

= Turboliner =

The Turboliners were a family of gas turbine trainsets built for Amtrak in the 1970s . They were among the first new equipment purchased by Amtrak and represented an attempt by Amtrak to update its fleet with faster , more modern trains . The first batch , known as RTG , were built by the French firm ANF and entered service on multiple routes in the Midwestern United States in 1973 . The new trains led to ridership increases wherever they were used ; the fixed consist proved a detriment as demand outstripped supply . The high cost of operating the trains led to their withdrawal from the Midwest in 1981 .

The second batch , known as RTL , were of a similar design but manufactured by Rohr Industries , an American company . These entered service on the Empire Corridor in the state of New York in 1976 . The RTLs remained in service there through the 1990s , supplemented by several rebuilt RTGs . In the late 1990s and early 2000s New York and Amtrak partnered to rebuild the RTLs for high @-@ speed service ; this project failed and the last RTL trainsets left revenue service in 2003 . After the settlement of legal issues New York sold the remaining trainsets for scrap in 2012 .

= = RTG = =

= = = Design = = =

The RTG (abbreviated from the French Rame à Turbine à Gaz , or gas turbine train) model was an Americanized version of the French ANF T 2000 RTG Turbotrain (related to the prototype precursor to the very first TGV trainset , the TGV 001) . The RTGs used European @-@ style couplers (buffers and turnbuckles) between their cars , due to having been built in France by ANF for use on French railways . Another change was the installation of top @-@ mounted Nathan P1234A5 horns , a variation of the standard Nathan P5 horns . Each trainset consisted of two power cars (which included seating) , two coaches and a bar / grill . The trains were powered by a pair of 1 @,@ 140 horsepower (850 kW) Turbomeca turbines .

= = = Service = = =

Amtrak acquired the Turboliners with multiple goals in mind . The Turboliners were expected to cost less to operate than a comparable diesel locomotive while having a higher operating speed , though this would be constrained by track conditions . Amtrak also hoped that introducing new equipment would generate favorable publicity . Two years into its existence , Amtrak was fighting the perception that it was making " cosmetic changes to hand @-@ me @-@ down equipment . " New gas turbine trainsets could change that perception and generate favorable publicity .

The first two RTG trainsets arrived in September 1973 . These were based out of Chicago , and initially served the Chicago ? St. Louis corridor . Impressed with their reliability , Amtrak ordered an additional four trainsets which entered service in 1975 . Amtrak assigned these sets to its other two Midwestern corridors : Chicago ? Milwaukee and Chicago ? Detroit . Between 1975 and 1976 Amtrak experimented with formally renaming these services " Turboliner " after the equipment before returning to traditional names (e.g. Wolverine) .

Amtrak established a separate maintenance facility for all six trainsets in the Brighton Park neighborhood of Chicago , on the site of an ex @-@ Gulf , Mobile and Ohio Railroad coach yard . This facility closed in 1981 after the withdrawal of the RTGs from service ; according to Amtrak the trainsets were too expensive to operate compared to conventional equipment . The trainsets were mothballed at Amtrak 's main maintenance facility in Beech Grove , Indiana . A contributing factor to the withdrawal of the RTGs was the spike in fuel prices after the Yom Kippur War .

In 1985 , three RTG trainsets (numbered 64 to 69) were retrofitted with RTL style noses , and third rail capability to enable operation into New York . Renamed RTG @-@ IIs , they were retired from service after one caught fire in Pennsylvania Station in New York on September 11 , 1994 .

===== St. Louis =====

The St. Louis corridor was the first to receive the new Turboliner equipment , with the initial run occurring September 28 , 1973 , amid great fanfare . The two daily frequencies were branded Turboliner , replacing the individual names Abraham Lincoln and Prairie State . Amtrak would repeat this experiment with the Detroit and Milwaukee corridors . Track conditions limited the new trainsets to 79 mph (127 km / h) , but they were clean , comfortable , quiet and reliable . In the first year the Chicago ? St. Louis running time dropped from 5 @.@ 5 to 5 hours . The Federal Railroad Administration refused a request from Amtrak to raise the speed limit to 90 mph (140 km / h) , citing inadequate signalling along the route . The new equipment had fallen out of favor by the end of 1974 : food service was inadequate , and the five @-@ car fixed consist could not handle demand . Amfleet coaches and new conventional diesels replaced both of the Turboliner trainsets in 1975 .

===== Detroit =====

Turboliners arrived on the Detroit run on April 10 , 1975 . Additional equipment allowed Amtrak to add a frequency in late April ; the arrival of a third trainset in May made Chicago ? Detroit the " first all @-@ turbine @-@ powered route . " One year into operation ridership on the corridor increased by 72 percent . The fixed capacity of 292 passengers on an RTL trainset proved an impediment ; Amtrak could not add capacity when demand outstripped supply . Amtrak replaced one of the trainsets with a conventional locomotive hauling then @-@ new Amfleet coaches in 1976 ; Turboliner service ended altogether by 1981 as more Amfleet equipment became available .

===== Milwaukee =====

Turboliners debuted on the Hiawatha corridor began on June 1 , 1975 , with additional trainsets operating in 1976 . As with the St. Louis and Detroit corridors , Amtrak dropped individual names in favor of the Turboliner in branding in 1976 , but resumed these names in 1980 . Turboliner equipment was withdrawn altogether in 1981 . Their withdrawal was the end of Turboliner service in the Midwest .

== RTL ==

Amtrak ordered an additional seven Turboliner trainsets which were delivered between 1976 and 1977 . These were manufactured by Rohr Industries and were known as RTL Turboliners . They were based on the earlier RTG series trains but had American @-@ style Janney couplers throughout and a different design power car cab . The standard configuration of each set was five cars : power cars at either end , a food service car , and two coaches . At times Amtrak operated Turboliners with an additional coach cut into the consist . The sets operated in revenue service throughout upstate New York from the 70s into the 90s . One of these original sets were rebuilt into an RTL @-@ II set .

The RTL Turboliners were capable of third rail operation , allowing them to enter Grand Central Terminal and , later Pennsylvania Station in New York City . As it had with the earlier RTGs in the Midwest , Amtrak set up a separate maintenance facility in Rensselaer , New York . This facility opened on November 30 , 1977 , and cost \$ 15 million . As built the RTLs carried 2 @, @ 560 US gallons (9 @, @ 700 l ; 2 @, @ 130 imp gal) of fuel , permitting a cruising range of 950 miles (1 @, @ 530 km) . The seven trainsets cost \$ 32 million .

The official inaugural run of the RTLs took place on September 18 ? 19 , 1976 . Regular service on the Empire Corridor began on Monday , September 20 . Initially the two trainsets were mostly confined to the New York ? Albany shuttle , with a single round @-@ trip each on Saturday and Sunday to Buffalo . The New York ? Montreal Adirondack received Turboliners on March 1 , 1977 ,

replacing conventional equipment . By April 1977 Turboliners had displaced conventional equipment on most routes in upstate New York . Exceptions included some New York ? Albany trains as well as the long @-@ distance Lake Shore Limited and Niagara Rainbow .

= = = RTL @-@ II = = =

In 1995 Amtrak and the state of New York collaborated to rebuild a single RTL trainset at a cost of \$ 2 million . This rebuild included a pair of new Turbomeca Makila T1 turbines , each capable of developing 1 @, @ 600 horsepower (1 @, @ 200 kW) . The interiors were also to be renovated and the exterior paint scheme changed . Morrison @-@ Knudsen rebuilt the power cars while Amtrak overhauled the coach interiors at Beech Grove . The rebuilt trainset was designated RTL @-@ II . In test runs on the Empire Corridor and Northeast Corridor it reached a top speed of 125 mph (201 km / h) all the while consuming less fuel than previously .

= = = RTL @-@ III = = =

In 1998 Amtrak and the state of New York began the High Speed Rail Improvement Program , a \$ 185 million effort to improve service over the Empire Corridor . A key component of this program would be the reconstruction of all seven RTL Turboliner trainsets to the RTL @-@ III specification . New York selected Super Steel Schenectady to perform the work , and the first two trainsets were to enter service in 1999 . Numerous delays pushed the start of service to April 2003 . Of the five additional trainsets , originally scheduled to enter service in 2002 , only one was completed and it never entered revenue service . All seven trainsets were renumbered in 2001 to prevent duplicate numbers with the new GE P42DCs and were painted in new Acela @-@ style livery . One of the rebuilt RTL @-@ IIIs was tested on the night of February 15 , 2001 , reaching 125 mph (201 km / h) .

The agreement between Amtrak and New York provided that New York would take ownership of the rebuilt trainsets once Amtrak had " fully accepted " them for regular revenue service . Amtrak withdrew all the trainsets from service in June 2003 after problems developed with the air @-@ conditioning systems and refused to operate them . In 2004 New York sued Amtrak in federal court for \$ 477 million , both for not operating the trainsets and for failing to complete track work in the Empire Corridor to permit regular 125 @-@ mile @-@ per @-@ hour (201 km / h) operation . Amtrak mothballed the equipment at its maintenance facility in Bear , Delaware . Joseph H. Boardman , then Commissioner of the New York State Department of Transportation (and a future president of Amtrak) , accused Amtrak of " stealing " the trains and threatened to find a new vendor for the state 's intercity rail service . Conventional Amfleet equipment replaced the trainsets in revenue service .

In April 2005 , New York reached a settlement with Super Steel to completely close the rehabilitation project for \$ 5 @. @ 5 million , to stop work on the project , cover any remaining costs , and move four unfinished trains into storage at a nearby industrial park . This settlement , when added to the \$ 64 @. @ 8 million previously spent , brought the total amount spent on the project ? the results of which were three rehabilitated trainsets and four others in various states of repair ? to \$ 70 @. @ 3 million . In 2007 Amtrak and New York settled their own lawsuit , with Amtrak paying New York \$ 20 million . Amtrak and New York further agreed to commit \$ 10 million each to implement track improvements in the Empire Corridor . New York auctioned off its surplus Turboliners in 2012 for \$ 420 @, @ 000 , including spare parts .