

SWAN 75 – M0780

SWAN 100 – M0786

Hydraulic Stance Flexion Polycentric Knee



SWAN 75



SWAN 100



Swan Knee P/N	Product Weight	Weight Limit	Warranty
M0780	670g	75kg	2 year
M0786	935g	125kg	2 year

Features:

- Polycentric 5-bar knee design
- Hydraulic flexion adjustment
- Low profile knee center and build-height
- Adjustable stance flexion resistance
- Adjustable extension assist
- Adjustable flexion resistance



Stance flexion adjustment to allow controlled partial knee flexion.

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Five-bar linkage

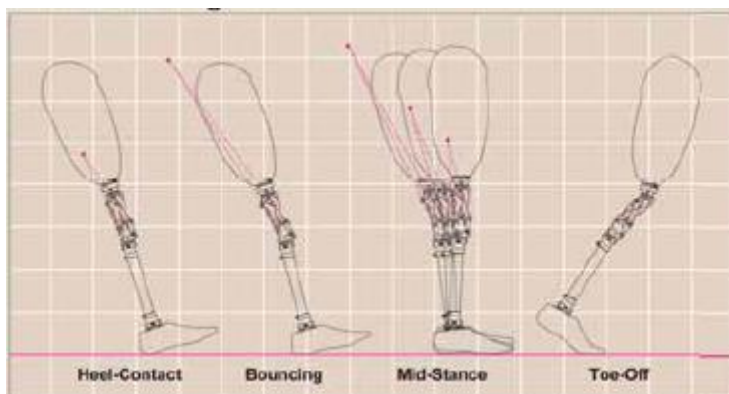
The dynamic stability mechanism to prevent knee buckling

At heel-contact, the knee joint can bend up to 20 degrees in stance to minimize the shock of floor reaction force as well as provide additional stance stability. In this process, the two vertical links (front & rear) become nearly parallel and the center of rotation moves instantly to upper and posterior position of the hip joint, thus preventing further flexion of the knee joint. After mid-stance, the knee extends slowly and returns to basic 4 bar linkage which allows knee flexion in swing-phase.

Stance Flexion Mechanism

The slight knee flexion before mid-stance in bipedal walking reduces up – and-down fluctuation of center of gravity of the body which simulates normal knee function. It absorbs floor shock, while providing greater stability and provides smooth forward movement of the body. The result is a natural gait and smaller energy consumption. It is possible to adjust the stance flexion effect by aligning the knee joint and stance flexion bumper according to the user's weight and level of activity.

(Swan motion diagram)



Hydraulic cylinder

Hydraulic knees are generally considered to be heavier to swing than pneumatic knees and acceptance of less active patients was poor. **The hydraulic cylinder of Swan, however; is designed to allow easy swing to less active patients especially to minimize the flexion resistance at the final stage of stance phase. The cylinder ensures pace adaptability up to cadence 105 steps/min. and easy to adjust for different walking speed.**