SECTION 3

INSTRUCTIONS IN THE USE OF RAILWAY RADIO COMMUNICATION SYSTEMS

1.0 General

1.1 A railway radio communication system is one employing radio for the transmission of information between moving equipment, between moving equipment and a fixed point, between fixed points, and/or between employees provided with portable radios

1.2 These instructions comply with current Canadian Transport Commission, Railway Radio Regulations and do not modify or supersede any rule in the Uniform Code of Operating Rules, Timetable Special Instructions or in this General Operating Instructions Form CS44.

1.3 Only authorized radio equipment will be used. Citizen band radios must not be used to direct train or engine movements.

1.4 Only authorized technicians are permitted to make technical adjustments to radio equipment.

1.5 Unless otherwise directed failures of radio equipment must be reported to the Superintendent as soon as practicable. Railway operations must not be delayed as a result of radio equipment not being available or becoming inoperative, unless otherwise directed.

Radios must not be transferred off their assigned territory except as authorized by the Superintendent.

1.6 Unnecessary transmissions of any kind are not permitted. Communications must be restricted to

those necessary for the transmission of authorized directions or instructions.

1.7 No employee shall transmit any unnecessary, irrelevant or unidentified communication, nor utter any obscene, indecent or profane language via radio.

1.8 Employees must not transmit or cause to be transmitted any false or fraudulent distress signal, call or message or knowingly interfere or obstruct any radio communication.

1.9 Unless otherwise provided, the twenty-four hour system shall be used when expressing time. It must be expressed and transmitted by means of four digits, the first two denoting the hour past midnight and the last two the minutes past the hour.

For example:
0045 — nought nought forty-five
2345 — twenty-three forty-five

1.10 When there is any possibility of misunderstanding in areas of different time zones, then the time zone initials must be given after the time. **For example:** 0045 EST — nought nought forty-five EST.

1.11 Radio may be used for the transmission of train orders, messages, MBS clearances or bulletins.

1.12 When a train order, message, MBS clearance or bulletin is transmitted by radio to a train, the train dispatcher shall:

a) Follow proper radio identification procedures to establish communication with the train and state his intent;

b) Receive from the crew their location and understanding that a train order, message, MBS clearance or bulletin is to be transmitted;

c) If the train dispatcher does not require the train to stop, the train dispatcher may transmit such train order, message, MBS clearance or bulletin to the moving train, provided the employee copying same can do so without it interfering with the performance of other duties.

1.13 Uniform Code of Operating Rules governing the transmission of train orders by telephone apply when train orders are transmitted by radio.

1.14 When authorized by Timetable Special Instructions or by bulletin, radio teleprinters may be used for the transmission of train orders, MBS clearances, bulletins and other messages. Special Instructions as may be necessary to govern this method of operation will be issued.

1.15 Radio must not be used to:

- inform a train or engine crew of the contents of a train order, MBS clearance or bulletin not yet delivered.
- give advance information as to the indication of fixed signals.
- give advance information that a siding is clear or that the main track is clear within yard limits.

1.16 All cabooses and engines in road service that are fitted to accept radio equipment have shock resistant mounting racks for the portable radio units. Some cabooses may have in addition, auxiliary battery packs and an external antenna and the portable units must be connected thereto when used inside the caboose.

1.17 Any duly authorized officer of the Department of Communications may, from time to time, and at all reasonable times, inspect any radio station within Canada, any apparatus in use in such station, for the purpose of sending or receiving by radio.

1.18 Before a train or engine leaves a starting point, a voice test of radios shall be made to determine that they are functioning properly (Refer to calling procedures).

1.19 Train radios must be used in such a way as not to disturb passengers.

1.20 Special instructions will indicate.

a) the location of each base station and the hours during which each is monitored;
b) the channel to use to contact the train dispatcher or other parties;
c) the channel to stand by on for two way conversations;
d) the channel to use and procedure to follow in case of emergency.

1.21 Radios used in connection with railway operations shall be tuned to the channel stipulated by Special Instructions and shall have volume control set at a level that enables the employee responsible to monitor radio transmissions.

2.0 Operation of Locomotive Radio Units

2.1 Each engine equipped for radio communication will have an ON-OFF switch for the mobile radio unit.

Note:
When starting diesel unit, radio ON-OFF switch must be in the OFF position.

2.2 The radio must be turned on with the volume adjusted so calls may be received by all occupants of the cab until the trip is completed, unless the equipment becomes inoperative.

2.3 On engines so equipped the power indicator lamp will show the power is ON.

2.4 To transmit, the "push-to-talk" button on the handset or microphone must be depressed while speaking.

2.5 To receive, the "push-to-talk" button must be released.

3.0 Operation of Portable Radio Units

3.1 Each portable unit has a battery container which snaps onto its base and a whip-type or screw-on Heliflex type antenna. When such a unit is to be operated inside a caboose equipped with an external antenna, remove the whip antenna, place it in the holder provided on the caboose and then connect the external antenna to the radio.

3.2 Unless directed otherwise by special instructions or by bulletin, the radio should be left turned on with volume adjusted so calls may be received. When employees are not in position to receive radio calls, the radio will be turned off to save battery power.

3.3 When a rechargeable type battery is used, every effort should be made to begin each eight hour tour of duty with a fully charged battery. Employees must not tamper with, add to or use unauthorized batteries in radios.

3.4 Radios must not be operated when no antenna connected as damage to the radio will result.

3.5 The radio is turned ON by operating the ON-OFF switch to the ON position.

3.6 Rotate the volume control to a point halfway between low and high volume setting then rotate the squelch control until a rushing noise is heard, then back off this control until the noise just ceases.

3.7 To transmit, the "push-to-talk" button located on the handset or microphone must be depressed while speaking.

3.8 To receive, the "push-to-talk" button must be released.

3.9 When transmission and reception have been completed, replace the microphone firmly in its holder. Ensure the ON-OFF switch is returned to the OFF position except when the radio is kept ON for monitoring purposes.

Note:
Adjusting the volume and squelch controls on radio unit will enable the operator to receive a clearer and stronger voice signal, but these controls do not in any way affect transmitting or sending power. Once a radio conversation begins, further adjustment to the volume and squelch controls will only enable the operator to adjust the incoming volume to the desired audio level.

4.0 Transmitting Technique

4.1 The efficient use of radio depends on the speech and articulation of the operator. As the distinctive sounds of consonants become blurred in the transmission of speech and, as words of similar length containing the same vowel sounds are apt to sound alike, special care is necessary in their pronunciation. Speak all words plainly in a clear, distinct tone to prevent the running together of consecutive words. DO NOT SHOUT. Avoid any tendency to accent syllables artificially, or talk too rapidly. Speak slowly and clearly.

4.2 The following points should be kept in mind when using radio:

SPEED	— Keep the rate constant, neither too fast nor too slow. Remember in many cases the person receiving your message has to write it down.
PITCH	— Remember that high pitched voices transmit better than low pitched ones.
RHYTHM	— Preserve the rhythm of ordinary conversation. In separating words so that they are not run together, avoid the introduction of sound that does not belong such as "er" and "um". Attempt to maintain the pitch and rhythm of your voice to the end of each sentence.

4.3 Maintain at all times the correct position between mouth and microphone. Usually the mouth of the operator should not be more than 2 to 3 inches from the microphone angled at approximately 45 degrees.

4.4 WORDS AND PHRASES: The following words and phrases should be used where applicable. Slang expressions must not be used.

ACKNOWLEDGE	— Let me know that you have received and understood this message.
AFFIRMATIVE	— Yes or permission granted
CONFIRM	— My version is...is that correct?

CORRECTION	—	An error has been made in this transmission. The correct version is...
HOW DO YOU READ	—	Do you understand? Do you hear?
I REPEAT	—	I repeat.
NEGATIVE	—	No or permission not granted or that is not correct, or I do not agree.
OVER	—	My transmission is ended and I expect a response from you.
OUT	—	This transmission is ended and no response is expected.
READBACK	—	Repeat all this message.
ROGER	—	I have received all your last transmission.
SAY AGAIN	—	Repeat.
THAT IS CORRECT	—	(Self-explanatory)
WILCO	—	Your instruction received, understood and will be complied with.
WORDS TWICE	—	As a request .please send words twice. As information...I will send words twice.
CONTINUE	—	Proceed with your message

Note:
Do not make the common error of saying "OVER" and "OUT" as the terms contradict each other.

4.5 Phonetic Alphabet

Letters	Pronunciation
A — Alfa	AL fah
B — Bravo	BRAH VOH
C — Charlie	CHAR lee or SHAR lee

D	— Delta	DELL tah
E	— Echo	ECK oh
F	— Foxtrot	FOKS trot
G	— Golf	GOLF
H	— Hotel	hoh TELL
I	— India	IN dee ah
J	— Juliett	JEW lee ETT
K	— Kilo	KEY loh
L	— Lima	LEE mah
M	— Mike	MIKE
N	— November	no VEM ber
O	— Oscar	OSS cah
P	— Papa	pah PAH
Q	— Quebec	keh BECK
R	— Romeo	ROW me oh
S	— Sierra	see AIR rah
T	— Tango	TANG go
U	— Uniform	YOU nee form or OO nee form
V	— Victor	VIK tah
W	— Whiskey	WISS key
X	— Xray	ECKS RAY
Y	— Yankee	YANK Key
Z	— Zulu	ZOO loo

Note:
The letter "ZULU" should be written as "Z" to distinguish it from the numeral "2".

4.6 Where it is necessary to clarify a radio transmission, any letter used as an initial shall be pronounced according to the phonetic alphabet.

4.7 Where it is necessary to spell a word to clarify a radio transmission, the word shall first be pronounced and then spelled and, if necessary, spelled again using the phonetic alphabet.

4.8 Pronunciation of Numerals

To distinguish numbers from similar sounding words, the word "figures" should be used preceding such numbers. Numbers should be pronounced as follows:

Number	Pronunciation
†0	ZE-RO
1	WUN
2	TOO
3	TREE
4	FOW-er
5	FIFE
6	SIX
7	SEV-en
8	AIT
9	NIN-er
. (decimal)	POINT
Thousand	TOU-SAND

The following examples illustrate the recommended pronunciations of numerals:

Number	Pronunciation
44	FOW-er FOW-er
500	FIFE HUNDRED
1000	WUN TOU-SAND
16000	WUN SIX TOU-SAND
14899	WUN FOW-er AIT NIN-er NIN-er
20.3	TOOZE-RO POINT TREE

†Nought will be used instead of zero in train orders.

5.0 Calling Procedures

5.1 When a message or instruction is to be transmitted by radio, the employee operating the radio must listen a sufficient interval to be sure the channel is not already in use. If an emergency arises interruption is permitted by using the word "emergency" three times. Other employees using the channel must, unless they are also dealing with an emergency, cease transmission immediately. (See Emergency Calls, Subsection 6.0).

5.2 Employee at the beginning of each transmission must properly identify the person or station which he is calling, and himself, including in the identification, the initials of the railway by which he is employed and must satisfy himself that he is in communication with the intended station or person.

5.3 Trains will be identified by their clearance designation.

5.4 Instructions and messages received by radio must be acknowledged or repeated to the sender by the person receiving them. If necessary, he shall request the sender to repeat or clarify the transmission. An acknowledgement of receipt must not be given until the receiving person is certain that the transmitted message or information has been completely and correctly received and understood.

5.5 Instructions and messages concerning the movement of trains and engines must be repeated.

5.6 Any instruction or message which is not repeated or acknowledged as being fully understood shall not be acted upon and shall be treated as though not sent.

5.7 **Initiating a Call:**

When an employee wishes to establish communication with a specific station or person, it shall be transmitted as follows:

CP DISPATCHER MONTREAL	—	person and station called.
THIS IS	—	The words THIS IS
ENGINEMAN CP EXTRA 5550 WEST	—	Positive identification of person and station calling.
OVER	—	My transmission is ended and I expect a response from you.

5.8 **Replying to a call:**

When a station is ready to receive the communication he should reply in the following manner.

ENGINEMAN CP EXTRA 5550 WEST	—	Name of station called.
THIS IS	—	The words THIS IS
CP DISPATCHER MONTREAL	—	Identification of station and person.
OVER	—	My transmission is ended and I expect a response from you.

Examples:

Call from Conductor to Engineman of same train:

Conductor:	Engineman CP train 952 This is Conductor ..over

Engineman:	Conductor CP train 952 This is Engineman. .over

Call from Engineman to a Wayside Base Station:

Engineman:	CP Yard Office Revelstoke This is Engineman CP Extra 5555 East...over
Yard Office:	Engineman CP Extra 5555 East This is CP Yard Office Revelstoke...over

5.9 After communication has been established and when no confusion is likely to arise, a shortened form of procedure may be used by omitting the words, "this is" etc.

Example:

Engineman:	We left Dorval at 0730 (nought seven-thirty)
Dispatcher:	Roger Extra 5550 West.

5.10 A radio conversation should always be terminated by both the receiving station and the transmitting station, transmitting its own name or identification, followed by the word "OUT".

Example:
CP Dispatcher Montreal...OUT.
Engineman CP Extra 5550 West...OUT.

6.0 Emergency Calls

6.1 Reports of derailments, storms, washouts, fire, obstructions on tracks, or other matters which cause serious delay to traffic, damage to property, injury to employees or to the travelling public, shall be classed as an emergency and the following procedures apply:

6.2 The person initiating the call shall use the channel

designated and say the word "EMERGENCY" three times. Employees using the channel will cease transmission immediately, unless they are also dealing with an emergency.

6.3 An emergency call shall have absolute priority over all other transmissions. All stations which hear it shall immediately cease any transmission which may interfere with it and shall listen on the frequency used for the emergency call.

6.4 The emergency call shall be followed as soon as possible by the distress message which shall give:

a) Identification of the sender (if a train or engine the identification of the train and engine number).

b) Accurate particulars of his (or the train or engines) location.

c) Nature of distress.

d) Kind of assistance required.

6.5 An emergency shall be repeated at intervals until an answer is received. The intervals between repetitions of an emergency message shall be sufficiently long to allow time for stations which have received the message to reply. Should an emergency message not be acknowledged by the dispatcher, it must be relayed by any operator or other employee who does receive it.

6.6 Should it not be possible to initiate an emergency call on channel designated in Special Instructions, any available channel should be used.

6.7 The train dispatcher may designate another channel for emergency communication after an initial emergency call has been made on designated channel.

7.0 Radio Used in Lieu of Hand Signals

7.1 When more convenient to do so, radio may be used in lieu of hand signals. During switching operations, when radio is being used, both the DIRECTION and DISTANCE of the movement must be given.

7.2 There must be a definite understanding with all concerned that movements are to be controlled by radio in lieu of hand signals or when a change from radio to hand signals is planned.

7.3 In the event of an interruption of communication or if no further communication is received after the movement has moved ONE-HALF the distance given in the last instruction, the movement must be stopped at once.

Example: (Following proper identification procedure)

Trainman — CP Engine 5550 back up two car lengths
Engineman — CP Engine 5550 back up two car lengths.
Trainman — CP Engine 5550 back up one car length.
Engineman — CP Engine 5550 back up one car length.
Trainman — CP Engine 5550 back up one-half car length.
Engineman — CP Engine 5550 back up one-half car length
Trainman — Stop CP Engine 5550.
Engineman — Stop CP Engine 5550.

7.4 In the event of failure of radio equipment, or communication is interrupted during switching operations, the movement must be stopped at once and

no further movement made, except as authorized by hand signals, or until radio communication is restored.

SECTION 4

SWITCHING AND MARSHALLING FREIGHT TRAINS

1.0 General

1.1 When coupling cars together, speed of four miles per hour at time of coupling must not be exceeded to avoid damage to equipment and lading. After coupling, it must be known that locking blocks and pins of the coupler have dropped into place. Slack must be taken or seen to run out to ensure a proper coupling has been made.

1.2 When switching shed, team or industrial tracks, partly loaded or unloaded cars containing commodities subject to damage due to load shifting, must be handled with extreme care to avoid damage.

1.3 When loads subject to damage from overspeed impacts are included in cuts of twenty or more cars during flat switching operations, the cut must be stopped one car length from the point of coupling to other cars, before the coupling is made.

1.4 Shipments of bridge girders or similar type lading loaded on three or more flat or gondola cars must not be moved over humps in classification yards. When such shipments are being loaded on car ferries or barges, loading should be carried out at times when aprons are as level as possible, and after loading, blocking and tie down fastenings must be carefully examined.

1.5 Instructions for movement of freight cars having a gross weight up to 263,000 pounds are specified in Timetable footnotes and Equipment Authorization Chart.

1.6 Authority for movement of freight cars having a gross weight in excess of 263,000 pounds must be secured from the Superintendent.

1.7 Unless protected by end bulkheads extending to the top of ladings, open top cars, open trailers moving in piggyback service and open containers in the end positions on container flat cars any of which are carrying pipe, lumber, poles, metal rods or other lading which has a tendency to shift must not be handled in a train next to diesel-electric unit, caboose, boarding car or passenger car if such equipment is occupied and should not, if it can be avoided, be marshalled next to any loaded multi level car or car containing livestock.

See Section 8 for marshalling chart which shows additional mandatory marshalling restrictions for loaded open tops.

1.8 Except where used as idlers, empty flat cars 41 feet or less in length over end sills must be marshalled towards the rear of trains.

2.0 Handling Piggyback Cars

2.1 Loaded piggyback flat cars and loaded container flat cars should not be humped or cut off in motion, nor should other cars be cut off in motion toward them, when a practical alternative is available.

2.2 If necessary to hump or cut them off in motion, special care must be taken to ensure that they and following movements toward them are properly controlled and that cars are coupled with the least impact possible.

3.0 Handling Long Cars

3.1 A car more than 60 feet in length must not be

coupled to any other car until it is known that coupler heads are in proper alignment to permit coupling.

3.2 West of Alyth and New Lethbridge, cars 70 feet and longer over end sills must be marshalled in the rear half of the train.

3.3 When tri-level, bi-level and piggyback cars are spotted, the slack should be stretched and hand-brakes applied to prevent the possibility of cars moving during loading or unloading operations. Where a ramp coupler is provided, test must be made to ensure coupling is made to the ramp.

4.0 Handling Occupied Cabooses and Service Equipment Cars

4.1 Before coupling to or moving occupied service equipment cars, stop must be made and when practicable, persons in, on or about them notified. Cars should be checked to ensure all cables, hoses, temporary ladders etc., have been removed. Upon the proper signal, coupling must be made carefully to avoid shock Occupied service equipment cars must not be cut off in motion, nor may other cars be cut off in motion toward them.

4.2 Except as provided for in item 4.3 all occupied cabooses and occupied service equipment cars, other than flangers, plows, spreaders, test cars and official business cars, shall be marshalled in and moved at the rear of freight trains immediately ahead of the operating caboose.

4.3 Where track configurations require extreme care in set-off movements, such occupied service equipment cars may be moved at the head-end of freight trains behind the locomotive units, but for no greater distance than twenty miles, and at no greater speed than 20 m.p.h.

4.4 When any of the service equipment cars, being handled in trains, are occupied by personnel, the train speed must not exceed 35 m.p.h. Unless otherwise instructed, no restriction from the authorized freight train speed is necessary for the movement of non-occupied cars.

4.5 The movement of service equipment cars on trains of 65 cars or over, should be avoided.

4.6 Large gang movements which, with their associated service equipment cars, are 30 cars or more, when practicable should be moved by special train.

4.7 The person in charge of service equipment cars and who arranges for their train movement will be responsible, at that time, for informing the Chief Train Dispatcher as to whether any of the cars will be "occupied" or "not occupied" and if not occupied whether they contain stoves, propane ranges, tables, etc. It will be the responsibility of such person in charge to advise the Chief Train Dispatcher of any subsequent change in this status. The Train Conductor should also be advised by the Train Dispatcher or the person in charge of the cars.

4.8 When unoccupied propane equipped cars are being moved, all flame must be extinguished and main propane valves closed Water systems must be fully drained during freezing weather to prevent damage.

4.9 Unoccupied service equipment cars with contents such as stoves, propane ranges, tables, etc., must be handled the same as occupied cabooses and service equipment cars as prescribed in Section 4 – Items 4.1, 4.2, 4.3, 4.5 and 4.8. The Train Conductor must be advised when this paragraph will apply.

4.10 When snow plows and/or spreaders are behind handled deadhead, they must be marshalled at the rear of train, next ahead of caboose and run in the direction of travel. Whenever it is not possible to handle in the direction of travel, precautions must be taken to ensure wings remain properly secured, snow does not pack behind wings during movement, train speed does not exceed 25 m.p.h., and must be turned at first available wye or turntable.

5.0 Handling Multi-Level Automobile Cars

5.1 **Marshalling:**

WHETHER LOADED OR EMPTY

— must be placed towards the rear of the train unless otherwise authorized.

— should not be coupled to cars (other than working cabooses) which are less than 41'6" in length over end sills.

— must not be placed next to cars containing commodities which could shift lengthwise, and must be separated from such cars by box cars or other types of closed equipment.

WHEN LOADED

— must not be placed immediately behind open top cars containing coal, sand, gravel, sulphur or similar commodities; at least one closed type car must, when practicable, intervene.

5.2 **Switching:**

WHETHER LOADED OR EMPTY

— should be coupled together or to other types of cars on straight track. Coupling on curved track may be extremely difficult.

— particular care must be taken to ensure they are shoved fully into clear of adjacent tracks before being uncoupled, because of the length of the

cars and the overhang from the trucks to the ends of the cars.

WHEN LOADED

— to avoid impact damage, particular care must be taken when cars are cut off in motion or when other cars are cut off in motion toward them. Coupling speed must not exceed THREE miles per hour.

— must be stopped not over ten feet from a stop block before being placed against it.

— should not be hung onto during switching operations. Instead the cars should, when practicable, be set out until switching is complete and then coupled back on the train or cut off cars.

6.0 Canadian National Railways Automobile Double Deck Transporter Cars

Series	Series
730034 - 730068	720032 - 720063
	720100 - 720139
Overall Dimensions	
Length 78'2"	Length 60'2"
Height 16'5½"	Height 16'5½"
Width 10'8"	Width 10'8"

6.1 These cars are authorized to operate on C.P. Rail and Canadian National lines only, and must not be interchanged to any other Railroad.

6.2 Employees must keep off the tops of the Automobile Transporter Cars while being operated in trains.

6.3 Because of the extreme dimensions of cars in series CN 730034 - 730068, utmost care must be taken when switching with these cars, particularly in terminals and other locations where conditions of

limited clearance exist. Crews must be especially watchful when operating through turnouts on ladder tracks to ensure ample side clearance with cars on adjacent tracks. The center overhang of these cars, when negotiating turnouts, is approximately six inches beyond that of a standard forty-foot freight car; therefore, it is imperative that crews be especially alert to avoid cornering cars on adjacent tracks. No switching that can be avoided should be performed with these cars, either loaded or empty. When marshalling and breaking up trains at terminals, these cars should be set out until switching is completed. Running switches must not be made, nor should they be cut off while in motion

6.4 Check local bulletins for tracks and routes over which Auto Transporter Cars must not be operated because of insufficient clearance. This applies to cars in Series CN 720000 - 720069 as well as CN 730000 - 730073 insofar as height is concerned.

7.0 Handling Transformers and Circuit Breakers

7.1 To reduce possibility of damage, Transformers and Circuit Breakers are not to be humped or switched except with engine attached, and are to be marshalled at head end of train, no more than 15 car lengths from engine when practicable.

8.0 Movement and Marshalling of Scale Test Cars

8.1 Account lightweight and short wheelbase of scale test cars, the following restrictions apply in addition to speed restrictions specified in time table Special Instruction "P".

- must be marshalled next ahead of caboose
- must not be humped
- must be trailing car when pulled except for operating caboose

— must be leading car when pushed except for operating caboose.

9.0 Handling of Continuous Welded Rails or Strings of Bolted Rails

9 1 Loaded cars of continuous welded rail or strings of bolted rails must be moved in special trains and not handled as part of a conventional freight train consist.

a) Maximum authorized speed 30 mph
b) Through turnouts 15 mph
c) Through curves 8 degrees or over 15 mph
d) When practicable, hold main track at meeting points.

Note:
The train dispatcher must ascertain the location of curves 8 degrees or greater and protect same by issuing train order Form V or MBS bulletin.

9.2 Sudden stops and rough coupling of rail train *must* be avoided. Cars must not be dropped onto rail train or rail train dropped onto other cars.

9.3 In the event of a break-in-two between cars carrying long strings of welded rail, the following procedures must be taken as the safe course in handling welded rail train:

a) Notify dispatcher immediately, giving location and all pertinent information regarding break-in-two.
b) If possible, clear the main track before recoupling is attempted. If recoupling is attempted, it must be ensured that all rails enter the proper compartment on the roller racks.
c) If train is on grade, sufficient hand brakes must be applied to secure cars in event air brakes

leak off and to prevent any further movement until air pressure is restored on cars behind the break-in-two.

d) Two 25-ft. and one 15-ft. air hoses with connections, two 25-ft and one 15-ft. length of 1¼" cable with hooks are located in brackets on the side of the anchor car near the centre of the rail train and will be used to restore air throughout the entire train and to tie cars together at the point of break-in-two. Also two safety-pull hoists 3-ton capacity to assist in moving rail if required are located in the side of the roller rack on the first car behind the tie-down car. On level or nearly level grade, cars of welded rail may then be safely pulled to nearest set-out point, but such move must be made with extreme caution and abrupt starts and stops avoided. Where grades are involved, it is preferable to handle on descending grades to set-out point.

9.4 In the event of one or more strings of welded rail shifting, the following procedures must be taken:

a) Notify dispatcher immediately, giving location and all pertinent information.

b) If possible, remove anchors and loosen tie-down bolts on displaced strings.

c) Use safety pull hoists or winch on "threader car" if available to pull strings into place.

d) After strings have been readjusted and cars recoupled, re-tighten all hold-down bolts and reapply anchors.

10.0 Handling of Track Geometry Car

10.1 The track geometry car must be handled as "occupied passenger equipment" at all times. This includes switching at yards and terminals, as well as

train handling on line, both when running light or deadheading, with or without personnel aboard.

10.2 During switching operations, in hump or other yards, the geometry car must not pass over tracks equipped with hump or inert retarders, and must be handled with extreme care to avoid damage.

10.3 The car should be properly pointed with the "A" end trailing at all times. "Except as may be directed by the car supervisor."

10.4 In order to obtain maximum utilization and full benefits from the operation of the car, preference should be given to operation on fast freight trains, or special trains. Although the car may travel at track speed without restrictions, the speed should be above 20 mph when testing. Therefore during testing operation on freight trains, the tonnage and power requirements should be such to permit a speed of 20 mph or more.

10.5 While testing, the car must be marshalled behind the caboose, and to minimize rough handling, trains should not be more than "80" cars.

10.6 When deadheading, the car will be marshalled ahead of the caboose or behind the units. "As designated by the car supervisor."

10.7 Dispatchers must ensure trains handling the car, hold the main track during meets with other trains.

10.8 Dispatchers must ensure that a copy of all train orders be provided for the personnel riding the car.

10.9 The car is equipped with special end of car cushioning draft gears, which permits handling at the rear of train.

10.10 The car must not be moved on curves greater than 22 degrees.

11.0 Train Marshalling

11.1 To reduce the probability of undesirable Track/Train Dynamics occurrences, the following marshalling instructions, as practicable subject to destination blocking apply:

a) Heavy cars should be marshalled, as close as possible to the head end and light cars, to the rear end of trains.

b) Large blocks of heavy cars should not be added to the rear of trains unless most cars ahead of the block are equally as heavy.

c) Empty cars should not be added to the head end of large trains unless most of the cars behind such empty cars are either empty or have a relatively light gross weight.

12.0 End-of-Train Information System (ETIS)

12.1 An End-of-Train Information System (ETIS) must be removed from the coupler affected before coupling is made.

Note:

For instructions in switching and marshalling cars carrying dangerous goods, see Section 8.