



Interceptor System Manual

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1. Introduction

Interceptor:

- applies to main line trains and shunt profiles in Track Warrant Control areas only.
- is designed to support train movements and is not intended to be failsafe.

Interceptor is designed to intervene by applying the penalty brake should:

- the train speed exceeds waypoint speed checks, or
- the track warrant limits are overrun.



NOTE

Interceptor only applies to the track warrant limits at track warrant stations and main line sidings.

Hark alerts are audible announcements of pre-recorded messages to the Locomotive Engineer in locomotive cabs through dedicated speaker systems.

2. Operation

Hark alerts will play only at the waypoint locations at the station at track warrant limits.

The following messages may be played by HARK:

Occurrence	Message
At Start Up	<p>Xworks KMC Kupe operational for xxxxx</p> <p>Where xxxxx is the loco Selcall ID, and will be different for each unit.</p>
KMC has told Kupe that it is running	<p>Kupe logon</p> <p>This will only occur once cellular connection has been established.</p>
Software and configuration checked by Kupe as correct	KMC up to date
Software and configuration checked by Kupe and it requires updating	Receiving Updates



IMPORTANT

Interceptor will not be active until after the locomotive has been shut down and restarted after receiving the data update. This allows the KMC to reboot to make interceptor active.

3. Speed Check Waypoints

Interceptor will speed check at the following waypoints:

3.1 Express Freight / Unit Trains

Track Warrant to a Station (Outside)
<ol style="list-style-type: none"> 1. Hark Alert <i>Warrant Station: check limits</i> at 1500 metres from Arrival signal 2. Hark Alert <i>Caution: check limits</i> and speed check maximum speed 60 km/h at 1000 metres from Arrival signal 3. Hark Alert <i>Caution: check speed</i> and speed check maximum speed 40 km/h at 500 metres from Arrival signal
Track Warrant to Enter Main
<ol style="list-style-type: none"> 1. Hark Alert <i>Warrant Station: check limits</i> at 1000 metres from Arrival signal 2. Hark Alert <i>Caution: check limits</i> and speed check maximum speed 60 km/h at 500 metres from Arrival signal 3. Hark Alert <i>Caution: check speed</i> and speed check maximum speed 40 km/h at Arrival signal
Track Warrant to Enter Loop
<ol style="list-style-type: none"> 1. Hark Alert <i>Warrant Station: check limits</i> and speed check maximum speed 60 km/h at 1000 metres from Arrival signal 2. Hark Alert <i>Caution: check limits</i> and speed check maximum speed 40 km/h at 500 metres from Arrival signal. 3. Hark Alert <i>Caution: check speed</i> and speed check maximum speed 25 km/h at Arrival signal.



NOTE

Track Warrants issued to sidings

Trains must stop at main line points before entering sidings to ensure Hark is cancelled on the locomotive. Failure to stop will result in a penalty application.

3.2 Passenger Trains

Track Warrant to a Station (Outside)
<ol style="list-style-type: none"> 1. Hark Alert <i>Warrant Station: check limits</i> at 1500 metres from Arrival signal 2. Hark Alert <i>Caution: check limits</i> at 1000 metres from Arrival signal 3. Hark Alert <i>Caution: check speed</i> and speed check maximum speed 60 km/h at 500 metres from Arrival signal
Track Warrant to Enter Main
<ol style="list-style-type: none"> 1. Hark Alert <i>Warrant Station: check limits</i> at 1000 metres from Arrival signal 2. Hark Alert <i>Caution: check limits</i> at 500 metres from Arrival signal 3. Hark Alert <i>Caution: check speed</i> and speed check maximum speed 60 km/h at Arrival signal (maintain maximum speed 60 km/h on main)
Track Warrant to Enter Loop
<ol style="list-style-type: none"> 1. Hark Alert <i>Warrant Station: check limits</i> at 1000 metres from Arrival signal 2. Hark Alert <i>Caution: check limits</i> and speed check maximum speed 60 km/h at 500 metres from Arrival signal 3. Hark Alert <i>Caution: check speed</i> and speed check maximum speed 25 km/h at Arrival signal

4. Cancellation

The locomotive must be stopped with Independent brake fully applied for a minimum of 10 seconds between the last speed check and track warrant limit for the system to cancel.

5. Track Warrant Reissues

If a track warrant is to be reissued, the locomotive must be stopped within 200 metres of the Arrival signal for the reissue.

6. Penalty Brake Applications

Once past the speed check waypoint, train speed must not exceed the speed associated with that waypoint.

Should train speed exceed the waypoint speed between waypoints, the penalty brake will apply:

- Hark Alert: *Overspeed – Penalty Brake*

Should the train overrun track warrant limits, the penalty brake will apply:

- Hark Alert: *Penalty Brake*

The Locomotive Engineer must report penalty brake applications to the Train Controller.

The train must be inspected after a penalty brake application as per **Rail Operating Code 4.1 Motive Power Unit Inspection and Operating Instructions, 14.4.9 Penalty / Emergency Brake Application**.