, communicate with the Train Master or Dispatcher.***

4. Clear Your Consist:

You should clear your consist from all the consisted locomotives, when removing them from the layout. This is especially important for the club DCC locomotives.

5. EXITING HIDDEN YARD

a. ***Normally*** **there is only one direction to exit Hidden Yard.**

b. **Exiting Hidden Yard requires that you have enough locomotive power to make it up the 12 percent grade – know this before show time and before you exit.**

c. **Ensure that you have the track selection switch properly set and that the track switch points are correct.**

d. **Exit Hidden Yard speed limit is 25 MPH. Proceed to the top of the hill and stop before the Main Line. Communicate with the Dispatcher that you are ready to exit hidden enter the main line.**

e. ***After you have exited the Hidden Yard you must tell the dispatcher you are clear and the next person waiting to setup may begin or the next person ready to enter may do so.***

6. **ENTERING HIDDEN YARD**
   a. ***Normally*** **there is only one direction to enter Hidden Yard.**

   b. **Entry speed limit is 25 MPH.**

   c. **Before entering Hidden Yard communicate with dispatcher, other operators, and anyone that is in the Hidden Yard of your intentions.**

   d. **Check available open Hidden Yard leads and select one. You can get a visualization using the available camera, or if needed, a manual visual inspection.**

   e. **Ensure that you know your train length and limits to ensure your train fits within the track you selected. Best practice is to reuse the same track you exited or have your train length limited to smallest storage track length.**

   f. **The track selection switch on the main control panel can be used to set the route into an available track.**

   g. **The Dispatcher will change the main line switch for Hidden Yard for your approach.**

   h. ***After your train has successful made it back into Hidden Yard, communicate with the Dispatcher and have the main line switch reset to the main track.***

   i. ***You can proceed with DCC consist address deletion or if you are planning to run again later you can change the track selector switch to an open track. Changing the track selector switch will prevent your train being run into by another train if the Hidden Yard switch doesn't get closed before the next train passes.***

j. **In cases where multiple trains are being routed into Hidden Yard, such as, end of the day, members will need to coordinate with the Dispatcher and each other to ensure a smooth transition.**

Important Dates – Relative to Era

Section 7

Friction Bearings Banned

Friction bearing trucks were banned from interchange service on 1/1/91 for cars carrying hazardous materials. All other non-hazardous carrying cars equipped with friction bearings were banned from interchange on 1/1/94. Cars with converted friction to roller bearing side-frames were banned from interchange on 1/1/95.

There were some instances of exemptions granted for shippers in "hardship circumstances" who could not comply with these dates. So, some cars did linger a little longer in interchange after the actual deadline dates.

The reason for outlawing trucks with conversion roller bearings was the hot bearing detectors couldn't "see" them when they overheated.

1966 - Required for all new and rebuilt 100-ton cars
1968 - Required for all new cars
1970 - Required for all rebuilt cars

<u>Roof walks banned.</u>

Most railroad cars roof walks started being removed in 1968, when the FRA outlawed them except for certain types of cars. There was a 10 year grace period where:

1. The roof walk had to be moved and the only side ladder, that was full size, was the one that reached to the brake wheel.

2. The second phase was when brake wheels had to lowered to a half height side ladder. You could leave the ladders but they had to be cut down. Same thing with the roof walk attachments.

3. The last phase was removing all roof walk attachments and adding a crossing platform so the brakeman could get to the brake wheel without having to pass between cars.

By 1978, all cars in interchange service had to abide by these standards. No new cars, again with certain exceptions, have been produced since 1970, with roof walks, so car producing companies wouldn't have reworked cars already in the pipeline. The main exception to the roof walks on covered hoppers and a few other specialized cars. These are technically called loading platforms and it's illegal for a crew member to be on the roof while the car was in motion. None of these rules applied to company service cars and it's still common to see company service boxcars with roof walks.

Cabooses and End of Train Devices.

The first ETD use is attributed to Florida East Coast Railway in 1969, soon other Class I railroads began using ETD's as well, until the mid-1980s when they were common equipment. Early models were little more than a brake line connection / termination, a battery and flashing tail light. As their use became more widespread through the 1980s, ETD's were equipped with radio telemetry transmitters to send brake pressure data to a receiver in the locomotive. To reduce the cost of battery replacements, ambient light sensors were added so the flashing light on the ETD would illuminate only during dusk and after dark. Later models have a small turbine-powered electrical generator using air pressure from the brake line to power the ETD's radio and sensors.

The one-way communication of brake data from the ETD to the locomotive evolved into two-way communication that enables the engineer to apply the brakes from both ends of the train simultaneously in an emergency.[1] This is useful in the event that a blockage (or an unopened valve) in the train's brake line is preventing dumping the air pressure and causing all of the brakes in the train going into an emergency application. Such a situation could be dangerous, as stopping distance increases with fewer functioning brakes. Dumping the brake line pressure from both the front and rear of the train simultaneously ensures that the entire train applies all of its brakes in emergency. Other electronics within the ETD were also enhanced, and many now include GPS receivers as well as the two-way radio communications.

Other Banned Items:

1928 cars with wooden main sills banned from interchange. Cars with truss rod under frames built new or retrofitted remain legal.
1933 billboard reefers outlawed as a violation of the anti-trust act
1938 billboard reefer virtually gone.
1940 all wood under frames outlawed.
1940 arch bar trucks banned in interchange after 7/1/40