

Example or khp2_sulfurId (106,7t):

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BrakeSystemType ( "Air_single_pipe" )  
BrakeEquipmentType ( "Triple_valve, Emergency_brake_reservoir, Auxiliary_reservoir, Handbrake" )  
BrakeCylinderPressureForMaxBrakeBrakeForce ( 50 )  
TripleValveRatio ( 2.5 )  
EmergencyBrakeResMaxPressure ( 90 )  
EmergencyResCapacity ( 2.0631 )  
EmergencyResChargingRate ( 1,684 )  
EmergencyResVolumeMultiplier ( 1.461 )  
MaxAuxiliaryChargingRate ( 1,684 )  
MaxApplicationRate ( 0.9 )  
MaxReleaseRate ( 1,86 )  
MaxBrakeForce ( 33.0kN )  
MaxHandbrakeForce ( 48.4kN )
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Comments:

“BrakeSystemType” and “BrakeEquipmentType”

no comments

“TripleValveRatio”

reference AAR, 2.5

“BrakeCylinderPressureForMaxBrakeBrakeForce”

reference AAR, 50 psi

“EmergencyBrakeResMaxPressure”

no comments

“EmergencyResCapacity”

reference AAR for a 10” diameter cylinder: 2500 cubic inches

“MaxAuxiliaryChargingRate” and “EmergencyResChargingRate”

reference AAR charging time for a single car, about 6mn to 80psi

°MSTS mysterious coding:

- Driving Freight engine: (0.842)
- All other Freight engines and wagons: (1,684)

“EmergencyResVolumeMultiplier”

reference AAR, the auxiliary/emergency reservoir ratio

“MaxBrakeForce”

reference AAR for 4 axles wag at 50 psi brake cylinder pressure (converted in kN)

– loaded:

TOFC/COFC maxi loaded mass *0.39 (the down board inferior weight limit)

all others maxi loaded mass *0.3 (the up board maximum value)

– empty:

Same as loaded, but not exceeding empty mass *1.2.

If brake force exceed empty mass *1.2, the wagon has an empty-load device. The "empty" position give loaded force *0.6.

“MaxApplicationRate”

reference AAR, about 8 s from 0 psi to 20 psi

°MSTS mysterious coding:

- Driving Freight engine: (0.45)
- All other Freight engines and wagons: (0,9)

“MaxReleaseRate”

reference AAR, about 23 s from 50 psi to 5 psi

°MSTS mysterious coding:

- Driving Freight engine: (0.93)
- All other Freight engines and wagons: (1,86)

“MaxHandbrakeForce”

reference AAR for 4 axles wag: maxi loaded mass x 0.4

TOFC / COFC

Loaded Mass		Brake Force			Handbrake Force
Heavier than	Lighter than or equal to	Loaded (and empty if mass heavier than Limit)	Limit	Empty (if empty mass lighter than Limit)	
95t (212800lb / 106.4tn)	100t (224000lb / 112tn)	37.05kN (if empty mass higher than 30.875t)	30.875t	22.23kN (if empty mass lighter than 30.875t)	44.0kN
90t (201600lb / 100.8tn)	95t (21280lb / 106.4tn)	35.1kN (if empty mass higher than 29.25t)	29.25t	21.06kN (if empty mass lighter than 29.25t)	41.8kN
85t (190400lb / 95.2tn)	90t (201600lb / 100.8tn)	33.15kN (if empty mass higher than 27.625t)	27.625t	19.89kN (if empty mass lighter than 27.625t)	39.6kN
80t (179200lb / 89.6tn)	85t (190400lb / 95.2tn)	31.2kN (if empty mass higher than 26t)	26t	18.72kN (if empty mass lighter than 26t)	37.4kN
75t (168000lb / 84tn)	80t (179200lb / 89.6tn)	29.25kN (if empty mass higher than 24.375t)	24.375t	17.55kN (if empty mass lighter than 24.375t)	35.2kN
70t (156800lb / 78.4tn)	75t (16800lb / 84tn)	27.3kN (if empty mass higher than 22.75t)	22.75t	16.38kN (if empty mass lighter than 22.75t)	33.0kN
65t (145600lb / 72.8tn)	70t (156800lb / 78.4tn)	25.35kN (if empty mass higher than 18.675t)	18.675t	15.3kN (if empty mass lighter than 18.675t)	30.8kN
60t (134400lb / 67.2tn)	65t (145600lb / 72.8tn)	23.4kN (if empty mass higher than 19.5t)	19.5t	14.04kN (if empty mass lighter than 19.5t)	28.6kN
55t (123200lb / 61.6tn)	60t (134400lb / 67.2tn)	21.45kN (if empty mass higher than 17.875t)	17.875t	12.87kN (if empty mass lighter than 17.875t)	26.4kN
50t (112000lb / 56tn)	55t (123200lb / 61.6tn)	19.5kN (if empty mass higher than 16.25t)	16.25t	11.7kN (if empty mass lighter than 16.25t)	24.2kN
	50t (112000lb / 56tn)	17.55kN (if empty mass higher than 14.675t)	14.675t	10.53kN (if empty mass lighter than 14.675t)	22.0kN

Others than TOFC / COFC

Loaded Mass		Brake Force			Handbrake Force
Heavier than	Lighter than or equal to	Loaded (and empty if mass heavier than Limit)	Limit	Empty (if empty mass lighter than Limit)	
125t (28000lb / 140tn)		39.0kN (if empty mass higher than 32.5t)	32.5t	23.4kN (if empty mass lighter than 32.5t)	57.2kN
120t (268800lb / 134.4tn)	125t (280000lb / 140tn)	37.5kN (if empty mass higher than 31.25t)	31.25t	22.5kN (if empty mass lighter than 31.25t)	55.0kN
115t (257600lb / 128.8tn)	120t (268800lb / 134.4tn)	36.0kN (if empty mass higher than 30.0t)	30.0t	21.6kN (if empty mass lighter than 30.0t)	52.8kN
110t (246400lb / 123.2tn)	115t (257600lb / 128.8tn)	34.5kN (if empty mass higher than 28.75t)	28.75t	20.7kN (if empty mass lighter than 28.75t)	50.6kN
105t (235200lb / 112tn)	110t (246400lb / 123.2tn)	33.0kN (if empty mass higher than 27.5t)	27.5t	19.8kN (if empty mass lighter than 27.5t)	48.4kN
100t (224000lb / 112tn)	105t (235200lb / 117.6tn)	31.5kN (if empty mass higher than 26.25t)	26.25t	18.9kN (if empty mass lighter than 26.25t)	46.2kN
95t (212800lb / 106.4tn)	100t (224000lb / 112tn)	30.0kN (if empty mass higher than 25.0t)	25.0t	18.0kN (if empty mass lighter than 25.0t)	44.0kN
90t (201600lb / 100.8tn)	95t (21280lb / 106.4tn)	28.5kN (if empty mass higher than 23.75t)	23.75t	17.1kN (if empty mass lighter than 23.75t)	41.8kN
85t (190400lb / 95.2tn)	90t (201600lb / 100.8tn)	27.0kN (if empty mass higher than 22.5t)	22.5t	16.2kN (if empty mass lighter than 22.5t)	39.6kN
80t (179200lb / 89.6tn)	85t (190400lb / 95.2tn)	25.5kN (if empty mass higher than 21.25t)	21.25t	15.3kN (if empty mass lighter than 21.25t)	37.4kN
75t (168000lb / 84tn)	80t (179200lb / 89.6tn)	24.0kN (if empty mass higher than 20t)	20t	14.4kN (if empty mass lighter than 20t)	35.2kN
70t (156800lb / 78.4tn)	75t (16800lb / 84tn)	22.5kN (if empty mass higher than 18.75t)	18.75t	13.5kN (if empty mass lighter than 18.75t)	33.0kN
65t (145600lb / 72.8tn)	70t (156800lb / 78.4tn)	21.0kN			30.8kN
60t (134400lb / 67.2tn)	65t (145600lb / 72.8tn)	19.5kN			28.6kN
55t (123200lb / 61.6tn)	60t (134400lb / 67.2tn)	18.0kN			26.4kN
50t (112000lb / 56tn)	55t (123200lb / 61.6tn)	16.5kN			24.2kN
	50t (112000lb / 56tn)	15.0kN			22.0kN