



Miami – West Palm Beach

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1 Route Information

1.1 History

The Miami to West Palm Beach route is a commuter rail line linking Miami, Fort Lauderdale, and West Palm Beach, Florida, United States. It is managed by the South Florida Regional Transportation Authority (SFRTA) along CSX Transportation's former Miami Subdivision, the line now wholly owned by the Florida Department of Transport. The 70.9-mile-long (114.1 km) system has 18 stations along the Southeast Florida coast.

The Florida Department of Transportation purchased the track from CSX in 1989. Under the terms of the agreement, CSX would continue to provide dispatch services and physical plant maintenance for the track and would have exclusive freight trackage rights.

The new Miami Central Station began construction in late 2009 and contains Miami Airport Station. Miami Central Station joins rail, metro, bus and airport shuttle. The new Miami Airport Station is due to open in early 2015.

Amtrak's Silver Star and Silver Meteor stop at the following stations: West Palm Beach, Delray Beach, Deerfield Beach, Fort Lauderdale, Hollywood, Metrorail Transfer and Miami Airport Station at Miami Central Station.

A typical station on the route is composed of two side platforms connected by an overpass and tow tracks, one for southbound trains, and one for northbound trains. Most stations have large parking lots, however, some, like West Palm Beach and Hollywood have a limited amount of spaces, most of which are reserved for Amtrak travelers.

2 P42DC “Silver Star”

The Silver Star is a service which runs the Atlantic Coast from New York to Miami. Between New York and Washington the train is hauled by either ACS-64, HHP-8 or AEM-7 engines. Between Washington and Miami, P42s are used. The Silver Star also has a distinctive set of coaches so travelers can travel the long distance in comfort.



2.1 P42DC

The P42DC, a product of General Electric Transportation Systems, is the most ubiquitous of Amtrak's passenger locomotives. A total of 207 were delivered between 1992 and 2001. GE also built another 21 for VIA Rail.

The P42DC is part of the Genesis series, which also includes the P40DC and the P32AC-DM. The P42DC is notable for its streamlined, low-profile design, making it more fuel efficient than its predecessors and enabling it to run on all Amtrak routes without clearance issues. In order to improve maintainability, Amtrak in recent years has installed bolt-on fiberglass nose covers.

Genesis locomotives can provide head-end power (HEP) of up to 800kW to their consists. A separate alternator driven by the prime mover supplies 480volt, 3-phase power. When running in HEP mode, the engine rpm is limited to 900 which results in a power rate of 3,875Hp (2,890kW).

2.2 Technical Data

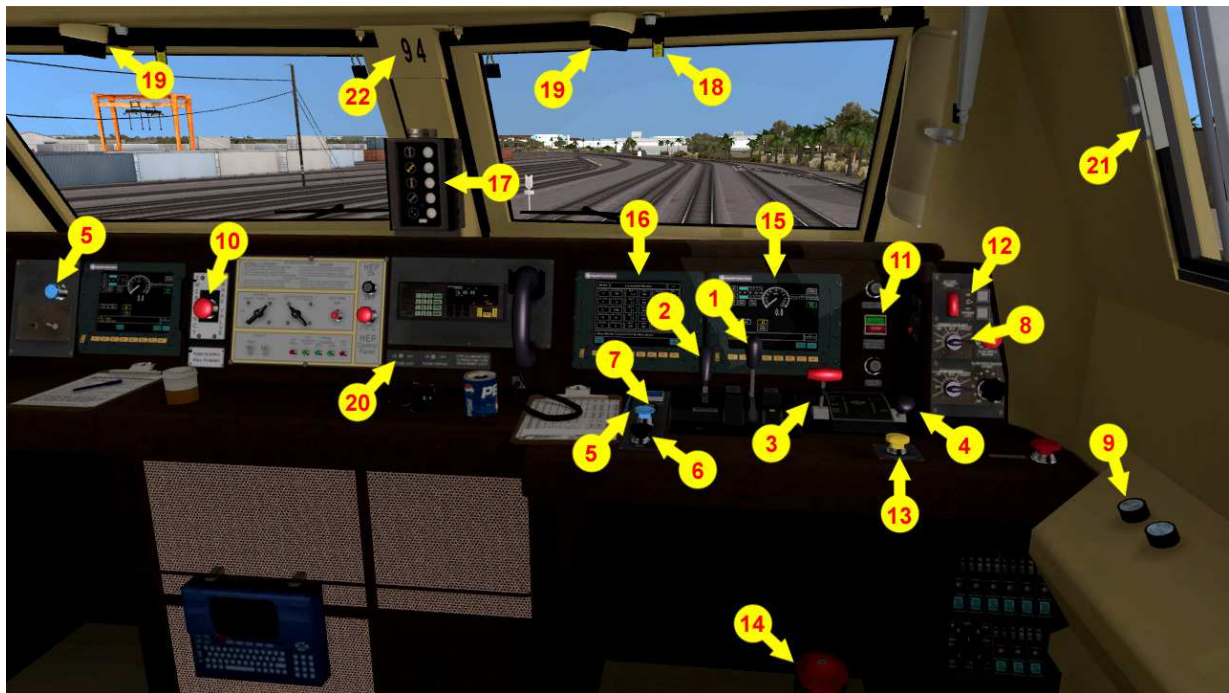
Total Built	228
Weight	122t
Length	69' (21.04m)
Engine Power	4,250Hp (3,170kW)
Max Speed	110mph (177Km/h)
Fuel Capacity	2,200USgal (8,300L)

2.3 Coaches

Typically the Silver Star runs with the following coach configuration:

- 2x P42 Engines
- 4x Amfleet II Coaches
- Amfleet II Lounge
- Heritage Fleet Diner
- 2x Viewliner Sleepers
- Baggage Car

2.4 Cab Controls



1	Combined Power Handle	12	Crossing Lights
2	Reverser	13	Alerter Reset
3	Train Brake	14	Horn Sequencer (C key)
4	Locomotive Brake	15	Main control display
5	Horn	16	Loco Information display
6	Bell	17	Aspect Display Unit
7	Sander	18	Sun Shades (U key)
8	Headlights	19	Task Light
9	Wipers	20	Dome Light
10	Emergency Stop	21	Windows
11	Emergency Stop/Engine Shutoff	22	Road Number

Alerter - Alerts the engineer to react if they don't touch controls for 90 seconds. Cancel the alarm by pressing Q or the Alerter Reset button in the cab (see above).

2.5 Cab Control and Information Displays



- | | | | |
|---|-------------------------------|----|--------------------------------|
| 1 | Analog Speedometer | 6 | Track Speed Limit |
| 2 | Digital Speedometer | 7 | Alerter Visual Alarm |
| 3 | Equalizing Reservoir Pressure | 8 | Combined Power Handle Position |
| 4 | Brake Line Pressure | 9 | Reverse Lever Position |
| 5 | Amperes | 10 | Road Number |

3 Dash 8-40CW

3.1 Dash 8-40CW

The Dash 8-40CW is a 6-axle diesel-electric locomotive built by GE Transportation Systems from 1990 to 1994. It is part of the GE Dash 8 Series of freight locomotives.

This locomotive model is often referred to as a Dash 8-40CW, and is distinguished from the Dash 8-40C by the addition of a "wide" or "safety" cab. A cowl-bodied version of this locomotive, built only for the Canadian market, was the GE Dash 8-40CM.



The first Dash 8-40CW was delivered to the Union Pacific railroad in 1990. In total, GE would build 756 Dash 8-40CWs. The Dash 8-40CW was succeeded by the Dash 9-44CW in 1994. Like most GE locomotives, the Dash 8-40CW saw continuous upgrades over the course of its production. Later model Conrail units were built with split cooling systems for the turbocharger intercooler and engine cooling (previous Dash 8 series had both on the same cooling system). The later units delivered to Conrail in 1993 and 1994 were equipped with GE's Integrated Function Displays (IFD). The IFDs are LCD displays that provide the engineer with the same information previously provided by analog gauges, as well as integrating distance counter and End of Train Device telemetry functions.

The Dash 8-40CW is powered by a 4,000-horsepower (3,000 kW) V16 7FDL diesel engine driving a GE GMG187 main alternator. The power generated by the main alternator drives 6 GE 752AG or 752AH Direct Current traction motors, each with a gear ratio of 83:20 and connected to 40-inch (1,016 mm) wheels which allow the Dash 8-40CW a maximum speed of 70mph (113Km/h).

3.2 Technical Data

Total Built	756
Length	70'8" (21.54m)
Engine Power	4,000Hp (3,000kW)
Max Speed	70mph (113Km/h)
Fuel Capacity	5,000USgal (19,000L)

3.3 Cab Control and Information Displays



- | | | | |
|----|------------------|----|----------------------|
| 1 | Headlight Switch | 11 | Alerter |
| 2 | Wiper Switch | 12 | Reverser |
| 3 | Step Lights | 13 | Power Handle |
| 4 | Cab Light | 14 | Parking Brake |
| 5 | Ditch Lights | 15 | Train Brake |
| 6 | Dial Lights | 16 | Locomotive Brake |
| 7 | Horn | 17 | Emergency Brake |
| 8 | Bell | 18 | Second man Sun visor |
| 9 | Sander | 19 | Drivers Sun visor |
| 10 | Lead Axle Sander | | |



4 Scenarios

4.1 Welcome to Florida

An introductory ride to West Palm Beach where you will learn the basics of signalling.

- Difficulty Easy
- Duration 10 Minutes
- Engine P42DC

4.2 Southern Silver Service

You are the engineer on the Silver Star service following the Atlantic East Coast. You have just arrived at West Palm Beach, heading South to Miami, continue to Fort Lauderdale where you will be taking a break.

- Difficulty Easy
- Duration 45 Minutes
- Engine P42DC

4.3 Rock Through the Night

Most freight services operate on the route at night. Tonight is no exception. Take a full rock train out of Hialeah Yard bound for Tampa.

- Difficulty Medium
- Duration 45 Minutes
- Engine Dash 8-40CW

4.4 Grand Opening

You are the engineer of this Silver Star service, which is the first commercial train out of Miami Airport. Your train is already turned to head North to Fort Lauderdale.

- Difficulty Easy
- Duration 40 Minutes
- Engine P42DC

4.5 Dash 8 Yard Work

It is a busy morning at Hialeah Yard and you have a shipment to haul North which has not yet been assembled. With the yard switcher currently in the engine shop you will need to bring the two halves of the order together yourself.

- Difficulty Hard
- Duration 20 Minutes
- Engine Dash 8-40CW

4.6 Silver Star to Miami

You will be finishing the last leg of the Silver Star to Miami, which departed from West Palm Beach earlier on. Scheduled passenger stops are: Fort Lauderdale, Hollywood and Miami.

- Difficulty Easy
- Duration 40 Minutes
- Engine P42DC

4.7 Mainline Freight

An important order requires you to operate a daytime freight service, sharing the main line with passenger traffic. Head North behind the morning Silver Meteor paying close attention to signalling.

- Difficulty Medium
- Duration 30 Minutes
- Engine Dash 8-40CW

4.8 Florida Storm

Silver Star has been delayed by 2 hours due to a storm. You have finally been given clearance to proceed while the storm starts to pass. Start at Deerfield Beach and finish at Miami Airport.

- Difficulty Medium
- Duration 60 Minutes
- Engine P42DC

5 Signals

The signalling along the Miami to West Palm Beach route is in accordance with the following practices.

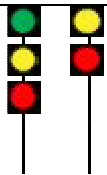
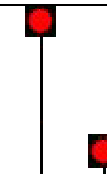
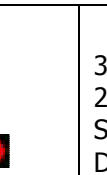
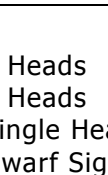
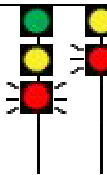

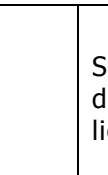
Signalling speeds are defined as follows:

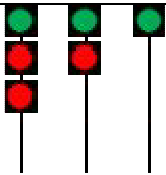
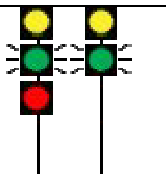
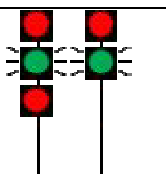
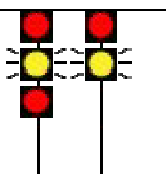
Limited Speed: Not exceeding 45mph.

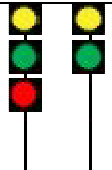
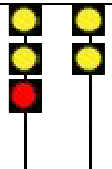
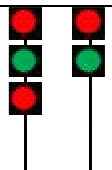
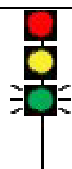
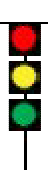

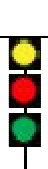
Medium Speed: Not exceeding 30mph.

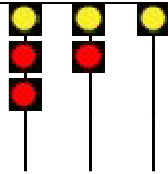
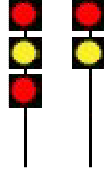
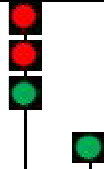
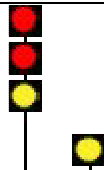
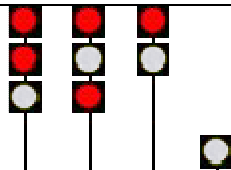
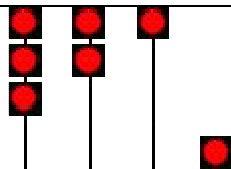
Slow Speed: Not exceeding 15mph.

Restricted Speed: Not exceeding 15mph and allowing stopping within one-half the visible distance. Also permits stopping short of any obstruction such as another train or signal.

MULTI-ASPECT COLOUR LIGHT SIGNALS			
			
3 Heads 2 Heads Single Head Dwarf Signal			
			Signal aspect displaying a flashing light.

RULE	ASPECT	NAME	INDICATION
1281		Clear	Proceed at line speed.
1281B		Approach Limited	Proceed, approaching next signal not exceeding Limited Speed.
1281C		Limited Clear	Limited Speed through turnouts, crossovers, sidings and over power operated switches then proceed at line speed.
1281D		Limited Approach	Limited Speed through turnouts, crossovers, sidings and over power operated switches then proceed, prepared to stop at the next signal.

RULE	ASPECT	NAME	INDICATION
1282		Approach Medium	Proceed, approaching the next signal not exceeding Medium Speed.
1282A		Advance Approach	Proceed, prepared to stop at second signal.
1283		Medium Clear	Medium Speed through turnouts, crossovers, sidings and over power operated switches then proceed at line speed.
1283A		Medium Approach Medium	Medium Speed through turnouts, crossovers, sidings and over power operated switches then proceed, approaching the next signal not exceeding Medium Speed.
1283B		Medium Approach Slow	Medium Speed through turnouts, crossovers, sidings and over power operated switches then proceed, approaching the next signal not exceeding Slow Speed.
1283C		Medium Advance Approach	Medium Speed through turnouts, crossovers, sidings and over power operated switches then proceed, prepared to stop at the second signal.
1284		Approach Slow	Proceed, approaching the next signal not exceeding Slow Speed.

RULE	ASPECT	NAME	INDICATION
1285		Approach	Proceed, prepared to stop at the next signal. Trains exceeding Medium Speed must immediately begin reduction to Medium Speed as soon as the locomotive passes the Approach signal.
1286		Medium Approach	Medium Speed through turnouts, crossovers, sidings and over power operated switches then proceed, prepared to stop at the next signal.
1287		Slow Clear	Slow Speed through turnouts, crossovers, sidings and power operated switches then proceed at line speed.
1288		Slow Approach	Slow Speed through turnouts, crossovers, sidings and over power operated switches then proceed, prepared to stop at the next signal.
1290		Restricting	Proceed at Restricted Speed.
1292		Stop	Stop.

6 Speed Signs

The maximum permissible speed along the Miami to West Palm Beach corridor is 79mph for passenger traffic and 60mph for freight traffic.

Speeds over switches, crossovers and sidings are controlled by fixed signals, described in the previous section. At other locations between these points speed reductions and increases are denoted by wayside signs.



Permanent Reduce Speed Sign

Reduce speed as required by special instructions.

Passenger trains must proceed past this point no faster than the upper speed indicated.

All other trains must proceed past this point no faster than the lower speed indicated.



Permanent Reduce Speed Sign

Reduce speed as required by special instructions.

All trains must proceed past this point no faster than the speed indicated.



Permanent End Restriction Sign

Resume speed after the rear of the train has passed.

7 Credits

Thanks to the following people who made the Miami – West Palm Beach route possible:

Dovetail Games Development Team:

Dan Barnett
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