

A man in a red t-shirt and grey shorts is running on a dirt trail. A black and tan dog is running alongside him. The background features a grassy hillside and distant mountains under a clear sky.

PEDAL SYSTEM TECHNICAL CERTIFICATION TRAINING

Field Engineering | 2010

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WHAT WE LIVE FOR

Course Objectives

- » Summit trainer Pedal mechanism:
 - ◆ Theory of operation
 - ◆ Components

- » Stairclimber Pedal mechanism:
 - ◆ Theory of operation
 - ◆ Components

- » Common issues

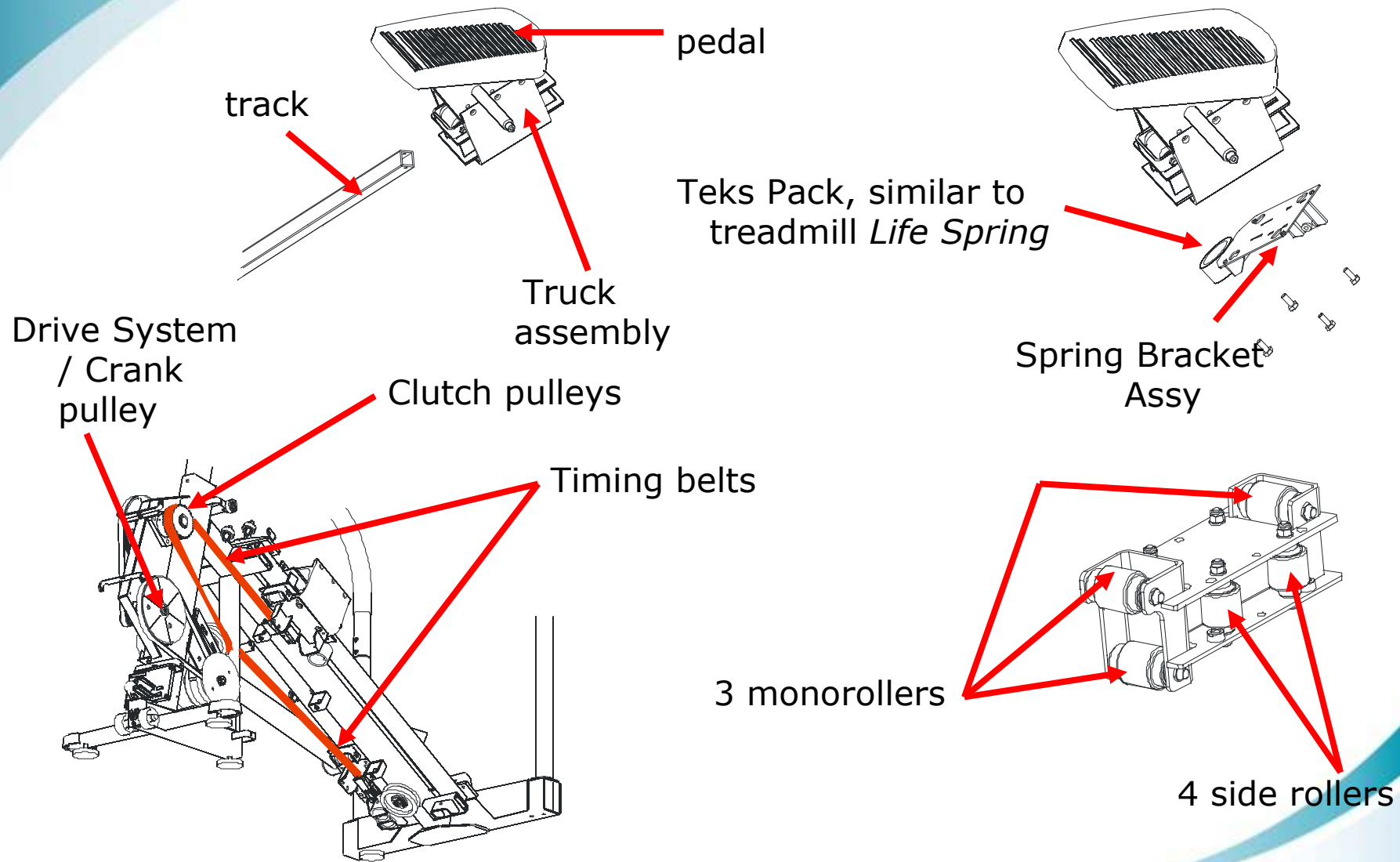
Summit Trainer Pedal System

Theory of Operation

- » The left and right pedals are connected to a series of rollers that ride along a track system.
- » The left and right pedals are connected to one another through the use of a 2 timing belts (HTD profile).
- » When the user pedals, the front timing belt engages the one-way clutch pulleys thus spinning the crank pulley.
- » The rear timing belt helps to keep pedal dependency and tension in the system.



Components – Visual Representation



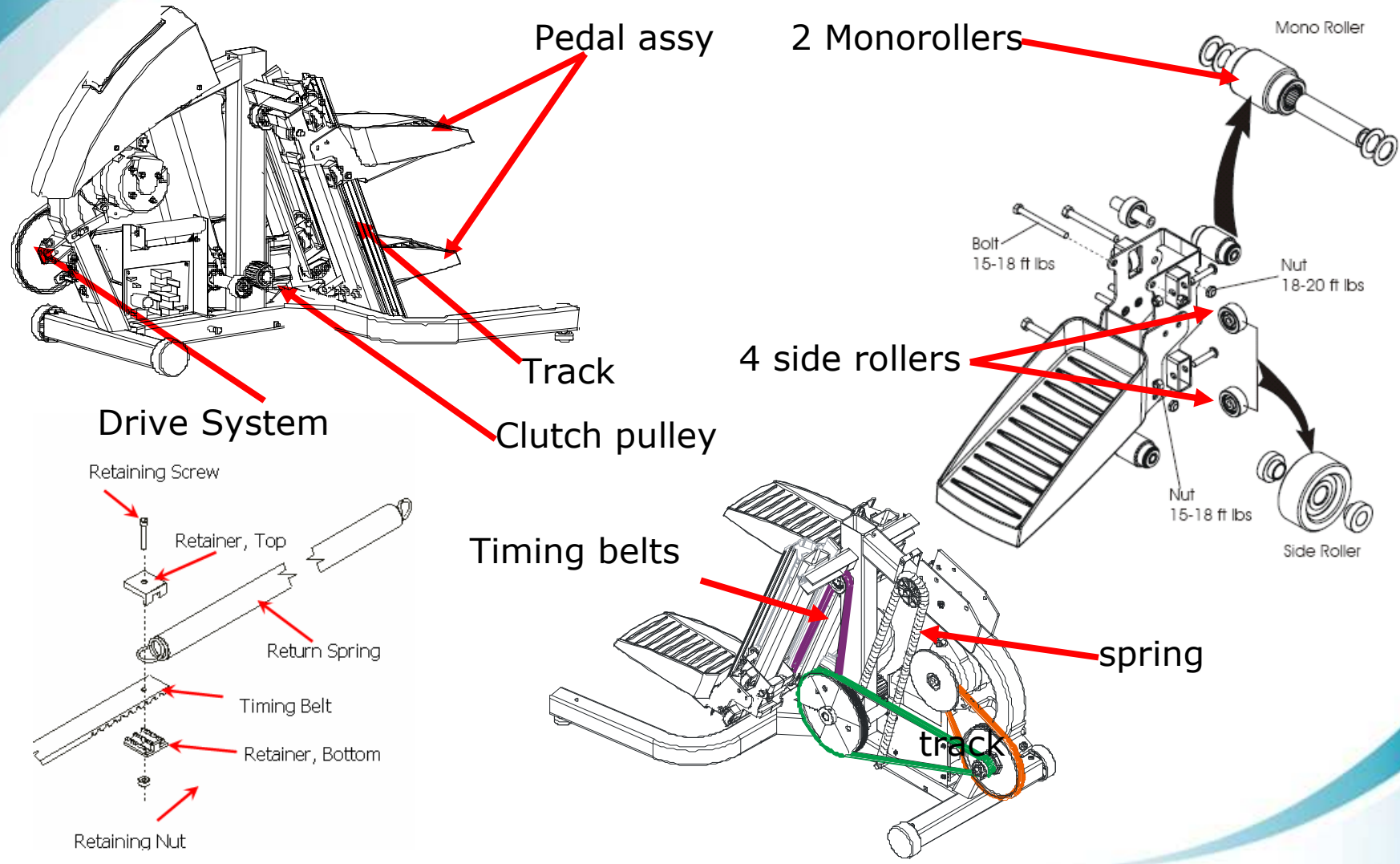
Stairclimber Pedal System

Theory of Operation

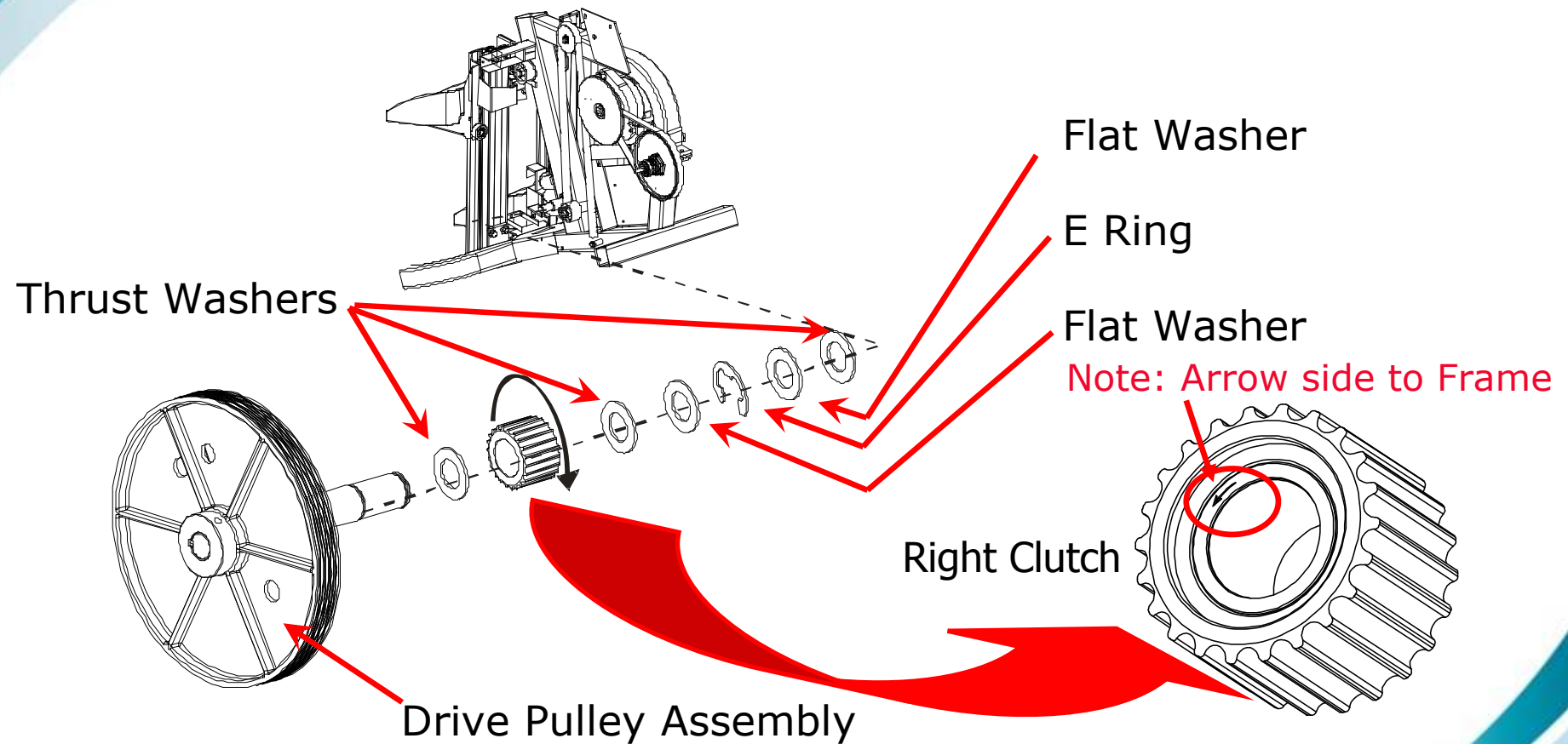
- » The left and right pedals are connected to a series of rollers that ride along a track system.
- » The left and right pedals are not connected to one another (independent motion).
- » Each pedal roller is connected to a timing belt (HTD profile) and an extension return-spring.
- » When the user pedals, the timing belt engages the one-way clutch pulleys thus spinning the crank pulley.



Components – Visual Representation

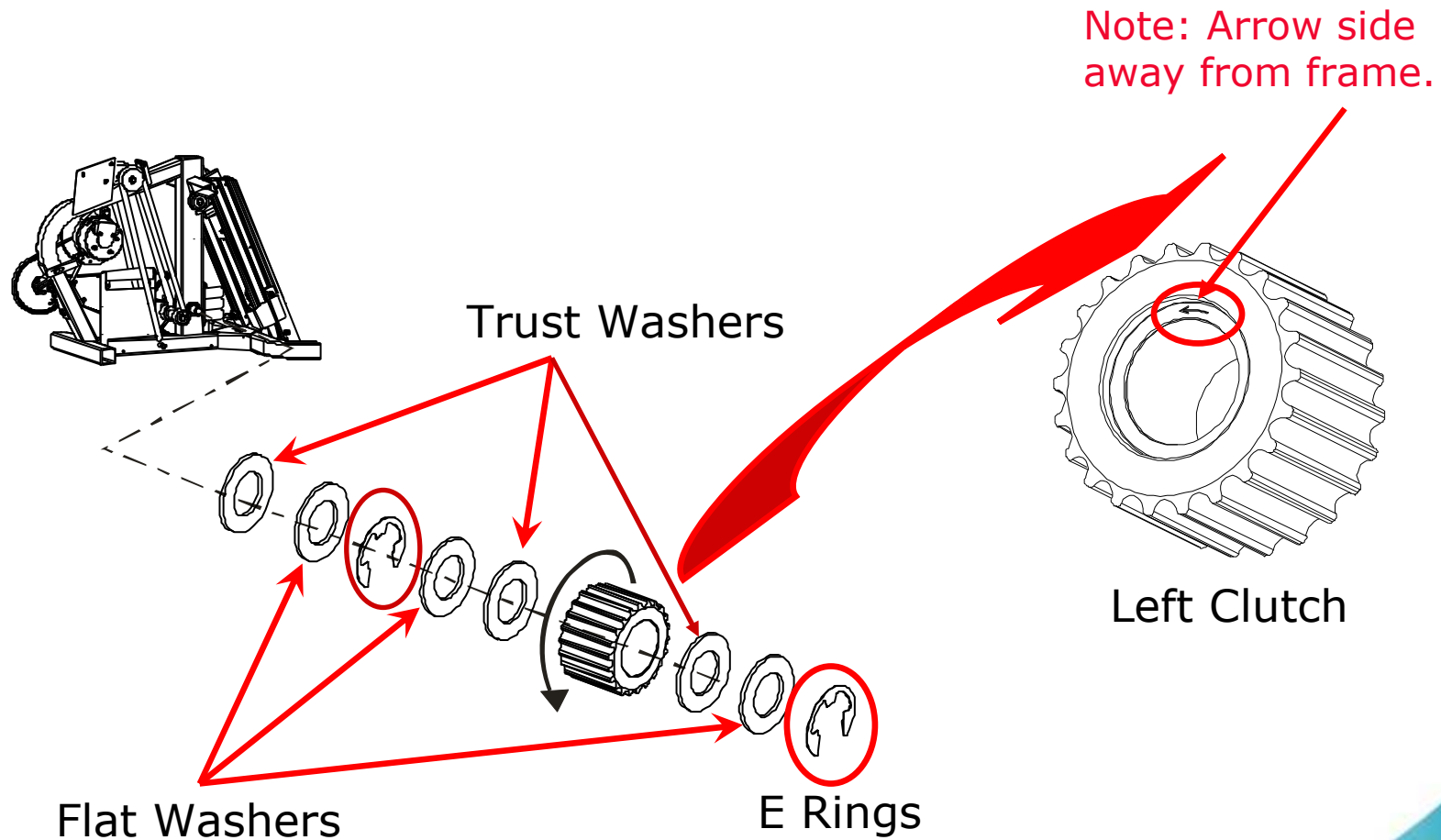


Drive Pulley & Right Side Clutch



Note: Each Clutch has a counter-bore side that faces the frame.

Left Side Clutch



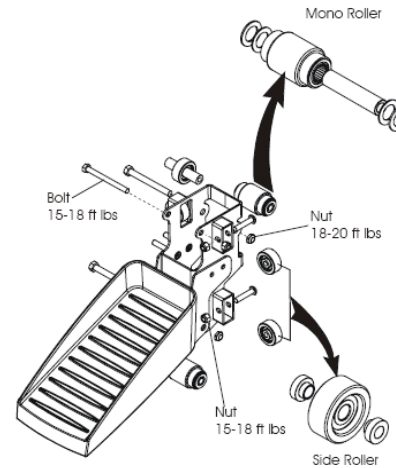
Note: Each Clutch has a counter-bore side that faces the frame.

Common Issues

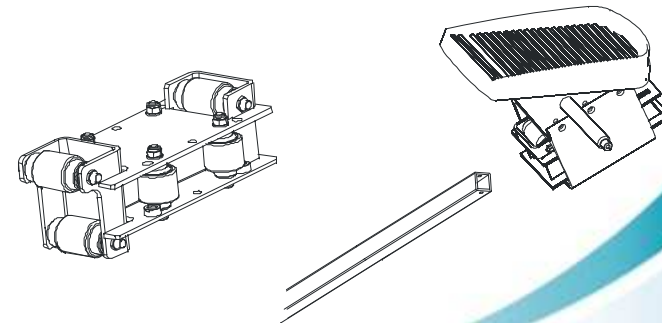
Noisy Thumping Noise on Both Units

- » Issue:
 - ◆ Thumping noise
- » Probable cause:
 - ◆ Debris on pedal roller track
 - ◆ Bad bearings in rollers
- » Solution:
 - ◆ Clean pedal roller track
 - ◆ Replace faulty roller

Stair Climber



Summit



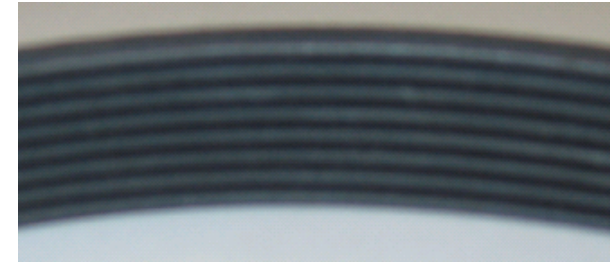
Chirping Noise on Stairclimber

» Issue:

- ◆ Chirping noise

» Probable cause:

- ◆ Worn or improperly tensioned clutch drive and alternator poly-v belts
- ◆ Dirt on the belts



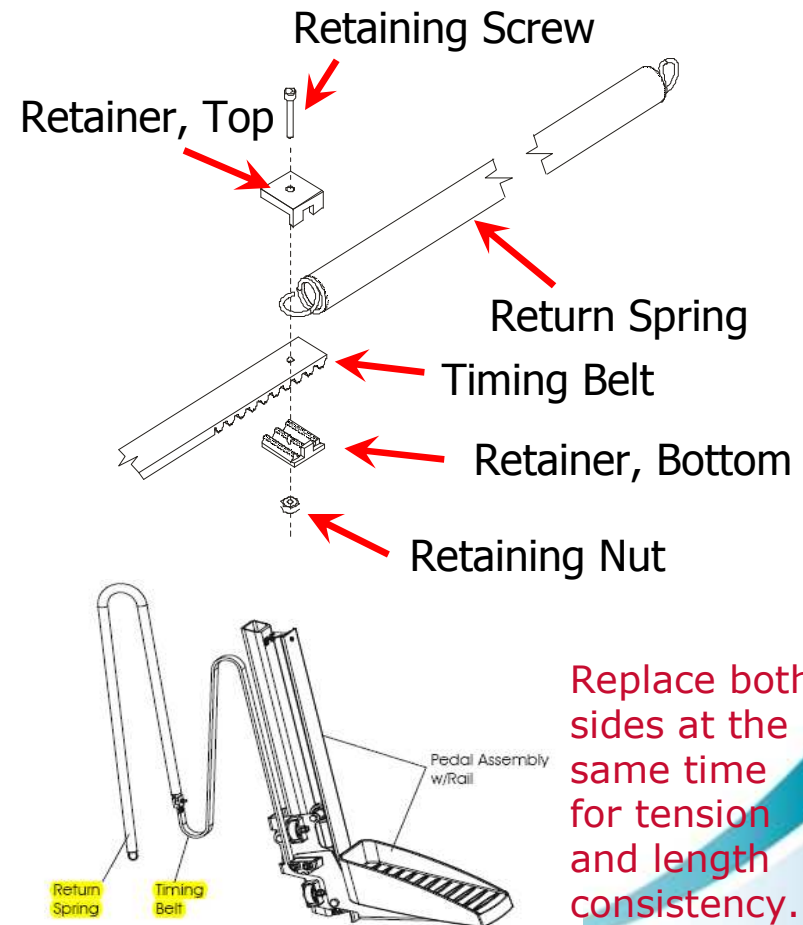
Poly V Belt

» Solution:

- ◆ Tension to ¼" deflection or replace belts
- ◆ Clean belts with a stiff nylon brush

Slipping Pedals on Stairclimber

- » Issue:
 - ◆ Slipping, pedals on the floor
- » Probable cause:
 - ◆ Worn belt/or broken spring assembly
- » Solution:
 - ◆ Replace belt / spring assembly
- » Tip:
 - ◆ Replace both sides at the same time for tension and length consistency.



Summary

- » What keeps the pedal dependency and tension on the Summit trainer?
- » What is the fix for the thumping noise on the Stairclimber?

Questions





THANK YOU!

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