Equipment details

Bodies: Body shell of welded aluminium extrusions. Exterior painted in London

Underground corporate red, white and blue livery.

Twin-transom flexible frame bogies without headstocks. Frame constructed from Bogies:

steel plate sections and steel castings, built by ADtranz. Rubber chevron primary

and secondary suspension. Wheel diameter 770mm (new).

London Underground Automatic Wedgelock between units, semi-permanent bar Couplers:

between cars within a unit.

Alstom Onyx 3 phase AC drive using IGBT technology providing variable voltage Traction system:

and frequency supplies to four frame mounted 3-phase induction motors per motor car, each driving and individual axle through a flexible coupling and double

reduction gearbox.

Westinghouse RCS rotary screw compressor driven by integral electric motor. Compressors:

Brakes Fully blended regenerative/rheostatic and e.p. friction tread brake with load

> control and slip/slide protection. Independent control circuits for emergency brake (energise to release) and service brakes (energise to apply). Spring applied,

air released parking brake. One block per wheel, all wheels.

Auxiliary power supplies:

One IGBT auxiliary converter per unit. Provides 3-phase 415V, 50Hz to supply 3-phase and 240V single phase equipment and 52V dc for battery charging and

Main lighting: Fluorescent tubes fed by inverters from 50V dc – 26 tubes per motor car, 28 per

trailer car and UNDM car.

Four fluorescent tubes per car fed from a 52V battery and normally forming part **Emergency lighting:**

of the main salon lighting.

Ventilation: Electric heating and forced ventilation system with six ventilation fans per car,

three of which have d.c. brushless motors fed from the 52V battery.

Operators cab air conditioned.

Passenger

Six automated LED scrolling visual display units per car. Automated audio Information: station announcements and driver operable Public Address. Passenger alarm

with talkback to driver.

Pneumatically operated sliding doors, externally hung. Two double and one single Doors:

per side (DM cars), two double and two single per side (trailers and UNDM cars)



1995 Tube Stocks

Northern line



Built by Alstom Transportation 1996-1999 Entered service Northern line 1997-2000 Refurbished from 2013

Maintained by: Alstom under a PFI agreement.

Principal characteristics

4ft 81/2 ins/1435mm Track gauge:

630V dc 3rd and 4th rail, floating earth. Current system:

Types of vehicle: Driving Motor (DM)

Trailer (T)

Uncoupling Non-Driving Motor Car (UNDM)

Formation per unit: Three cars, formed DM – T - UNDM

Formation per train: Six cars formed DM – T – UNDM + UNDM – T – DM

Number of train: 106 six-car trains.

Thales Transmission Based Train Control (T.B.T.C) automatic operation Operation:

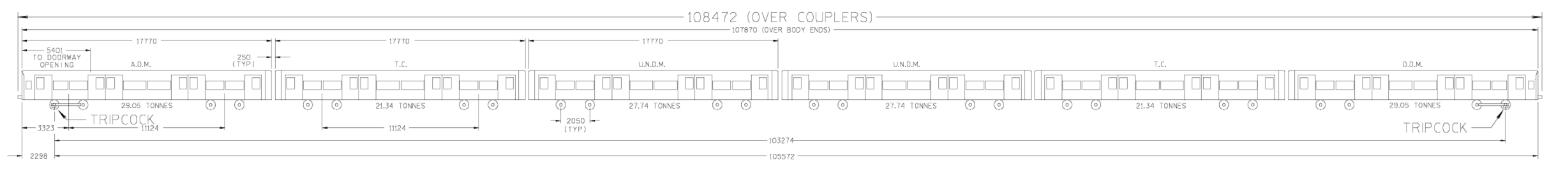
A.T.O./A.T.P.

(Conventional O.P.O driving with Tripcock train protection until TBTC

implementation is complete. Estimated completion 2014.)



Information sheet: 4th Edition



1995 TUBE STOCK - TARE WEIGHT - 156.66 TONNES - 6 CAR TRAIN

Vehicle details and statistics				
	Driving Motor Car	Trailer Car	UNDM	
Length over body ends:	17770mm	17770mm	17770mm	
Width of body:	2630mm	2630mm	2630mm	
Car height:	2875mm	2875mm	2875mm	
Tare weight	29.4 tonnes	21.5 tonnes	27.9 tonnes	
Tare weight of 7-car train:		157.6 tonnes		
Passenger door open width: double:	1406mm	1406mm	1406mm	
:single:	703mm	703mm	703mm	
Car number series:	51501-51686	52501-52686	53501-53686	
De-icing units:	51701-51726	52701-52726	53701-53726	
Vehicles in stock:	212	212	212	
Grand total in stock		636		

Passenger accommodation:

Please note that standing capacity figures exclude seating capacity

Seating capacity: (Number of seats per train) excluding tip up seats	200
Tip up seats in Multi-purpose area	48
Standing capacities: Floor area available for standing passengers (m²)a	110.36
Maximum observed standing capacity (5 customers per m²)	552
Maximum full load standing capacity (6 customers per m²)b	662
Theoretical crush standing capacity (7 customers per m²)c	773

NOTES:

- a) Capacities here are figures **calculated** from floor area for design purposes
- b) For propulsion performance rating
- c) For structural and braking capacity

