

## THE "SOUTHERNER" IN SERVICE

By T. A. McGavin

LOCOMOTIVES assigned to the new "Southerner" service between Christchurch and Invercargill from its inauguration on 1 December 1970 were of the 1,050 h.p. "Dj" class, not the pairs of 750 h.p. "Dgs" that were being suggested last September. Nos. 1207 and 1213 were used on the special preview runs for press, travel agents, and on-line community representatives on 26 November, on the northbound and southbound trains respectively. Both had been repainted in the standard NZR red livery in place of the lighter red in which they arrived in New Zealand from Japan. On the inaugural day, No. 1207 worked down on train 143, and No. 1254 came up on 144, both of course going right through over the 367 miles in contrast to the engine changes that were normal at Oamaru and Dunedin with steam working.

I am grateful to Rev. W. A. Pierre for details of the running between Christchurch and Timaru, 99.45 miles, on the first day of the new service. The times and speeds recorded indicate that the new timetable will hold no terrors for the "Dj"s, which have ample capacity to improve on the new schedules with the usual modest load of 205 tons. Though designed for a top speed of 60 m.p.h., maxima of 50-55 m.p.h. should be adequate for timekeeping in normal circumstances.

The running of the "Dj"s makes an interesting contrast with the work of "Ab" and "Ja" class steam locomotives on other occasions, and particularly with runs re-

corded on the "South Island Limited" between August 1949 and February 1956, when on three days of the week it was observing limited stops. With each of the "Dj" runs, I have tabulated for comparison some typical "Ab" and "Ja" performances. In Table 1, the first commercial "Southerner" run out of Christchurch is shown alongside one of the last "Ab" runs on the old "Limited" and a typical "Ja" run, both recorded by Gordon Troup and described in Volume 15 of the NZRO, page 6.

With steam locomotives, it was customary not to press them too hard until they had "warmed up", and times out to Rolles-



Photograph: N.Z. Railways Publicity

On 26 November 1970 "Dj" 1207 worked the special up preview "Southerner" from Invercargill to Christchurch. Regular commercial service began on the following Tuesday, 1 December 1970. This view is near Shag Point, north of Palmerston.

ton were usually of the order of 24 or 25 minutes. So much was this so that Gordon described the start of "Ab" 786 with 230 tons as one of "sheer brilliance". He said the time of 21 min. 47 sec. through Rolleston had never been surpassed in his experience (that was, of course, up to 1957). I have personally noted just two slightly faster times with steam since then, but "Dj" 1207 had no difficulty in passing Rolleston in 21 min. 30 sec. By Rakaia this train, admittedly with a modest load of only 205 tons, was nearly 5 minutes ahead of time, and speed was allowed to fall below 40 m.p.h. for some distance beyond Rakaia. Thus Ashburton, 52.2 miles, was reached in

73 min. 10 sec. against the allowance of 76 minutes. I would suspect that a time of 70 minutes could probably be achieved in this direction without exceeding 50 m.p.h.

The "Ab", badly affected by a severe slowing over the Selwyn river bridge, maintained its usual 40-45 m.p.h. up the long climb to Banksfield, and then ran at 50 or slightly over on the level and faintly descending grades towards Ashburton. The "Ja" suffered a signal stop soon after starting, and a moderate slowing over the Selwyn River, but some good work subsequently recovered all the arrears and more. Against the actual time of 77 min. 16 sec.

TABLE 1 — NZR CHRISTCHURCH-TIMARU

Run No.	Locomotive No.	Class	1	2	3
Load, "cars	" tons tare	" tons full	1207	786	1253
7	190	205	DJ	Ab	Ja
8	215	230		8	8
220	230				

Distance	Timing Points	Sch.	Actual Times	Average Speeds	Sch.	Actual Times	Average Speeds	Sch.	Actual Times	Average Speeds	
Miles		min.	m.s.	m.p.h.	min.	m.s.	m.p.h.	m.s.	min.	m.p.h.	
0.00	CHRISTCHURCH	0	0 00	—	0	0 00	—	0 00	0 00	—	
1.34	Addington	5	—	—	5	3 45	21.4	sig. stop	—	—	
5.49	Hornby	—	9 30	34.7	13	9 55	40.4	17 02	—	—	
13.71	Rolleston	24	21 30	41.1	25	21 47	41.6	28 11	44.2	S/R	
24.51	Dunsandel	—	35 00	48.0	41	39 50	35.9	43 16	43.0	S/R	
35.51	Rakaia	54	49 10	46.6	57	54.22	45.4	56 35	49.6	S/R	
40.72	Cherisey	—	57 10	39.1	—	60 33	50.5	62 29	53.0	S/R	
46.19	Dromore	—	—	—	—	67 03	50.5	68 40	53.1	S/R	
48.66	Fairfield	—	—	—	—	69 55	51.7	71 19	55.9	S/R	
52.20	ASHBURTON	76	73 10	43.0	79	75 58	35.1	77 16	35.7	S/R	
2.19	Tinwald	—	4 15	30.9	5	4 59	26.4	4 59	26.4	S/R	
6.05	Winslow	—	11 30	31.9	10	10 15	44.0	9 24	52.4	S/R	
11.50	Hinds	—	19 15	42.9	17	17 13	47.7	15 59	50.5	S/R	
19.55	Ealing	—	28	29 10	48.2	28	28 00	44.3	27 57	39.9	S/R
22.27	Rangitata	—	—	—	32	—	—	31 30	46.0	S/R	
28.60	Orari	—	39 53	50.7	40	38 53	49.9	38 30	54.3	S/R	
32.41	Winchester	—	44 00	55.5	45	43 38	48.1	42 48	53.2	S/R	
36.07	Temuka	—	47	47 47	58.0	50	47 50	52.2	46 52	54.0	S/R
44.07	Washdyke	—	—	56 28	55.3	60	56 48	53.5	55 43	54.2	S/R
47.25	TIMARU	—	61	62 00	34.8	66	62 17	34.8	63 02	26.1	S/R

to Ashburton, I would estimate the net time at about 69 minutes.

From Ashburton to Timaru, 47.25 miles, "Dj" 1207 was faced with a lengthy restriction near Winslow for track repairs, and another, less severe, near Timaru. These appear to have cost a full 4 minutes, so that, although the actual time to Timaru was a minute over schedule, the net time was 3 minutes inside. An average of 48.2 m.p.h. from Hinds up to Ealing was creditable, and a time of only 27 min. 18 sec. for the 24.52 miles thence down to Washdyke betokened brisk but comfortable travelling.

"Ab" 786, with only 52 tons adhesion, was understandably slower off the mark, and was more affected by the climb to Ealing, but with an average of 51.1 m.p.h. from Ealing down to Washdyke, 24.52 miles, the run was completed in 62 min. 17 sec., comfortably within the 66-minute allowance.

The more powerful "Ja" 4-8-2, with a similar 230-ton load, was noticeably faster on the level track to Hinds, but suffered

a long speed restriction near Ealing. After this, the train was allowed to run freely from Rangitata down to Washdyke at an average of nearly 54 m.p.h., only to encounter another severe slowing, to 6 m.p.h., for some engineering work on the track.

Coming up from Timaru, the "Dj" No. 1254 really showed its paces, with better than 50 m.p.h. all the way up from Temuka to Rangitata, a climb that averages about 1 in 210. The "long drag", that used to prove such a trial to the crews of heavily loaded "Ab" Pacifics—and no doubt of "Ub" Ten-Wheelers in even earlier times—when battling typical Canterbury "Nor-westers", might almost not have been there. The long speed restriction between Winslow and Tinwald when the "Southerner" made its inaugural run certainly took its toll, perhaps with some deliberately easy running thereafter to avoid too early an arrival at Ashburton, but I would assess the net time from Timaru to Ashburton as not more than 58 minutes, or 10 minutes inside schedule.

Contrast this with "Ab" 807's performance with the inaugural "South Island Limited" on 1 August 1949 as tabulated in run No. 5, Table 2. Here the schedule was based on the performance of an "Ab" with 400 tons, as recognised by the allowance of 30 minutes for the 16.5 miles from Temuka up to Ealing. With the much lighter load of 205 tons, the train had gained more than 4 minutes at the summit, and after some quiet running and a speed restriction near Tinwald, just scraped in on time. I am sure an "Ab" could have done much better than this if there had been any need to press on harder, but the hill-climbing would not have been of "Dj" standard.

The "Ja" in run 6, No. 1268, with a load of 270 tons, put up a typical performance, gaining 7½ minutes on the 72-minute schedule from Timaru to Ashburton. Speed was allowed to fall below 40 m.p.h. on part of the climb, and Ealing was cleared in 41 min. 52 sec. from the start, six minutes longer than the time taken by the "Dj"

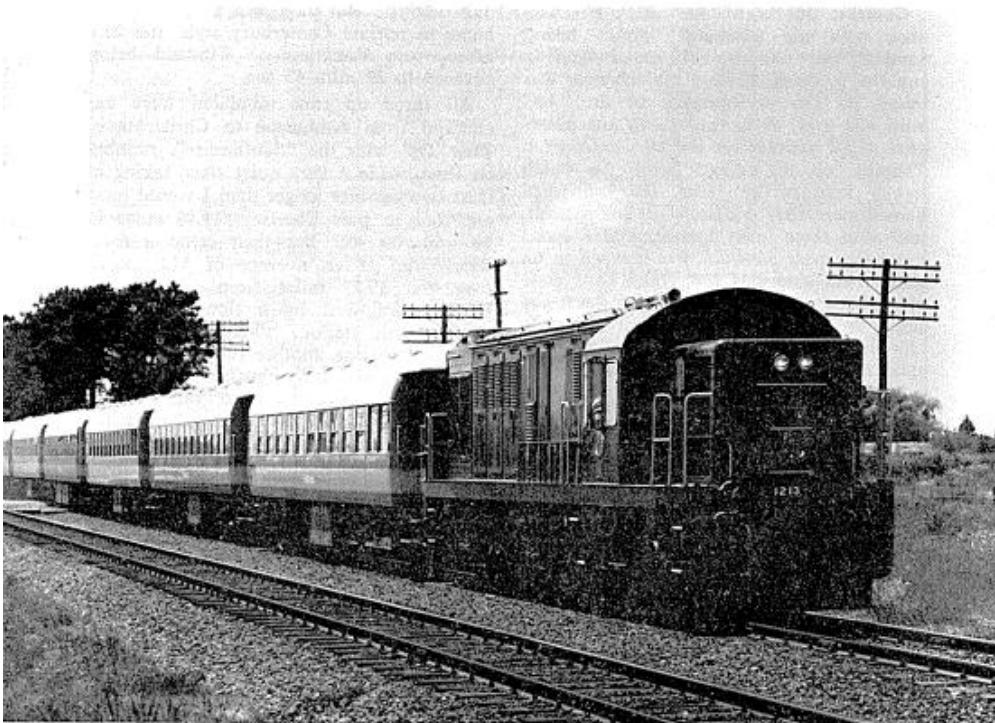
diesel-electric. But there was a fine scamper home in normal Canterbury style, the 20.1 miles from Rangitata to Tinwald being covered in 22 min. 43 sec.

All three up runs tabulated were unchecked from Ashburton to Christchurch. The "Dj" with the "Southerner", running on time, made a very quiet start, taking at least two minutes longer than I would have expected to pass Chertsey, 11.48 miles in 19 min. 05 sec. But then came a good steady run at an average of 54.8 m.p.h. over the 35.23 miles from Chertsey to Hornby, followed by a slow run in to Christchurch station, whereby the driver contrived to lose another two minutes and thus avoid arriving too much ahead of time. Accordingly there was no difficulty in observing the new 69-minute schedule for the 52.2 miles, which is easily the best timing ever yet allowed regularly on this section.

With the inaugural up "Limited" in 1949 the driver of "Ab" 807 displayed much the same technique on the easier 75-minute

TABLE 2 — NZR TIMARU-CHRISTCHURCH

Run No.	Locomotive No.	Class	4	5	6						
Load, "cars	" tons tare	" tons full	1254	807	1268						
7	190	205	DJ	Ab	Ja						
195	215	230		7	9						
205	230			195	245						
				205	270						
Distance	Timing Points	Sch.	Actual Times	Average Speeds	Sch.	Actual Times	Average Speeds	Sch.	Actual Times	Average Speeds	
Miles		min.	m.s.	m.p.h.	min.	m.s.	m.p.h.	min.	m.s.	m.p.h.	
0.00	TIMARU	0	0 00	—	0	0 00	—	0	0 00	—	
3.18	Washdyke	—	7 00	27.4	7	7 03	27.1	7	7 19	26.1	
11.18	Temuka	18	16 07	52.6	19	16 33	50.5	18	—	sigs.	
14.84	Winchester	—	20 16	52.9	—	22 49	35.0	—	22 57	44.8	
18.65	Orari	—	24 45	51.0	32	29 34	33.9	31	28 58	38.0	
24.98	Rangitata	—	—	—	—	39 49	37.0	42	38 24	40.3	
27.70	Ealing	—	35 30	50.5	49	44 48	32.7	46	41 32	52.1	
35.66	Hinds	—	44 15	54.6	—	55 18	45.5	56	50 18	54.5	
41.20	Winslow	—	51 20	46.9	—	63 10	42.3	—	56 40	52.2	
45.06	Tinwald	—	59 15	29.2	—	71 08	29.1	68	61 07	52.0	
47.25	ASHBURTON	68	64 31	24.9	75	74 47	36.0	72	64 26	37.7	
6.01	Dromore	—	19 05	36.1	18	19 38	43.9	18	16 51	50.0	
11.48	Chertsey	—	23	24 51	54.2	26	27 23	42.1	26	23 05	50.1
16.69	Rakaia	—	36	37 05	53.9	40	40 20	51.0	40	34 37	48.8
27.69	Dunsandel	—	—	—	—	47 46	—	—	45 17	46.5	
34.41	Burnham	—	—	—	—	—	—	—	—	—	
38.49	Rolleston	—	48½	48 45	55.5	54	52 19	53.8	54	50 02	51.2
46.71	Hornby	—	—	57 40	55.3	64	62 38	47.8	64	59 02	54.8
50.86	Addington	—	65	—	—	70	69 57	34.0	70	63 33	55.1
52.20	CHRISTCHURCH	—	69	67 36	33.2	75	73 45	21.1	75	66 39	25.9



Photograph: N.Z. Railways Publicity

"Dj" 1213 accelerating the down "Southerner" out of Christchurch. The composition of the train is smoker, non-smoker, smoker, buffet, non-smoker, smoker, and guard's van, giving a total tare of 190 tons behind the engine, or about 205 tons when fully loaded.

booking. He worked under relatively easy steam, resulting in a slight loss of time out to Rakaia, but after crossing the river the favourable grades down through Dunsandel and Burnham enabled speed to be maintained at from 50 to 55 m.p.h. After Rolleston, however, with the train ahead of time, he appears to have allowed the train to drift over the last 10 miles or so, with the result that speed was down to as little as 25 m.p.h. between Addington and Christchurch.

The driver of the "Ja" 4-8-2 in run 6, however, showed what could happen when there was less inhibition about the schedule. Perhaps he was a few minutes late out of

Ashburton. Whatever it was, he was through Rakaia in just over 23 minutes (a gain of three minutes), but then speed was allowed to drift away down through Dunsandel until, with a final flourish, the final 13.7 miles from Rolleston were covered in 16 min. 37 sec. to the Christchurch stop, against the then allowance of 21 minutes. The 52.2 miles were thus completed from start to stop in 66 min. 39 sec. This run was timed by Gordon Troup in the early 1950s.

My impression from this admittedly small sample of "Southerner" performance is that there will be scope for further improvement of the schedule at an appropriate time.

Perhaps this could be when the installation of automatic signalling and CTC is completed between Rolleston and Oamaru, and exchanging of tablets at speed is no longer required.

I am inclined to agree with my correspondent that the locomotives, purely as locomotives, would be capable of covering the 151 miles between Christchurch and

Oamaru in a running time of three hours, but whether the "Dj" class has an adequate reserve capacity to make this a workable and reliable schedule remains to be seen.

Let us hope that the time is not far distant when a schedule of about 5 hours from Christchurch to Dunedin and 9 hours to Invercargill will become a practicable proposition.