

Open Rails ENG/WAG Params

Universal		
Type	MSTS	Steam Diesel Electric Freight Carriage Tender
WagonShape	MSTS	
Engine	MSTS	
Wagon	MSTS	
Size	MSTS	
Mass	MSTS	
WheelRadius	MSTS	
NumWheels	MSTS	
Sanding	MSTS	
Sound	MSTS	
CabView	MSTS	
HeadOut	MSTS	
Name	MSTS	
Description	MSTS	
Include	ORTS	

Open Rails ENG/WAG Params

Steam Basic		
IsTenderRequired	MSTS	
BoilerVolume	MSTS	
MaxBoilerPressure	MSTS	
MaxTenderWaterMass	MSTS	
MaxTenderCoalMass	MSTS	
SteamFiremanIsMechanicalStoker	MSTS	
NumCylinders	MSTS	
CylinderStroke	MSTS	
CylinderDiameter	MSTS	
ORTSSteamLocomotiveType	ORTS	Simple Compound Geared
ORTSDriveWheelWeight	ORTS	
ORTSSteamBoilerType	ORTS	Saturated Superheated
ORTSEvaporationArea	ORTS	
ORTSSuperheatArea	ORTS	
MaxSteamHeatingPressure	ORTS	
ORTSGrateArea	ORTS	
ORTSFuelCalorific	ORTS	
ORTSSteamFiremanMaxPossibleFiringRate	ORTS	
LPNumCylinders	ORTS	
LPCylinderStroke	ORTS	
LPCylinderDiameter	ORTS	
ORTSSteamGearRatio	ORTS	
ORTSSteamMaxGearPistonRate	ORTS	
ORTSSteamGearType	ORTS	
Steam Advanced		
ORTSBoilerEvaporationRate	ORTS	
ORTSMaxIndicatedHorsepower	ORTS	
ORTSMaxSuperheatTemperature	ORTS	
ORTSSuperheatCutoffPressureFactor	ORTS	
ORTSCylinderPortOpening	ORTS	
ORTSCylinderExhaustOpen	ORTS	
ORTSBoilerEfficiency	ORTS	
ORTSBurnRate	ORTS	
ORTSCylinderEfficiencyRate	ORTS	
ORTSCylinderInitialPressureDrop	ORTS	
ORTSCylinderBackPressure	ORTS	

Open Rails ENG/WAG Params

Diesel Basic	
AntiSlip	MSTS
MaxDieselLevel	MSTS
MaxTemperature	MSTS
MaxOilPressure	MSTS
DieselUsedPerHourAtMaxPower	MSTS
DieselUsedPerHourAtIdle	MSTS
DieselEngineIdleRPM	MSTS
DieselEngineMaxRPM	MSTS
DieselEngineMaxRPMChangeRate	MSTS
MaxPower	MSTS
MaxForce	MSTS
MaxVelocity	MSTS
MaxContinuousForce	MSTS
MaxCurrent	MSTS
DieselSmokeEffectInitialMagnitude	MSTS
DieselSmokeEffectMaxMagnitude	MSTS
DieselSmokeEffectInitialSmokeRate	MSTS
DieselSmokeEffectMaxSmokeRate	MSTS
ORTSDriveWheelWeight	ORTS
ORTSWheelSlipCausesThrottleDown	ORTS
ORTSDieselEngineMaxPower	ORTS
Diesel Advanced	
ORTSMaxTractiveForceCurves	ORTS
ORTSCurtius_Kniffler	ORTS
ORTSInertia	ORTS

Open Rails ENG/WAG Params

Couplers Basic (Only One Set Used)

CouplingHasRigidConnection	MSTS	
Coupling	MSTS	Automatic Bar Chain
Type	MSTS	
Spring	MSTS	
Stiffness	MSTS	
Break	MSTS	
r0	MSTS	

Couplers Advanced

ORTSTensionStiffness	ORTS
ORTSTensionR0	ORTS
ORTSTensionSlack	ORTS
ORTSCompressionStiffness	ORTS
ORTSCompressionR0	ORTS
ORTSCompressionSlack	ORTS
ORTSBreak	ORTS

Open Rails ENG/WAG Params

Brakes Air		
		Handbrake_retainer_3_position Retainer_4_position Vacuum_brake Triple_valve graduated_release_triple_valve Ep_brake Ecp_brake auxiliary_reservoir Emergency_brake_reservoir Distributor Triple_valve
BrakeEquipmentType	MSTS	Auxiliary_reservoir
BrakeSystemType	MSTS	Air_single_pipe Air_twin_pipe Vacuum_single_pipe Vacuum_twin_pipe ECP EP Air_piped Vacuum_piped
MaxBrakeForce	MSTS	
MaxHandbrakeForce	MSTS	
EmergencyResVolumeMultiplier	MSTS	
TripleValveRatio	MSTS	
MaxReleaseRate	MSTS	
MaxApplicationRate	MSTS	
MaxAuxiliaryChargingRate	MSTS	
EmergencyResChargingRate	MSTS	
EmergencyResCapacity	MSTS	
BrakeCylinderPressureForMaxBrakeBrakeForce	MSTS	
AirBrakesMainMaxAirPressure	MSTS	
AirBrakesCompressor RestartPressure	MSTS	
AirBrakesMainResVolume	MSTS	
TrainPipeLeakRate	MSTS	
TrainBrakesControllerMaxSystemPressure	MSTS	
TrainBrakesControllerMaxReleaseRate	MSTS	
TrainBrakesControllerMaxQuickReleaseRate	MSTS	
TrainBrakesControllerMaxApplicationRate	MSTS	
TrainBrakesControllerEmergencyApplicationRate	MSTS	
TrainBrakesControllerFullServicePressureDrop	MSTS	
TrainBrakesControllerMinPressureReduction	MSTS	
ControlName	MSTS	
ORTSBrakeShoeFriction	ORTS	
BrakePipeVolume	ORTS	
ORTSBrakeShoeFriction	ORTS	
ORTSMainResChargingRate	ORTS	
ORTSBrakePipeChargingRate	ORTS	
ORTSBrakePipeTimeFactor	ORTS	
ORTSBrakeServiceTimeFactor	ORTS	
ORTSBrakeEmergencyTimeFactor	ORTS	

Open Rails ENG/WAG Params

Brakes Vacuum		
BrakeEquipmentType	MSTS	Handbrake Vacuum_brake
BrakeSystemType	MSTS	Vacuum_single_pipe Vacuum_twin_pipe Vacuum_piped
MaxBrakeForce	MSTS	
MaxHandbrakeForce	MSTS	
MaxReleaseRate	MSTS	
MaxApplicationRate	MSTS	
ORTSNumberBrakeCylinders	MSTS	
VacuumBrakesMinBoilerPressureMaxVacuum	MSTS	
TrainPipeLeakRate	MSTS	
BrakesTrainBrakeType	MSTS	Vacuum_single_pipe_eq Vacuum_single_pipe
VacuumBrakesSmallEjectorUsageRate	MSTS	
VacuumBrakesLargeEjectorUsageRate	MSTS	
VacuumBrakesHasVacuumPump	MSTS	
TrainBrakesControllerMaxSystemPressure	MSTS	
TrainBrakesControllerMaxReleaseRate	MSTS	
TrainBrakesControllerMaxApplicationRate	MSTS	
TrainBrakesControllerEmergencyApplicationRate	MSTS	
TrainBrakesControllerFullServicePressureDrop	MSTS	
ControlName	MSTS	
ORTSBrakeShoeFriction	ORTS	
BrakePipeVolume	ORTS	
ORTSDirectAdmissionValve	ORTS	
ORTSAuxiliaryResCapacity	ORTS	
ORTSBrakeCylinderSize	ORTS	
ORTSBrakePipeChargingRate	ORTS	
ORTSBrakePipeTimeFactor	ORTS	
ORTSBrakeServiceTimeFactor	ORTS	
ORTSBrakeEmergencyTimeFactor	ORTS	
ORTSBrakePipeDischargeTimeMult	ORTS	
ORTSVacuumBrakesMainResVolume	ORTS	
ORTSVacuumBrakesMainResMaxVacuum	ORTS	
ORTSVacuumBrakesExhausterRestartVacuum	ORTS	
ORTSVacuumBrakesMainResChargingRate	ORTS	

Open Rails ENG/WAG Params

Resistance		
CentreOfGravity	MSTS	
ORTSBearingType	ORTS	Roller Low Friction
ORTSDavis_A	ORTS	
ORTSDavis_B	ORTS	
ORTSDavis_C	ORTS	
ORTSBearingType	ORTS	
ORTSDriveWheelWeight	ORTS	
ORTSTrackGauge	ORTS	
ORTSRigidWheelbase	ORTS	
ORTSUnbalancedSuperelevation	ORTS	
ORTSTrackSuperElevation	ORTS	
ORTSSingleTunnelArea	ORTS	
ORTSDoubleTunnelArea	ORTS	
ORTSSingleTunnelPerimeter	ORTS	
ORTSDoubleTunnelPerimeter	ORTS	
ORTSWagonFrontalArea	ORTS	
ORTSDavisDragConstant	ORTS	
ORTSTrailLocomotiveResistanceFactor	ORTS	
Lights		
Type	MSTS	Glow Cone
Lights	MSTS	
Light	MSTS	
Conditions	MSTS	
States	MSTS	
State	MSTS	
FadeIn	MSTS	
FadeOut	MSTS	
Cycle	MSTS	
Headlight	MSTS	
Unit	MSTS	
Penalty	MSTS	
Control	MSTS	
Service	MSTS	
TimeOfDay	MSTS	
Weather	MSTS	
Coupling	MSTS	
Duration	MSTS	
LightColour	MSTS	
Position	MSTS	
Radius	MSTS	
Azimuth	MSTS	
Elevation	MSTS	
Transition	MSTS	
Angle	MSTS	

Open Rails ENG/WAG Params

Effects	
StackFX	MSTS
Effects	MSTS
SteamSpecialEffects	MSTS
DieselSpecialEffects	MSTS
CylindersFX	MSTS
WhistleFX	MSTS
SafetyValvesFX	MSTS
Exhaust	MSTS
Cylinders2FX	ORTS
CompressorFX	ORTS
GeneratorFX	ORTS
Injectors1FX	ORTS
Injectors2FX	ORTS
HeatingSteamBoilerFX	ORTS
WagonGeneratorFX	ORTS
WagonSmokeFX	ORTS
HeatingHoseFX	ORTS
WaterScoopFX	ORTS
TenderWaterOverflowFX	ORTS
BearingHotboxFX	ORTS

Open Rails ENG/WAG Params

Freight Animations		
FreightAnim	MSTS	FuelWater FuelCoal FuelWood FuelSand FuelDiesel FreightGeneral FreightLivestock FreightFuel FreightGrain FreightCoal FreightGrvel FreightSand
IntakePoint	MSTS	
ORTSFreightAnims	ORTS	
FreightAnimContinuous	ORTS	
WagonEmptyWeight	ORTS	
EmptyMaxBrakeForce	ORTS	
EmptyMaxHandbrakeForce	ORTS	
EmptyORTSDavis_A	ORTS	
EmptyORTSDavis_B	ORTS	
EmptyORTSDavis_C	ORTS	
EmptyCentreOfGravity_Y	ORTS	
EmptyORTSWagonFrontalArea	ORTS	
EmptyORTSDavisDragConstant	ORTS	
FreightWeightWhenFull	ORTS	
FullMaxBrakeForce	ORTS	
FullMaxHandbrakeForce	ORTS	
FullORTSDavis_A	ORTS	
FullORTSDavis_B	ORTS	
FullORTSDavis_C	ORTS	
FullCentreOfGravity_Y	ORTS	
FullORTSWagonFrontalArea	ORTS	
FullORTSDavisDragConstant	ORTS	
MSTSFreightAnimEnabled	ORTS	
IsGondola	ORTS	
UnloadingStartDelay	ORTS	
FullAtStart	ORTS	
Shape	ORTS	
MaxHeight	ORTS	
MinHeight	ORTS	
ORTSWaterScoopFillElevation	ORTS	
ORTSWaterScoopDepth	ORTS	
ORTSWaterScoopWidth	ORTS	
Passenger Views		
Inside	MSTS	
PassengerCabinFile	MSTS	
PassengerCabinHeadPos	MSTS	
RotationLimit	MSTS	(No Longer Used ?)
StartDirection	MSTS	
Sound	MSTS	
ORTSAlternatePassengerViewPoints	ORTS	
ORTSAlternatePassengerViewPoint	ORTS	

Open Rails ENG/WAG Params

Controllers		
EngineControllers	MSTS	
Throttle	MSTS	
Brake_Engine	MSTS	
Brake_Train	MSTS	
VacuumBrakesHasVacuumPump	MSTS	
NumNotches	MSTS	Dummy
		TrainBrakesControllerGraduatedSelfLapLimitedHoldingStart
		TrainBrakesControllerSuppressionStart
		TrainBrakesControllerContinuousServiceStart
		TrainBrakesControllerEmergencyStart
		TrainBrakesControllerRunningStart
		TrainBrakesControllerHoldStart
		TrainBrakesControllerReleaseStart
		TrainBrakesControllerSelfLapStart
		TrainBrakesControllerApplyStart
		TrainBrakesControllerFullServiceStart
		TrainBrakesControllerFullQuickReleaseStart
		EngineBrakesControllerReleaseStart
		EngineBrakesControllerApplyStart
Notch	MSTS	
DirControl	MSTS	
BellToggle	MSTS	
AWS	MSTS	
Sanding	MSTS	
Horn	MSTS	
Wipers	MSTS	
EmergencyStopResetToggle	MSTS	
EmergencyStopToggle	MSTS	
Vigilance	MSTS	
BailOffButton	MSTS	
Regulator	MSTS	
Cutoff	MSTS	
FireDoor	MSTS	
Blower	MSTS	
HeatingTap	MSTS	
Shovel	MSTS	
DampersFront	MSTS	
DampersBack	MSTS	
Injector1Steam	MSTS	
Injector2Steam	MSTS	
Injector1Water	MSTS	
Injector2Water	MSTS	
CylinderCocks	MSTS	
Whistle	MSTS	
BellToggle	MSTS	
SmallEjectorOrCompressor	MSTS	
HeadLights	MSTS	