

# Japanese Freight Locomotives

Since no freight trains operate on the standard-gauge shinkansen network, all freight locomotives in Japan are built to the 1067-mm gauge. The decline of rail freight throughout the 1970s and 80s resulted in redundant freight locomotives, and the newly founded JR Freight inherited an aging JNR fleet, but gradually started building new locomotives using advanced technologies.

The Class EH500 (top) was built in 1997 to haul long-distance express freight trains between Tokyo and Hokkaido through the undersea Seikan Tunnel. With VVVF inverter and IGBT element, it can run on three different current systems (1.5 kV dc, and 20 kV ac at 50 or 60 Hz). The Class EF200 (middle left) was introduced in 1990 to haul high-speed heavy freight trains on the direct-current Tokaido and San'yō main lines. The Class EF210 (middle right) is a low-cost and high-power DC loco introduced in 1996 and the Class EF500 (bottom left) is an AC/DC version of the EF200 introduced in 1990. The Class DF200 (bottom right) is a diesel-electric locomotive first introduced in 1992 for heavy freight haulage on non-electrified trunk lines in Hokkaido.



Class EH500

(The Railway Pictorial)



Class EF200

(JR Freight)



Class EF210

(JR Freight)



Class EF500

(JR Freight)



Class DF200

(JR Freight)

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## Japanese Freight locomotives (2)

These photographs show freight locomotives built in the JNR days and still used by JR Freight. The Class DD51 (top left) was first introduced in 1962 and 492 units had been built by 1977, replacing steam locos on non-electrified trunk lines nationwide. First introduced in 1966, the 475 units of the Class DE10 (top right) replaced steam locos on secondary lines. It was also used for heavy shunting at major marshalling yards. Both the classes DD51 and DE10 are diesel-hydraulic locomotives. The Class EF64 (top middle left) was first introduced in 1964 and totalled 132 units by 1981. It was used mainly on steeply graded trunk lines with DC electrification. The Class EF65 (top middle right) was first introduced in 1965 as a powerful multi-purpose DC locomotive. 290 units were built and some were used for prestigious sleeping-car express services between Tokyo and Kyushu. The Class EF66 was first introduced in 1966 to haul high-speed freight expresses on the Tokaido and San'yo main lines. Fifty-six units were built in total and some were later used to pull Tokyo–Kyushu passenger express services. JR Freight built 16 units of a slightly modified version (bottom middle left) from 1989 to 1990. The Class EF67 (bottom middle right) is a remodelled EF60 and EF65. It is used on the 22-per-mill section near Hiroshima on the San'yo Main Line where east-bound heavy freight trains require a push at the rear. First introduced in 1963 and totalling 251 units, the Class ED75 (bottom left) is a standard locomotive used widely on AC-electrified lines. The Class EF81 is a three-current (1.5 kV dc, 20 kV ac at 50 and 60 Hz) version of the EF65. It was first introduced in 1968 on the Hokuriku Main Line along the Sea-of-Japan coast. The 162 units built are still used nationwide on both AC- and DC-electrified lines.



Class DD51

(JR Freight)



Class DE10

(N. Oguri)



Class EF64

(H. Sugita)



Class EF65

(JR Freight)



Class EF66

(JR Freight)



Class EF67

(JR Freight)



Class ED75

(M. Ishikawa)



Class EF81

(JR Freight)