

1080 motion™

Get up to Speed!

Variable Loading



Variable Loading and the 1080 Sprint

Program load to increase or decrease based on speed of movement

Typical Use Cases

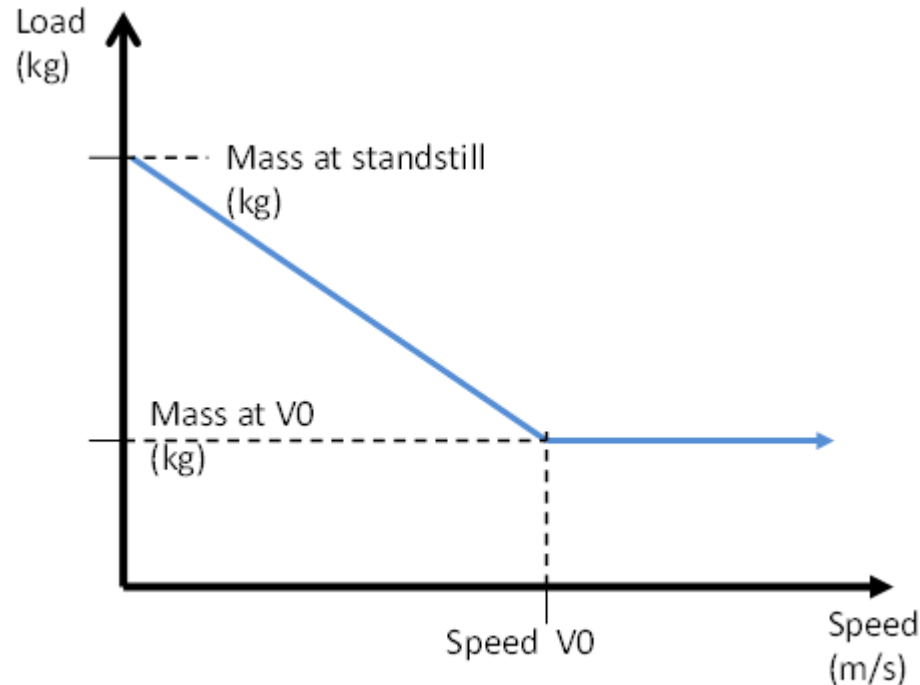
Resisted Running/Sprinting

1. Heavy to light
2. Light to heavy

Assisted Running/Sprinting

1. Heavy to light

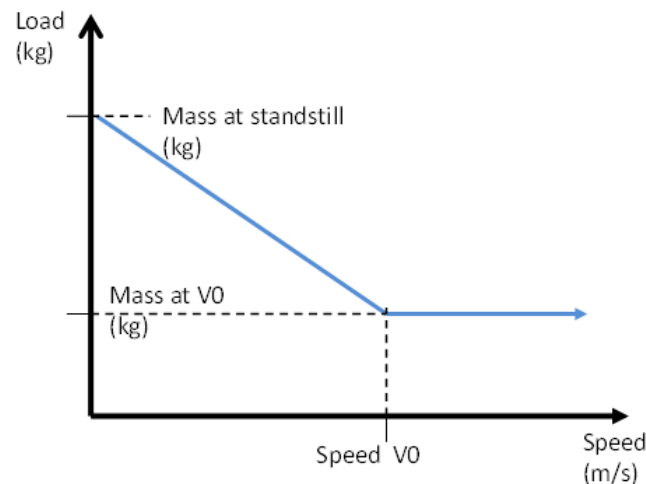
*1080 Note: *Not safe to increase load when performing assisted exercises*



Variable Loading and the 1080 Sprint

Program load to increase or decrease based on speed of movement

- The *Start load* is the load when the machine is idle and athlete is standing still
- The *Target load* is the load the user will feel when the speed reaches the preset target level ("Target Speed")
- The *Target Speed* is the speed selected at which the *Target Load* will be reached.
- The lower the value, the sooner the *Target Load* resistance will be reached as the athlete accelerates



Constant	Variable	
START LOAD (STANDSTILL) MAX 20 KG	TARGET LOAD MAX 20 KG	TARGET SPEED MAX 12 M/S
⧗ +5	⧗ +5	⧗ +0.5
⧗ +1	⧗ +1	⧗ +0.1
⧘ -1	⧘ -1	⧘ -0.1
⧘ -5	⧘ -5	⧘ -0.5
Coarse		Fine
13 START LOAD (KG)	3 TARGET LOAD (KG)	8,5 TARGET SPEED (M/S)

Resisted Variable Loading

Variable Loading for Resisted Sprints

Using variable load is particularly effective for resisted sprint training. Adjusting resistance throughout the sprint can target specific phases of the sprint profile.

High-to-Low Load:

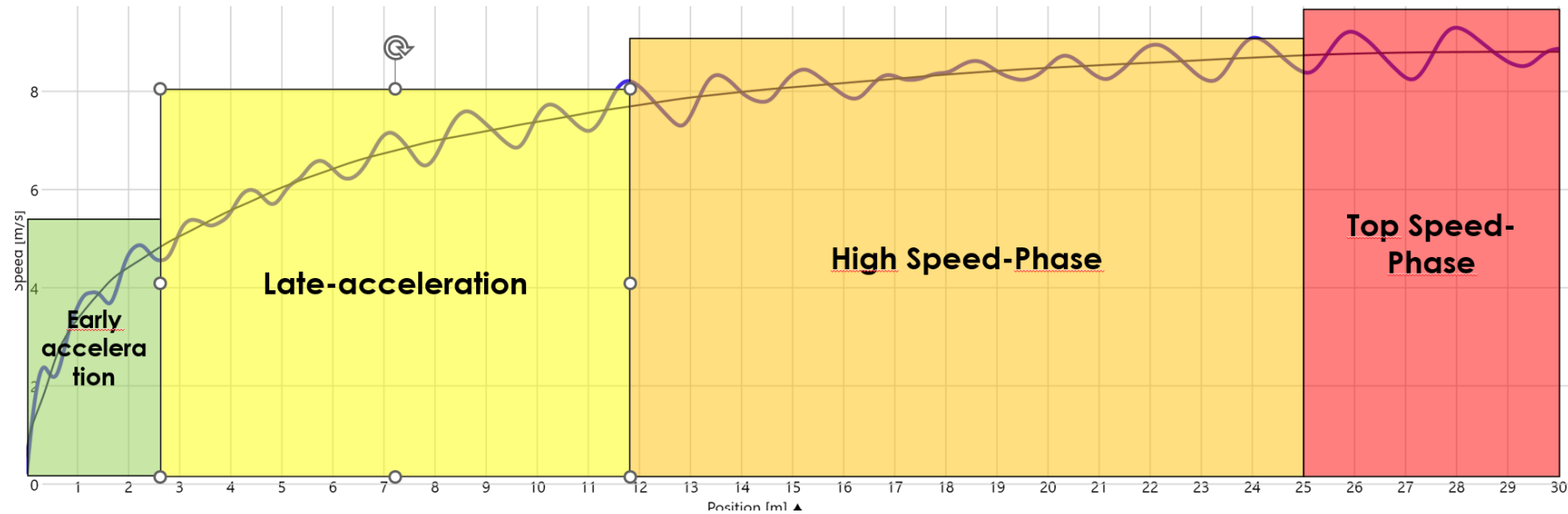
Starting with a heavier resistance during the initial acceleration phase and then reducing it as the athlete gains speed. This approach helps maximize force production early while allowing for higher velocities later in the sprint—ideal for training across the entire sprint distance.

Low-to-High Load:

Beginning with a lighter resistance during acceleration and increasing the load as speed builds. This reduces the initial training demand but increases the stimulus at higher velocities—useful for emphasizing late-phase sprint mechanics and strength under speed.



Load Management Resisted - Suggestions



Phase	Vdec of TopSpeed	Constant load	Variable load
Early acceleration	60-40%	25-30% of BW	30-20% of BW
<i>Late acceleration</i>	40-25%	10-25% of BW	20-10% of BW
High Speed-Phase	25-5%	5-10% of BW	10-5% of BW
Top Speed-Phase	4-(0)%	1kg (baseline)	5% of BW to 1kg



Assisted Sprinting Variable Loading

Variable load is also useful when using the system for assisted sprints.

High-to-Low Load:

It enables you to provide a higher initial pulling force from standstill (*Start Load*) which will help the athlete reach max speed faster.

The load will taper off or increase to reach *Target Load* value as the athlete's speed increases.

