

SAFETY



SERVICE

**C. V. COLSTADT**  
Assistant Superintendent  
Denver

**L. J. DALY**  
Trainmaster  
Denver

**R. J. HENRY**  
Terminal Trainmaster  
Denver

**C. P. NEIGENFIND**  
Assistant Trainmaster  
Phippsburg

**R. R. MARNER**  
Road Foreman of Equipment  
Denver

**P. H. FOLEY**  
Road Foreman of Equipment  
Denver

**S. F. O'BRIEN**  
Chief Dispatcher  
Denver

**J. B. CULBERTSON**  
**H. M. CLIFFORD**  
Assistant Chief Dispatchers  
Denver

# The Denver and Rio Grande Western Railroad Company

## PUEBLO DIVISION SUB-DIVISIONS 1-A AND 1-B

### TIME-TABLE

# No. 4

**Takes Effect Sunday, March 20, 1949**

**12:01 A. M.**

**Mountain Standard Time**

**Superseding Time-Table No. 3**

### NOTE IMPORTANT CHANGES IN TIME-TABLE RULES

**For the Exclusive Guidance of Employees;  
Not for the Information of the Public**

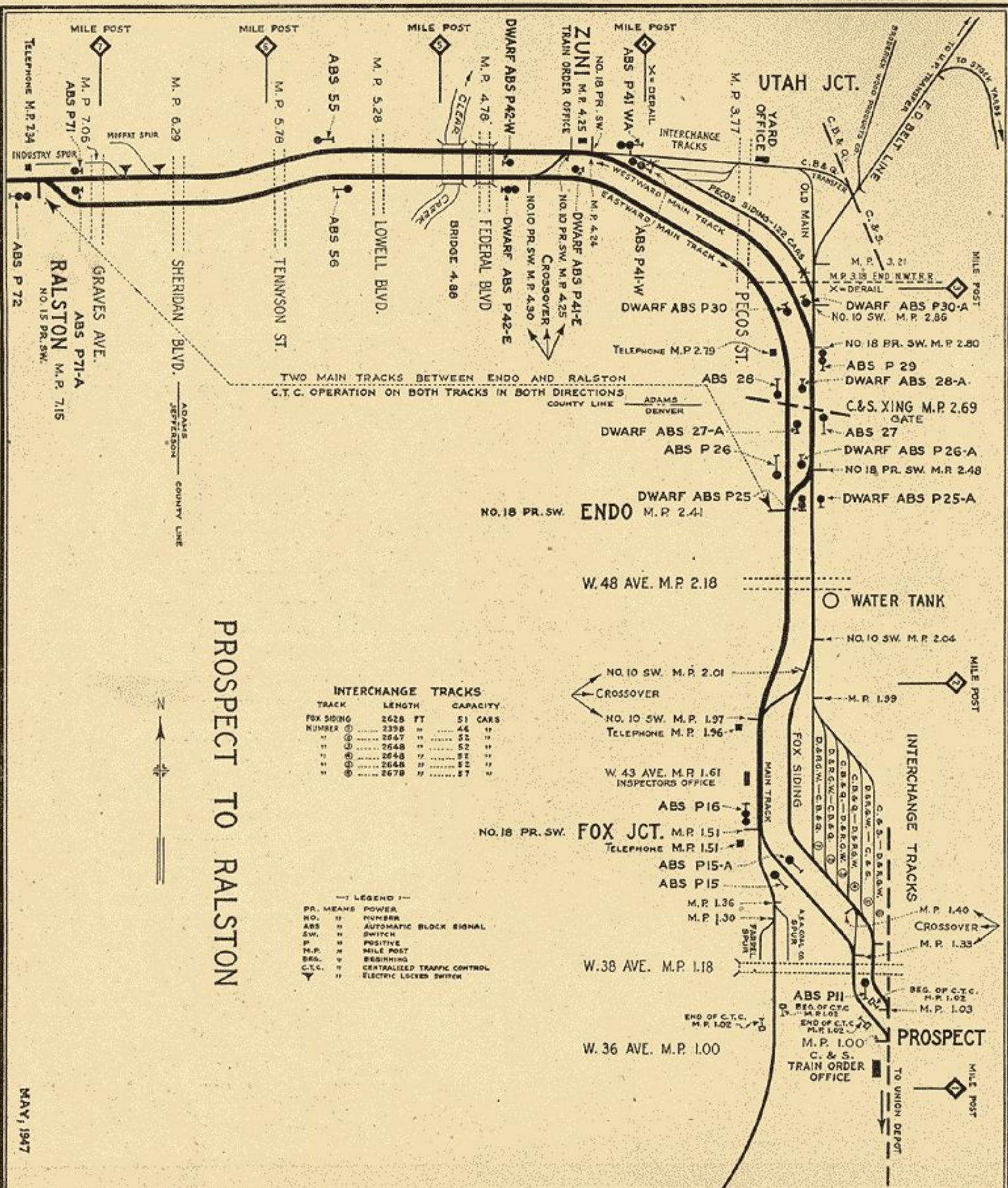
**A. E. PERLMAN**  
General Manager

**L. F. WILSON**  
Assistant General  
Manager

**L. H. HALE**  
Superintendent Transportation

**L. T. WRIGHT**  
Superintendent







## ENGINE TONNAGE RATINGS

FROM	TO	Class 5400 HP	Class 5400 HP	Class 6000 HP	Class 6000 HP	Class L-131 L-132	Class L-95	Class L-77	Class M-67-78	Class M-64	Class K-63	Class K-50	Class C-43	Adjust- ment Factor
		Diesels 540-547 549-551	Diesel 548	Diesels 552-554	Diesels 555-557	Engines 3600-3619	Engines 3400-3415 †	Engines 3350-3375	Engines 1501-1530	Engines 1700-1713	Engines 1220-1229	Engines 1200-1213	Engines 1031-1039	
FROM	TO	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	
Denver.....	East Portal.....	2275	1875	2530	3200	2100	1450	1140	1040	950	1000	900	690	3
Tabernash.....	Winter Park.....	2700	2300	2700	3550	2250	1400	1250	1090	1034	1100	940	750	3
Orestod.....	Tabernash.....	4950	4500	4950	6525	4425	3035	2530	2230	2036	2225	1890	1550	6
Orestod.....	Phippsburg.....	2275	1875	2530	3200	2100	1450	1140	1040	950	1000	900	690	3
Phippsburg.....	Toponas.....	2860	2350	3000	3750	2650	1725	1400	1250	1150	1235	1100	850	4
Phippsburg.....	Pallas.....					4200	3000	2145	2230	2036	1890	1890	1310	6
Haybro.....	Phippsburg.....					2650	1725	1400	1200	1150	1235	1000	850	4
Steamboat.....	Haybro.....					4350	3100	2530	2300	2100	2225	1950	1550	6
Craig.....	Steamboat.....					6000	5400	4600	4200	4000	4050	3760	2840	0

Ratings for Class L-77; K-63 and C-43 engines are computed on actual tonnage basis; all other engines on adjusted tonnage basis.

† Tractive effort engines 3400, 3401, 3402, 3403, 3409 and 3414 have been increased to 99,000 pounds and are rated 4.2% more than other 3400 series engines.

These ratings are the usual tonnage ratings for dead Freight trains. Chief dispatchers are authorized to increase or decrease these ratings in their discretion in accordance with standing instructions, to adjust for slack grades, conditions of power, necessity for maintaining stock schedules, or for any other reasons which justify.

In computing tonnage, the adjustment factor represents the number of tons which shall be added to the total weight of each car, loaded or empty. The caboose shall count as a car. Tonnage hauled may exceed the rating by a fraction of a car.

### SIGNAL MAINTAINERS

Headquarters	Signal District	
	From	To
Denver.....	ABS 11-15	ABS 239
Cliff.....	ABS 239	ABS 478
East Portal.....	ABS 478	ABS 651
Sulphur.....	ABS 651	ABS 1027
Kremmling.....	ABS 1027	ABS 1227
Bond.....	ABS 1227	ABS 1296

### LOCATION WAYSIDE RADIO STATIONS

Denver—Dispatcher  
 Fox Junction  
 Winter Park  
 Sulphur  
 Bond



## WESTWARD

## MAIN LINE

FIRST CLASS					Sub-Division 1-A STATIONS TIME-TABLE No. 4 MAR. 20, 1949			Car Capacity	
23 Mixed	19 Mountaineer	7 Prospector	9 Passenger Mail & Exp.	17 California Zephyr				Mile Posts	Other Tracks
Leave Mon., Wed., Fri.	Leave Daily	Leave Daily	Leave Daily	Leave Daily					
8 20 PM	8 05 PM	5 30 PM	9 25 AM	8 40 AM	DENVER			0.0	
					1.0				
8 25 PM	8 10 PM	5 35 PM	9 30 AM	8 45 AM	PROSPECT			1.0	
					0.5				
8 27					FOX JCT.			1.5	
					0.9				
f 8 38			f 9 38		ENDO			2.4	
			f 9 43		1.8				
			f 9 53		ZUNI			4.2	
			f 10 05		2.9				
			f 10 13		RALSTON			7.1	30
f 9 35	9 00	6 20	f 10 23	9 25	5.3				
			f 10 45		LEYDEN			12.4	116
					5.6				
s 10 19	9 32	6 52	s 11 05	9 52	ARENA			18.0	105
s 10 33			s 11 18		3.2				
f 10 48			f 11 30		CLAY			21.2	124
s 10 56			s 11 37		3.3				
s 11 10	10 35	7 35	s 11 52	10 25	PLAIN			24.5	140
s 11 32			s 12 04 PM		5.7				
s 11 40			s 12 12		CRESCENT			31.3	122
					4.7				
s 12 06 AM		s 8 10	s 12 35	10 58	CLIFF			37.0	126
s 12 30	11 25		s 12 50		4.7				
			f 1 03		ROLLINS			41.7	93
			f 1 09		5.2				
s 1 21	11 50	8 50	s 1 19	11 34	TOLLAND			46.9	121
			f 1 23		3.2				
f 2 00			f 1 35		EAST PORTAL			50.1	133
			s 1 48		6.8				
			f 1 59		WINTER PARK			56.9	159
s 2 35	12 54 AM	9 47 PM	s 2 13	12 25 PM	5.3				
f 2 53			s 2 30		FRASER			62.2	109
3 07			f 2 42		3.8				
3 20			f 2 53		TABERNASH			66.0	85
3 45			f 3 13		9.8				
f 3 51			s 3 18		GRANBY			75.8	85
4 01			f 3 27		10.4				
s 4 13			s 3 35		SULPHUR			86.2	214
s 4 45 AM			3 45 PM		6.8				
Arrive Tues., Thurs., Sat.	Arrive Daily	Arrive Daily	Arrive Daily	Arrive Daily	FLAT			93.0	160
8 25 10.9	4 49 26.7	4 17 30.0	6 20 26.5	3 45 34.3	5.5				
					TROUBLESOME			98.0	129
					2.3				
					KREMMLING			103.5	129
					5.5				
					GORE			105.8	152
					5.1				
					AZURE			111.3	84
					5.1				
					RADIUM			116.4	184
					6.0				
					YARMONY			123.0	103
					5.8				
					ORESTOD			128.8	51
					5.6				
					McCOY			134.4	82
					4.3				
					CRATER			138.7	78
					4.0				
					VOLCANO			142.7	48
					7.4				
					EGERIA			150.1	76
					3.2				
					TOPONAS			153.3	52
					4.6				
					TRAPPER			157.0	74
					3.9				
					YAMPA			161.8	77
					6.2				
					PHIPPSBURG			168.0	439
					(168.0)				
					Schedule Time Average Miles per Hour				

Trains operate by Centralized Traffic Control between ABS 11 Prospect and ABS 1288 Orestod.  
For operation between Denver Union Depot and Prospect, see C. & S. Denver Terminal Division Time-Table.  
The small figures shown in schedule columns Denver are for information only.



## MAIN LINE

## EASTWARD

Miles from Phippsburg	Sub-Division 1-A STATIONS TIME-TABLE No. 4 MAR. 20, 1949		FIRST CLASS										
			20	8	10	18	24						
			Mountaineer	Prospector	Passenger Mail & Exp.	California Zephyr	Mixed						
	DN DS DU	DENVER	DNDEP	Arrive Daily	Arrive Daily	Arrive Daily	Arrive Daily	Arrive Wed., Fri., Sun.					
168.0		1.0		7 20 AM	8 15 AM	3 15 PM	7 00 PM	6 20 AM					
167.0	CK	PROSPECT	DNJP	7 13 AM	8 10 AM	3 08 PM	6 54 PM	6 12 AM					
		0.5											
166.5		FOX JCT.	F					6 11					
165.6		ENDO	F										
163.8		ZUNI	F			f 3 02		5 52					
160.9		RALSTON	F			f 2 57							
155.6		LEYDEN	F			f 2 47							
150.0		ARENA	F			f 2 35							
146.8		CLAY	F			f 2 25							
143.5		PLAIN	F	6 15	7 21	f 2 15	6 14	5 4 55					
138.7		CRESCENT	F			f 1 53							
		5.7											
131.0		CLIFF	PW	5 40	6 46	s 1 33	5 45	s 4 12					
128.3	R	ROLLINS	DP			s 1 18		s 3 57					
121.1		TOLLAND	F			f 1 06		f 3 45					
117.9		EAST PORTAL	PT			s 1 00		s 3 35					
111.1	EV	WINTER PARK	DNF	4 55	6 04	s 12 42	5 12	s 3 15					
105.8	Z	FRASER	DP			s 12 24		s 2 50					
		3.8											
102.0	BN	TABERNASH	DDFKP SWT			s 12 12 PM		s 2 40					
		0.8											
92.2	S	GRANBY	DP		x 5 27	s 11 50	4 36	s 2 10					
		10.4											
81.8	GS NS	SULPHUR	DFKSP TW	3 50		s 11 30		s 1 35					
		6.8											
75.0		FLAT	F			f 11 17							
		5.0											
70.0		TROUBLESOME	F			f 11 11							
		5.5											
64.5	K	KREMMLING	DNFW	3 26		s 11 03		s 12 55					
		2.3											
62.2		GORE	F			f 10 55							
		5.5											
56.7		AZURE	F			f 10 43							
		5.1											
51.6		RADIUM	F			s 10 31		f 12 20 AM					
		0.6											
45.0		YARMONY	F			f 10 20							
		5.8											
39.2	OD	ORESTOD	DNJFW	2 35 AM	3 52 AM	s 10 10	3 14 PM	s 11 50					
		5.6											
33.6		McCOY	F			s 9 52		f 11 20					
		4.3											
29.3		CRATER	PT			f 9 41		11 08					
		4.0											
25.3		VOLCANO	F			f 9 30		10 54					
		7.4											
17.9		EGERIA	PW			f 9 11		10 29					
		3.2											
14.7		TOPONAS	PT			s 9 06		f 10 23					
		4.6											
10.1		TRAPPER	F			f 8 58		10 08					
		3.9											
6.2	WA	YAMPA	DFW			s 8 52		s 10 00					
		6.2											
0.0	BO	PHIPPSBURG	DNBFKO FSWY			8 40 AM		9 35 PM					
		(168.0)		Leave Daily	Leave Daily	Leave Daily	Leave Daily	Leave Tues., Thurs., Sat.					
		Schedule Time		4.45	4.23	6.35	3.46	8.45					
		Average Miles per Hour		27.0	29.4	23.0	34.2	19.2					

Trains operate by Centralized Traffic Control between ABS 1288 Orestod and ABS 11 Prospect.  
For operation between Prospect and Denver Union Depot, see C. & S. Denver Terminal Division Time-Table.  
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## WESTWARD

## CRAIG BRANCH

## EASTWARD

FIRST CLASS			Mile Posts	Sub-Division 1-B		Miles from Craig	Car Capacity		FIRST CLASS	
9	23	STATIONS		Sidings	Other Tracks		10	24		
Passenger Mail & Exp.	Mixed	TIME-TABLE No. 4					Passenger Mail & Exp.	Mixed		
Leave Daily	Leave Tues., Thurs., Sat.	MAR. 20, 1949					Arrive Daily	Arrive Tues., Thurs., Sat.		
4 00 PM	4 45 AM	168.0	BO	PHIPPSBURG	DNDPFO PSWT	63.7		Yard 439	8 25 AM	9 35 PM
4 10	5 05	171.4	CK	OAK CREEK	DP	60.3	22	9	8 15	9 18
4 12	5 07	172.1		OAK HILLS	P	59.6		Mine Tracks	8 13	9 17
4 15	5 10	173.6		ROUTT	P	58.1	33	Mine Tracks	8 10	9 14
4 19	5 16	175.2		HAYBRO	PW	56.5	54	Mine Tracks	8 06	9 10
4 26	5 21	178.2		PARK	P	53.5	44		8 01	9 03
4 36	5 30	183.9		SIDNEY	P	47.8	84	21	7 53	8 53
4 57	6 01	191.1	S	STEAMBOAT	DPWT	40.6	78	107	7 42	8 40
5 08	6 11	197.8		BROOK	P	33.9	41		7 26	8 18
5 14	6 19	201.2		MILNER	P	30.5	83	16	7 21	8 12
5 18	6 24	203.8		TOW CREEK	P	27.9		Sd-14	7 17	8 07
5 22	6 29	206.6		BEAR	P	25.1	74	Mine Tracks	7 13	8 02
5 29	6 38	208.0	HS	HARRIS	DPWT	23.7	66	60	7 10	7 58
5 45	6 58 <sup>10</sup>	215.1	HN	HAYDEN	DP	16.6	44	55	6 58 <sup>23</sup>	7 43
5 51	7 10	219.5		CARY	P	12.2		SP. West 12	6 49	7 34
6 01	7 20	225.3		ELK	P	6.4			6 40	7 25
6 35 PM	7 45 AM	231.7	CG	CRAIG	DEPKFWT	0.0	Yard 259		6 30 AM	7 15 PM
Arrive Daily	Arrive Tues., Thurs., Sat.			(63.7)					Leave Daily	Leave Tues., Thurs., Sat.
2.35	3.00			Schedule Time					1.55	2.20
24.6	21.2			Average Miles per Hour					33.2	27.9



# Special Time-Table Rules

## Superseding Rules and Regulations Which Are Inconsistent Therewith

### 1. EASTWARD TRAINS ARE SUPERIOR TO WESTWARD TRAINS OF THE SAME CLASS.

1-A. Trains have no time-table superiority within yard limits Phippsburg and Craig, and will run at restricted speed expecting to find main track occupied by other trains or engines. Crews using main track will not delay passenger trains unnecessarily. In case of collision responsibility rests with approaching train or engine.

1-B. Between the west switch at Orestod and Craig an extra train must clear the time of a first-class train, in the same direction, at any station, not less than five (5) minutes, and the remainder of Operating Rule 86 will not be applicable in this particular territory.

2. Westward trains or engines originating Utah Junction-Zuni may leave Zuni without clearance card, and may enter CTC limits at Zuni by indication of ABS P 41 WA and leave register ticket at Winter Park.

3. Train register books are located at Denver Union Depot, Orestod, Phippsburg and Craig. Passenger trains will leave register ticket at Prospect; freight and mixed trains at Winter Park. All trains leave register ticket at Orestod.

Register stations are shown in body of the time-table in **FULL FACED TYPE**.

4. Yard Limit Stations between MP 128.8 and MP 129.6 (Orestod), Crater, Egeria, Phippsburg, Haybro, Steamboat, Harris, Hayden and Craig.

4-A. Operating Rule 93 governs train and engine movements between Fifteenth Street, Denver, and Fox Junction, and on auxiliary tracks between Fox Junction and Zuni (including tracks at Utah Junction) and East Denver Belt Line.

4-B. At Milner inferior westward trains will enter siding via crossover switch, and at Sidney inferior eastward trains will enter siding via crossover switch (Operating Rule 5).

4-C. Switching or backup movements must not be performed over 19th Street crossing (MP 0.4), Pecos Street (MP 3.7), over highway crossing on west leg of Wye at Harris, and over Ranney Street, Craig, without flag protection.

5. **AIR BRAKE AND RETAINER OPERATION AND INSPECTION STOPS.** On descending grades trains must stop at designated intervals for inspection of brake rigging, wheels and other parts of train, and conductor must know that such inspection has been made before train proceeds.

Freight and mixed train conductors will arrange for track behind caboose to be observed, at intervals between stations, for fresh wheel marks that may have been made by the train and take such action as circumstances may warrant.

Eastward passenger trains handled by Diesel locomotives with dynamic brakes operating are not required to stop at Cliff for inspection. Other eastward passenger trains will make regular inspection stop at Cliff in addition to such other inspection stops as may, in the judgment of the conductor or engineman, be advisable.

Eastward freight and mixed trains (except those from Bond) will stop for inspection at Crater and Orestod, and will make such additional stops as are required by this rule.

Eastward freight trains handled by Diesel locomotives, with dynamic brake operating on the entire locomotive, will make one regular inspection stop at East Portal and need not make additional stop if train is operating normally.

Eastward freight and mixed trains handled by locomotives other than Diesel, will stop for inspection at East Portal and at intervals of not more than fifteen (15) miles thereafter, between East Portal and Ralston. If train is stopped at any station between East Portal and Ralston, train inspection will be made and train dispatcher will assume that a normally operating train will not again stop for inspection at a station not more than fifteen (15) miles east thereof.

Westward freight and mixed trains will stop at Winter Park, eastward freight and mixed trains at East Portal, and conductor must know that brakes apply and release on rear car and that air pressure is restored on caboose gauge before starting.

Retainers, when used on freight and mixed trains, will be placed in ten-pound position on cars of gross weight less than 80 tons; in twenty-pound position on cars weighing more than 80 gross tons.

Four-position (release control) retainers will be used in slow direct exhaust position; instead of ten-pound position, on empty cars. Trainmen must closely observe train in motion for indication of excessive wheel heating. If excessive heat develops on an individual car, retainer on such car should be turned down. Trainmen must notify engineman at stopping point regarding any change made in the number of cars with retainers in operating position.

### WINTER PARK TO TABERNASH.

Freight and mixed trains handled by Diesel locomotives consisting of 4 quarters having dynamic brake operating on the entire locomotive and consisting of more than 3600 actual tons, one retainer will be used on forward portion of train for each 50 tons in excess of 3600 actual tons.

Freight and mixed trains handled by Diesel locomotives consisting of 3 quarters having dynamic brake operating on the entire locomotive and consisting of more than 2700 actual tons, one retainer will be used on forward portion of train for each 50 tons in excess of 2700 actual tons.

### CRATER TO ORESTOD AND EAST PORTAL TO PROSPECT.

Freight and mixed trains handled by Diesel locomotives consisting of 4 quarters having dynamic brake operating on entire locomotive and consisting of more than 1900 actual tons and less than 2400 actual tons, ten retainers will be used on forward portion of train. If more than 2400 actual tons, ten retainers will be used on forward portion of train and, in addition, one retainer will be used for each 50 tons in excess of 2400 actual tons.

Freight and mixed trains handled by Diesel locomotives consisting of 3 quarters having dynamic brake operating on entire locomotive and consisting of more than 1400 actual tons and less than 1800 actual tons, ten retainers will be used on forward portion of train. If more than 1800 actual tons, ten retainers will be used on forward portion of train and, in addition, one retainer will be used for each 50 tons in excess of 1800 actual tons.

On freight and mixed trains handled by other than Diesel locomotives, retainers will be used on all loaded cars and if more than ten empty cars in train, they will be used on every other empty car, alternated at inspection points. Retainers on empty cars may be turned down at Leyden.

### PASSENGER TRAINS.

Except on trains handled by Diesel locomotives having dynamic brake operative on entire locomotive, at least 50% of retainers will be used Crater to Orestod and East Portal to Leyden, alternated frequently to avoid overheating of wheels.

5-A. If the dynamic brake on any part of a Diesel locomotive is inoperative retainers must be used in same manner as prescribed for other than Diesel locomotives.

### 6. RAILROAD GRADE CROSSINGS.

Subdivision	M.P.	Railroad Location	Remarks
1-A	0.5	C&S	All trains stop
1-A	3.2	C&S-CB&Q Belt Line	Stop if gate against D&RGW.

### C.T.C.

6-A. Location of Dual Controlled Switches—Fox Junction and Ralston, inclusive as per sketch on Page 2; the siding and crossover switches Leyden to and including River Track Switch (MP 127.9), Orestod (except crossover switches at East Portal).

6-B. The two crossover switches at East Portal will be hand operated when the letter "S" is illuminated on the controlling ABS; if on ABS 495, it authorizes a westward train on main track to hand operate the switches and proceed to siding; if on ABS 496-A, it authorizes an eastward train on siding to hand operate the switches and proceed to main track.

6-C. Additional Signals mounted on mast of Eastward ABS 186 West Switch Arena repeat the indication displayed by this signal.

### 6-D. TRAIN OPERATION THROUGH MOFFAT TUNNEL.

Operating Rule 290—"Proceed according to Time-Table instructions") instead of Rule 285 will apply at:

Eastward signals 566 and 566-A—Winter Park  
Westward signals 501 and 501-A—East Portal



Not more than one train will be permitted to occupy track in Moffat Tunnel between the east siding switch at Winter Park and the crossover switch at East Portal (either on siding or main track, according to how the west siding switch at East Portal may be lined) except that a helper engine may be uncoupled from the rear of an eastward train inside tunnel and proceed in the opposite direction. Protection as per Rule 99 is not required within these limits.

The west siding switch at East Portal (located immediately inside the Moffat Tunnel) is lever controlled by fan operator. Eastward movements over this switch are governed by Dwarf Signal 502 (two signals) located five (5) feet west of switch. The top signal governs movements on main track; lower signal governs restricted movements through turnout to siding. All signals governing movements over this switch, in addition to their ABS function, will not indicate "Proceed" or "Approach" unless ventilation curtain is raised.

Eastward Signal 504 (located inside tunnel 900 feet west of Signal 502) repeats indication of signal 502 by displaying green when upper signal 502 displays green or yellow, and yellow when upper signal 502 displays red. Signal 504 will not display "Stop" indication.

Dwarf Signal 531 (a two-color signal—red and yellow), located at Refuge 9, governs westward helper engine movements backing out of tunnel. The signal is normally dark for through westward movement and when not illuminated will not govern such through movements. If signal indicates "Stop," engine or train will stop and then proceed at a speed not exceeding five (5) miles per hour.

White flashing light signals for information regarding proximity of tunnel portals are located—one for westward trains at Refuge No. 21 and one for eastward trains 1750 feet west of the east portal.

Eastward trains must not exceed a speed of ten (10) miles per hour or consume less than two minutes from a point 1750 feet west of ventilation curtain until train has cleared tunnel. Eastward freight trains must stop at East Portal and will not exceed this speed before stop is made. Maximum grade between the apex (MP 52.8) and Winter Park is 0.9%, descending westward. Maximum grade east from the apex is 0.3%, descending eastward to 650 feet east of tunnel portal where it increases to 2%. When engine of an eastward freight train has arrived at the 2% grade, engineman must exercise care to insure stopping train clear of west switch. It is unsafe to make more than one application of brakes in making this stop.

Motor cars, other than trains, must obtain, from the dispatcher through the operator at Winter Park, authority on Form 1223-R before occupying or passing through the Moffat Tunnel.

A switch which operates a bell in ventilating plant is located on south side of tunnel fifteen (15) feet west of curtain, by means of which fan operator may be signaled that curtain is to be raised.

#### Telephones in Moffat Tunnel.

Refuge No.	M.P.	Refuge No.	M.P.
1	50.6	9	53.0
3	51.2	11	53.3
4	51.5	13	53.7
8	52.7	16	54.4
Apex	52.8	18	54.8
		19	55.3

These telephones connect with Train Order office, Winter Park, and Ventilating Plant, East Portal, and may be connected with dispatching circuits at these stations. They operate with hand ringing generators, four long rings for East Portal, one short, one long, one short ring for Winter Park and a succession of long rings quickly repeated must be promptly answered by both East Portal and Winter Park.

Other refuges have no telephones.

Each engine in a train must have maximum steam pressure and fire in good condition before train enters tunnel so as to reduce firing to the minimum after entry. If necessary to insure this, train should be stopped outside tunnel for conditioning of engine. **ELIMINATE SMOKE.**

Operate engine stack hood in deflecting position at all times inside the tunnel while throttle is open. It must be in deflecting position while passing under curtain at East Portal, eastward or westward. Engineman on westward trains must operate deflector not less than 50 feet from the curtain.

Operate engine blower throughout tunnel, and if engine is equipped with air cooling jets in cab, operate them while engine is working in tunnel.

If excessive heat is developed in the train, it is apt to be occasioned by insufficient train speed and this is particularly true in the case of westward trains. Increase speed within the maximum permissible, if possible, and endeavor to run out of the hot zone. If this cannot be done within a minute or two, stop train and communicate promptly with fan operator by nearest refuge telephone.

If an engine is used to shove a westward train into the tunnel, do not shove beyond ABS 501 or ABS 501-A.

If a train stops in the tunnel for any reason, except to uncouple helper engine at the Apex, fan operator should be promptly notified from nearest refuge telephone of the reason for the stop.

**6-E. Operation Through All Tunnels—**Windows, vestibule doors, connecting doors and other openings must be closed and air conditioning apparatus shut off on all passenger trains moving through tunnels.

#### OPERATION AT TABERNASH

**6-F. Auxiliary tracks are numbered beginning with the first track south of coal chute as**

Track No. 1.....	Capacity 85 cars
Track No. 2.....	Capacity 31 cars
Track No. 3.....	Capacity 30 cars
Track No. 4.....	Capacity 30 cars
Track No. 5.....	Capacity 29 cars
Track No. 6.....	Capacity 75 cars
Track No. 7.....	Capacity 85 cars
West Lead.....	Capacity 81 cars
East Lead.....	Capacity 34 cars

Tracks No. 1 and No. 7 are sidings of assigned direction. Unless otherwise authorized, eastward trains taking siding will use Track No. 1 and westward trains Track No. 7.

Dwarf signals protect facing point movements over spring switches MP 65.4 and MP 66.3 and indicate **YELLOW** when spring switches are lined for assigned siding. If signals indicate **STOP** spring switches must be inspected on the ground.

Eastward Dwarf signal located 5 feet east of spring switch MP 65.4 and westward Dwarf signal located 5 feet west of spring switch MP 66.3 are departing signals. Indication as follows:

**YELLOW:** Train or engine on assigned siding may depart.

Train or engine on other tracks must obtain permission from dispatcher and be governed by indication of departing signal.

**RED:** Remain clear of adjacent tracks and communicate with dispatcher.

East and west handthrow switches (MP 65.5) and (MP 66.2) for Track No. 6 must be relined for movement via Track No. 1 after using.

Operating rules 103 and 105 govern train and engine movements on tracks other than main track at Tabernash.

#### OPERATION AT ORESTOD

**6-G. The normal position of junction switch MP 128.7, and the west siding switch is locked for main track and the operator is responsible for opening and closing these switches.**

The normal route for eastward passenger trains out of Bond is via the junction switch. Freight trains will ask for routing before leaving Bond.

When the letter "S" on Westward ABS 1281 (governing east siding switch) is illuminated it indicates—"WESTWARD TRAINS TAKE SIDING."

#### INSTRUCTIONS GOVERNING THE OPERATION OF CALIFORNIA ZEPHYR TRAINS.

**7. California Zephyr trains** consisting of streamlined equipment, when handled with Diesel-electric locomotives with all dynamic brakes operative, may be operated at a speed of (5) five miles per hour greater than the normal speed authorized on tangents and curves, except between milepost 36.5 and milepost 62.0; except between milepost 65.0 and milepost 74.0; except between milepost 88.5 and milepost 89.0; and between milepost 105.5 and milepost 128.8—Orestod; but all speed restrictions in the time-table, other than zone speeds, will be applicable.

**7-A. Except as otherwise provided** inferior class and extra trains and engines will clear the time of California Zephyr trains, Nos. 17 and 18, not less than 10 minutes.

**7-B. Rear trainman out of Denver** will change marker lens from green to yellow by manipulating from within the rear of the observation car.



7-C. When making terminal test of air brakes on California Zephyr trains at Denver, the automatic brake as well as the electro-pneumatic straight air brake must be tested, as follows:

Upon request or proper signal, engineman will apply the automatic brake in accordance with Rule 8-G of Rules and Regulations Governing Operation and Maintenance of Air Brakes. After inspection has been completed, inspectors will signal for release of brakes and after automatic brakes are released another signal to apply brakes will be given. Engineman will change brake valve to "SA" position and apply electro-pneumatic straight air brake, after which another inspection must be made to determine that all brakes are applied. Inspector will then signal for release and engineman will release the electro-pneumatic brake. Inspectors will then note that all train brakes are released before removing blue signal from engine.

Incoming engineman, at Bond, on California Zephyr trains will make electro-pneumatic application of brakes—inspector will note that brakes apply, then signal for release.

Outgoing engineman will release brakes and inspector will note that brakes release. This test to be followed by running test in accordance with Rule 11 of Rules and Regulations Governing Operation and Maintenance of Air Brakes, as soon as speed permits after starting train.

In the event electro-pneumatic brakes are inoperative, automatic air brake test will be made in the same manner.

The standard brake pipe pressure for California Zephyr trains is 110 lbs. and any locomotives used to handle these trains must have feed valve adjusted for this pressure.

California Zephyr trains are equipped with rear red and white light, but these lights will not be in operation between Denver and Salt Lake. Trainmen before departure Denver will see that they are turned off.

8. Persons accompanying livestock or other freight will be carried on any freight trains handling such livestock or freight, when holding proper transportation, and when permission to accompany same is covered by contract. Passengers on freight trains should be informed that cabooses will not be pulled up to platform to receive or deliver passengers or baggage. Employees holding passes will be carried on any freight trains to and from points at which trains stop when passes are stamped: "Good on Freight Trains."

9. Overhead clearances on main track at the following locations will not clear a man standing on the top of a car.

Sub-Division	Mile Post	Description
1A	23.4	Tunnel No. 1
"	25.4	" 2
"	25.8	" 3
"	26.1	" 5
"	26.4	" 6
"	26.6	" 7
"	27.4	" 10
"	27.9	" 12
"	29.5	" 17
"	30.0	" 18
"	32.4	" 20
"	33.0	" 22
"	33.2	" 23
"	34.6	" 25
"	35.2	" 26
"	36.1	" 28
"	36.4	" 29
"	40.5	" 30
"	50.2	Moffat Tunnel
"	69.1	Tunnel No. 34
"	109.0	" 37
"	110.1	" 38
"	113.8	" 40
"	114.0	" 41
"	130.7	" 43
"	132.0	" 44
"	140.5	" 45
"	140.8	" 46
"	141.3	" 48
"	144.0	" 49
"	144.7	" 50
"	145.2	" 51
"	145.9	" 52
"	146.3	" 53
"	147.4	" 54
"	148.1	" 55

There are also side clearances on main track and sidings, and overhead and side clearances at other locations that will not clear a man on top or side of car. All employees should familiarize themselves with the locations of such clearances and use due care to avoid injury when passing them.

10. The speed of trains should be so restricted that absolute safety will be assured, and the maximum speed will ordinarily be that necessary to make the schedule.

10-A. Trains must not exceed the maximum speeds prescribed below:

Speed restrictions governing freight trains govern the speed of mixed trains and govern the speed of light engines unless otherwise provided.

Where other speed restrictions do not prohibit, Diesel locomotives running light may be operated in A.B.S. limits at a maximum speed of sixty (60) M.P.H. but will not exceed the maximum speed authorized for passenger trains.

Maximum speed for steam engines running forward light;  
 between East Portal and Cliff.....30 MPH  
 between Cliff and Arena.....25 MPH  
 between Arena and Ralston.....35 MPH

Steam engines running backward will not exceed 15 MPH on curves and 25 MPH on tangent track.

ZONE SPEEDS	Passenger Train MPH	Freight Train MPH
Denver—MP 1.....	25	20
MP 1—Zuni.....	40	30
Zuni—Arena (Westward).....	60	30
Arena—Zuni (Eastward).....	45	25
Arena—Cliff.....	25	20
Cliff—Tolland.....	40	25
Tolland—East Portal.....	40	20
East Portal—MP 58.6.....	40	40
East Switch Winter Park (Westward).....	15	15
MP 58.6—Fraser.....	25	20
Fraser—Tabernash.....	60	45
Tabernash—MP 73.....	40	25
MP 73—East Wye Switch Sulphur.....	60	45
East Wye Switch Sulphur—MP 89.....	35	25
MP 89—Gore.....	60	45
Gore—Radium.....	30	25
Radium—Orestod.....	45	35
Orestod—Crater.....	35	25
Crater—Egeria.....	25	20
MP 154—MP 150 (Eastward freight trains with helper engine on rear).....		20
Egeria—Phippsburg.....	50	40
Phippsburg Yard.....	15	15
Phippsburg—Oak Creek.....	50	35
Oak Creek—Routt.....	35	25
Routt—Steamboat.....	40	30
Steamboat—Craig.....	50	35
Turnouts and crossovers as follows:		
Fox Junction.....	25	25
Endo—MP 2.8.....	25	25
Zuni—(except crossover).....	25	25
Ralston.....	25	25
Arena.....	25	20
Clay.....	25	20
Plain.....	25	20
East Switch Crescent.....	25	20
Cliff.....	25	25
Rollins.....	25	25
Tolland.....	25	25
Tabernash.....	25	25
East Switch Sulphur.....	25	25
Kremmling.....	25	25
Radium (East and West Switches).....	25	25
Radium Crossover.....	15	15
Other turnouts and crossovers.....	15	15
Trailing through spring switches on straight track.....	30	30
Railroad crossings at grade.....	25	25
Engines turning on wyes.....	5	5



L-131, L-132, M-67 and M-78 class engines must not be operated west of Harris.

Maximum permissible speed of L-131, L-132 class locomotives Sub-Division 1-B as follows:

	Miles Per Hour
Phippsburg-Sidney	20
Sidney-Harris	25

Maximum speed permissible in any service by various classes of power and equipment as follows:

	Miles Per Hour
Diesels 540-557, 600-601	65
L-131—L-132	45
L-77—L-109—K-63	35
L-95—L-99	40
M-67—78	50
M-64	60
K-59—C-43	55
Trains handling dead engines, side rods up	20
Dead engines with side rods all down	15
Dead engines, one pair of wheels swinging	10
Engines under steam with all side rods in place, one main rod removed	20
Derricks, shovels, clam shells, scale test cars, ditchers, pile drivers, K. & J. and Western Air Dumps, loaded system coke racks and sand cars X3550—X3551	25
Steam derricks	30
Rotary snow plows	15

When handling cranes and similar equipment requiring car upon which to rest boom, cars must be securely chained to prevent parting. Jordan spreaders, ditchers, wrecking derricks, etc., should when practicable, be handled next to engine.

Snow flangers must be raised for switches, cattle guards, road crossings, guard rails, ABS ground wires and rail lubricators.

**10-B.** The following tracks must not be used by L-131-132 or M-67—M-78 class engines:

**Sub-Division 1-A**  
Fraser: Felch Spur, Stevens Spur, High Line Spur.  
Winter Park: Vasquez Spur.

**Sub-Division 1-B**  
Pallas Spur Haybro Mine Tracks  
Continental Spur Mill Spur  
Pinnacle Mine Tracks Steamboat Wye  
Oak Hills Mine Tracks Steamboat Industry Spur  
Routt Mine Tracks Bear Mine Tracks  
Espy Ice track must not be used beyond designated signs.

**10-C. HELPER ENGINES.**—Helper engines on eastward passenger trains consisting of conventional type cars will be uncoupled at Winter Park as follows:

10 cars or less.....with M-64, M-67 and M-78 Class Engines;  
9 cars or less.....with K-59 Class Engines;  
8 cars or less.....with P-44 Class Engines;

Helper engines on westward passenger trains will be uncoupled at East Portal. If train engine alone cannot start train, helper engine may assist from the rear end, without coupling air hose. If conditions in individual cases make it impracticable for helper engine to push from rear end, helper engine may be double-headed through the tunnel.

Helper engine behind caboose of westward freight train will, after stop is made at East Portal, remain against train until same has started to prevent slack running out and assist in starting train if necessary.

When helper engine is cut out of train and train is shoved together, the same procedure must be followed and brake test made per Air Brake Rule 9-A.

Unless otherwise instructed, engines helping eastward freight trains will be coupled behind 01400 cabooses from Tabernash and helped to Apex. When instructed to cut helper off at Winter Park, train will stop, air hose will be disconnected and helper will assist train to, but not beyond, tunnel portal. When trains have cabooses or cars which are not suitable to shove on, conductor will advise train dispatcher from Orestod and helper will couple to head end of train, Tabernash to Winter Park or East Portal, if required.

Two Class L-131-132 engines must not be doubleheaded except when operating light.

Except in emergency L-131-132 class engines must not be double-headed with a Diesel locomotive consisting of more than two quarters in service.

Diesel locomotives when double heading with steam engines, must be placed on headend and will not be double headed with steam engines smaller than M-64 class.

When helper engine behind caboose of an eastward train is uncoupled inside Moffat Tunnel, train will stop at Apex where train engine, alone can start train, wait approximately two minutes for

helper engine to be uncoupled and may then start without proceed signal. Helper engine will wait until train departs, then return to Winter Park.

Helper engines turning on wye as East Portal when there is snow or ice on the track will head in and back out, and will be governed by indication of ABS 496-A or 495-A when proceeding from wye.

Helper engines may be coupled behind caboose from Cliff to East Portal, Tabernash to Apex in Moffat Tunnel, Phippsburg to Toponas and Park to Pallas.

Unless otherwise instructed Tabernash helper engines will wait on stem of wye for trains to be helped.

**11. Company Surgeons are located as follows:**

E. A. HINDS, CHIEF SURGEON	Denver
Name	Location
W. M. Bane, Oculist	Denver
M. D. Currigan	Denver
G. D. Ellis	Denver
F. B. McGlone	Denver
A. H. Good	Denver
D. G. Monaghan	Denver
John H. Ames	Denver
R. J. Zarlingo	Denver
G. H. Curfman, Jr.	Denver
J. H. Leyda—Ear, Nose & Throat	Denver
Ivan W. Philpott—Ear, Nose & Throat	Denver
Samuel Goldhammer, Oculist	Denver
G. P. Lingenfelter, Dermatologist	Denver
Susan Anderson	Fraser
G. D. Hoschouer	Granby
E. G. Ceriani	Kremmling
E. L. Morrow	Oak Creek
F. E. Willett	Steamboat
W. F. Deal	Craig

**11-A. Hospital is located as follows:**

St. Joseph's	Denver
Oak Creek Hospital	Oak Creek

**11-B. PROMPT TELEGRAPHIC REPORT (FORM 3884) MUST BE MADE OF ALL ACCIDENTS.** In the event Form 3884 cannot be furnished without unduly delaying the train a message must be filed at first open telegraph office giving principal facts concerning the accident and Form 3884 filed as quickly as possible thereafter. When a personal injury occurs on a train an additional message must be sent immediately to the Superintendent and Claim Department and if the injured person is not an employee on duty, the following information must be given: Kind of Transportation injured person holds, giving number of ticket or pass, destination of injured party, whether coach or pullman passenger with number or name of car and, if injured party stopping over enroute, state where stopover will be made and address at point of stopover.

In addition to the telegraphic reports (Form 3884) and messages above described, mail reports of all accident and casualties must be promptly made and forwarded, using the following forms, according to the instructions thereon and in the Book of Rules:

Form 3918 and 3922	All personal injuries and all crossing accidents.
Form 4009	When accident occurs on train to be filled out by passengers.
Form 4012	Inspection of Equipment (Mechanical Dept.).
Form 4119	Fire Report (Section Foreman).
Form 3511	Stock Struck Report (Enginemen).
Form 4117	Stock Report (Section Foreman).

**11-C. SURGICAL ATTENTION.** (Passengers and employees.)

Whenever passengers or employees are injured, everything must be done to care for them properly, either calling the Company's nearest Surgeon to treat them (and if seriously injured, calling the nearest competent Surgeon to be had, until the Company's Surgeon can get to the place of accident), or if they are able to be moved, taking them to the nearest place at which the Company has a Surgeon, turning them over to him for care and treatment. If other than a Company Surgeon is called, he is to be advised that he is called for first attention only, beyond which the Company assumes no responsibility for his bill.

(Others). When persons not employees or passengers (for example, persons injured at crossing, trespassers, outsiders at work around depot or industries, etc.) are injured, if they are unable to care for themselves, and if no friends or others are at hand to care for them, the nearest Company Surgeon should be called, or if he cannot be reached, the nearest other competent Surgeon, which Surgeon must be advised that he is called for emergency attention only and that the Company does not assume responsibility for his bill. If trespassers are



not taken charge of by friends or others, they should be turned over to the public authorities as soon as possible, and no expense incurred in behalf of the Company except the emergency attention above noted.

**11-D.** Parties calling Surgeons should explain fully as possible the nature of the injuries so that the Surgeon may know what equipment to bring with him.

**11-E.** When any accident, collision of trains, or any collision of trains with vehicles or pedestrians, resulting in loss of life or injury to persons, the superior officer, agent or employe on the ground at time of such accident shall immediately notify the Public Utilities Commission, Capitol Building, Denver, Colorado, by telegram, the details of such accident, stating the immediate location and the nature of the accident and the number of persons killed or injured.

Information covering such accidents must be sent by Western Union Telegraph Company wires, and all Agents will accept and so transmit, making notation that same shall be charged against CAK 33.

**12. CONDITIONAL FLAG STOPS.**—Nos. 9, 10, 23 and 24 will stop at any station to discharge revenue passengers.

No. 7 will stop at Granby to pick up revenue passengers for points west of Orestod where scheduled to stop. No. 8 will stop at Granby to discharge revenue passengers from points west of Orestod where scheduled to stop.

### 13. SPRING SWITCHES.

Miles from Denver	Location Spring Switches	Normal Position
65.4	Tabernash Yard (East End)	For Track No. 7
66.3	Tabernash Yard (West End)	For Track No. 1
128.2	Orestod East Siding Switch	For Main Track

### 13-A. CAPACITY, 45-FOOT CARS, OF SIDINGS WITH CROSS-OVERS:

East Portal.....	East 57, West 69
Winter Park.....	East 73, West 74
Sulphur.....	East 106, West 93
Radium.....	East 100, West 77
Sidney.....	East 84, West 16
Milner.....	East 11, West 83

**14. LOCOMOTIVE WATER SUPPLY.**—Water will not be taken by engines at Coal Creek except in emergency.

**15.** The following are Auxiliary lines (Rules 14-T, 14-U):  
Orestod.....Subdivision 4-A—Grand Junction Division

**16.** Headlight of Diesel Locomotives must be kept burning during day light hours when in road service except when necessary to comply with operating rules 17-B and 17-C.

**17. Meal Stop for Freight Trains.**—A through freight train making a normal run on Subdivision 1-A may, if circumstances warrant, make one meal stop enroute. If an abnormal run is made, arrangements may be made through the dispatcher for such additional meal stops as circumstances may justify.

All crew members on a train will eat at the same point. It is not permissible for part of a crew to eat one place and the others at another place.

Sulphur is designated as a normal meal stop for freight crews in both directions from Utah Junction to Phippsburg.

On normal runs freight crews in both directions from Denver and Bond desiring to stop for meals enroute will do so at Tabernash.

Freight crews on trains in both directions between Denver and Bond, after being on duty six and one-half to seven hours from the time called at Terminal, will be permitted to secure meal wherever one is available on advance notice to train dispatcher. Also, crews on

duty six and one-half to seven hours after having departed from Tabernash, with or without eating, will be permitted to secure meal wherever one is available on advance notice to train dispatcher.

Unless otherwise authorized by dispatcher, when meal stop is made at Tabernash, train will take siding and must not block route of helper engines from and to coal chute track.

In order to avoid train congestion and delays when a meal stop is to be made, the Conductor will give advance telegraphic notice addressed jointly to Chief Dispatcher and Operator at station where stop will be made, stating train engine number and kind of meals desired. Eastward trains will file this notice at Orestod; westward trains at Winter Park.

Operators receiving notice of intended meal stop will promptly transmit it as addressed, and operator at meal stop will make prompt delivery to lunchroom.

Train, enginemen and operators are requested to cooperate with the train dispatcher to the end that train delays and traffic congestion may be reduced to a minimum because of meal stops.

**18.** Any passenger who by reason of intoxication, or otherwise is guilty of such disorderly conduct as to annoy, threaten or insult other persons on the train, and who refuses to desist therefrom when requested to do so by the Conductor, may be ejected, with his baggage, at the next station where Agent is on duty. The Conductor shall use only such force as may be necessary to accomplish such removal, and he may command other railroad employees to assist in such removal, and when necessary wire ahead for assistance. Before ejecting a passenger the Conductor shall tender to such passenger the unused portion of any fare which has been paid.

Whenever a passenger is ejected the name and address of such passenger and the names and addresses of all witnesses, and their statements in writing if possible, should be obtained. All facts connected with such ejection should be at once reported to the Division Superintendent.

### LOCAL WATCH INSPECTORS

Ray W. Gumm Watch Co.....	Denver
Hansen & Hansen Jewelry Co.....	Denver
Ivan E. Sundman.....	Denver
Cameron Jewelers.....	Denver
Sather Jewelry Co.....	Craig
Gene Thomas.....	Phippsburg

### OPEN HOURS OF TRAIN ORDER OFFICES

Station	Week Day Hours	Sunday and Holiday Hours
Denver DN.....	7:00 AM to 11:00 PM	7:00 AM to 11:00 PM
Winter Park.....	Continuous	Continuous
Orestod.....	Continuous	Continuous
Yampa.....	8:00 AM to 5:00 PM	2:15 PM to 4:15 PM
Phippsburg.....	Continuous	Continuous
Oak Creek.....	8:00 AM to 5:00 PM	Closed
Steamboat.....	6:00 AM to 9:00 PM	Closed
Harris.....	8:00 AM to 5:00 PM	Closed
Hayden.....	9:00 AM to 6:00 PM	Closed
Craig.....	5:00 AM to 7:45 PM	5:00 AM to 7:45 PM

Following are legal holidays: New Year's Day, Washington's Birthday, Decoration Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas (provided when any of the above holidays fall on Sunday, the day observed by the State, Nation, or by proclamation shall be considered the holiday).

Phones in all Section Houses and at Mileposts 26.2, 28.1, 32.7, 35, 44.3, 60, 68, 69, 72, 78.5, 82.3, 87.5, 88.5, 100.5, 105.6, 108, 109.1, 113, 114.5, 119, 121, 125, 127.8, 143.4, 145.3, 147, 176.6, 181.3 and 195.



**TRACKS NOT SHOWN AS STATIONS IN TIME-TABLE, WATER, PHONE, REGULAR AND FLAG STOPS**

Subdivision 1-A	Mile Post	Car Capacity	Switch Connection	Water Phone	Stops for Trains 9 and 10
48th Ave. (see map).....	2.2			P-W	
Utah Jct. (see map).....	3.8	723	Yard F-O-S-Y-B-K	P-W	Flag
Plastic.....	17.0	3	Both Ends	P	
Fire Clay.....	20.5	15	Both Ends	P	Flag
Coal Creek.....	23.0			P-W	
Scenic.....	27.3	10	Spur-West	P	Flag
Quartz.....	29.3			P	Flag
Miramonte.....	33.6			P	Flag
Pactolus—(Lincoln Hills).....	39.4	28	Both Ends	P	Flag
Espy.....	42.7	40	Both Ends	P	
Vasquez.....	58.3	19	Spur-West		
Elkdale.....	70.2			P	Flag
Drowsy Water.....	79.8			P	Flag
Willows.....	81.4				Flag
Parshall.....	91.1	60	Both Ends	P	Stop
State Bridge.....	126.4	12	Both Ends	P	Flag
Coppertown.....	132.2			P	Stop
Rock Creek.....	140.5			P-W	Flag
Cinder Pit.....	143.7	41	Both Ends	P	Flag
<b>Subdivision 1-B</b>					
Pallas.....	170.6	2	Spur-West	P	
Continental.....	171.2	2	Spur-East		
Pinnacle.....	171.8	Mine Tracks	Spur-West		
Keystone.....	173.8	Mine Tracks	Spur-West	P	
Harding.....	176.3	Mine Tracks	Both Ends	P	Flag
Mill Spur.....	189.8	1	Spur-East	P	
Grassy Spur.....	208.9	8	Spur-East		