



ENABLING TECHNOLOGIES Dynamique Bi Ski Owner's Manual

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ENABLING TECHNOLOGIES Dynamique Bi Ski



Product Information

Dynamique Chairlift

The Dynamique Chairlift is a sit ski that has a unique load system different from other sit skis. It comes with a shifter that can be pushed forward into the Up position or pushed backward into the Load/Ski position, which tensions the ski to load the chair. The load system is what makes the Dynamique different from other sit skis. The chairlift also comes with a seat angle ratchet strap that minimizes forward lean on the skis in the raised position and reduces teeter while sitting on the chair.

The Dynamique Chairlift has a Velcro limiter strap on the seat back and a ruler on the inside of the ladder straps to help users remember where the seat angle was at when releasing the seat angle ratchet strap. The chairlift comes with a retention strap that must be properly sized and limit a skier's movement so they cannot inadvertently slide off the chair. The connection point for the retention strap is not load rated or designed to arrest a skier in the event the ski slides off of the chair.

Product Usage

How to Load the Dynamique Chairlift

1. Release the seat angle ratchet strap to minimize forward lean on the skis in the raised position and reduce teeter while sitting on the chair.
2. Push the shifter forward into the Up position.
3. Before pushing out to the chair, lift straight up until the ski locks in the raised position.
4. Push out to the Load Here line and pay attention to where you line up in relation to the chair. Never push out to the Load Here line with the ski down and then lift up. Lifting before you push out ensures you are in a safe place and have time to adjust if the ski does not lock up on the first try.
5. While waiting for the chair, push the shifter backwards into the Load/Ski position to tension the ski for loading the chair. Once tensioned, calmly wait for the chair. Repositioning or bouncing while the ski is tensioned could inadvertently unlock it from the raised position.

6. As the chair approaches, lift up to unlock the ski. This frees the load system, allowing the skier to sit down on the chairlift and the skis to freely compress as you exit the load area. Never load the chairlift with the shifter in the Up position. This is uncomfortable for the skier and places stresses on the load system above what it was designed to handle.
7. Sit down on the chair with the ski sitting as far back on the chair as possible.
8. Lower the chairlift safety bar as soon as possible.
9. Attach a properly sized retention strap to limit a skier's movement so they cannot inadvertently slide off the chair. Slipknot one end of a retention strap to the single tether connection point, loop the retention strap through the seat's grab handle, around an approved part of the chairlift, and clip the strap back to the single tether connection point. Looping through the seat's grab handle ensures the skier can't lean too far forward and teeter. We do not recommend attaching metal carabiners directly to the connection points.

It is imperative to learn how to use the unique load system of the Dynamique Chairlift properly. It is recommended that users familiarize themselves with the entirety of the Know Before You Go Manual before taking the Dynamique out on the slopes. Red warnings emphasize mis-use practices that reduce a skier's safety and damage your equipment. Damage or wear resulting from mis-use is not covered under warranty.

How to Load the Chairlift

The Dynamique has a unique load system that works differently than other sit skis. It is imperative to learn how to use it properly.

1. Release the seat angle ratchet strap

This minimizes forward lean on the skis in the raised position and reduces teeter while sitting on the chair.

There is a Velcro limiter strap on the seat back and a ruler on the inside of the ladder straps. They will help you remember where the seat angle was at.



2. Push the shifter

forward into the "Up" position



It is the responsibility of the adaptive ski program to ensure every user is familiar with the entirety of the Know Before You Go Manual before taking the Dynamique out on the slopes. Red warnings emphasize mis-use practices that reduce a skier's safety and damage your equipment. Damage or wear resulting from mis-use is not covered under warranty.

3. Before pushing out to the chair, lift straight up until the ski locks in the raised position



4. **Push out to the “Load Here” line**

Pay attention to where you line up in relation to the chair. Be aware of grab handles, footrests, or other add-ons that may interfere when lowering the safety bar.



Never push out to the “Load Here” line with the ski down and then lift up. Lifting before you push out ensures you are in a safe place and have time to adjust if the ski does not lock up on the first try.

5. **While waiting for the chair, push the shifter backwards into the “Load/Ski” position**

With the shifter in the “Load/Ski” position, the ski will remain locked up, but it is now tensioned to load the chair. This is what makes the Dynamique different from other sit skis.

Once tensioned, calmly wait for the chair. Repositioning or bouncing while the ski is tensioned could inadvertently unlock it from the raised position.



6. As the chair approaches, lift up to unlock the ski

This frees the load system, allowing the skier to sit down on the chairlift and the skis to freely compress as you exit the load area.



Never load the chairlift with the shifter in the “Up” position. This is uncomfortable for the skier and places stresses on the load system above what it was designed to handle.

7. Sit down on the chair

The ski should sit as far back on the chair as possible.

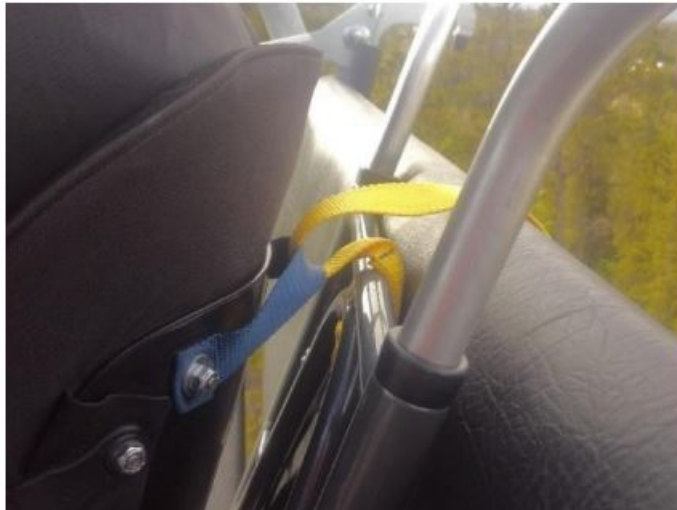


8. Lower the chairlift safety bar as soon as possible

9. **Attach a properly sized retention strap**

Slipknot one end of a retention strap to the single tether connection point, loop the retention strap through the seat's grab handle, around an approved part of the chairlift, and clip the strap back to the single tether connection point.

Looping through the seat's grab handle ensures the skier can't lean too far forward and teeter.



The retention strap must be properly sized and limit a skier's movement so they cannot inadvertently slide off the chair. The connection point is not load rated or designed to arrest a skier in the event the ski slides off of the chair.

10. **Prepare to unload the chairlift**

The ski is already unlocked and ready to unload. Double check the shifter lever is still in the "Load/Ski" position. If so, you do not need to shift before unloading.

Wait until you are as close as possible to the top before releasing the retention strap. Hold onto the chairlift and raise the chairlift safety bar.



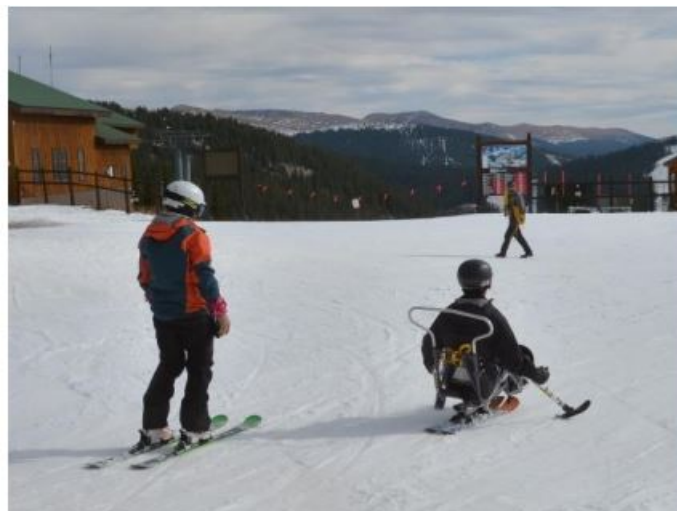
11. **Push off the chair**

Once off the chair, the frame will settle down and automatically lock into the ski position.

12.



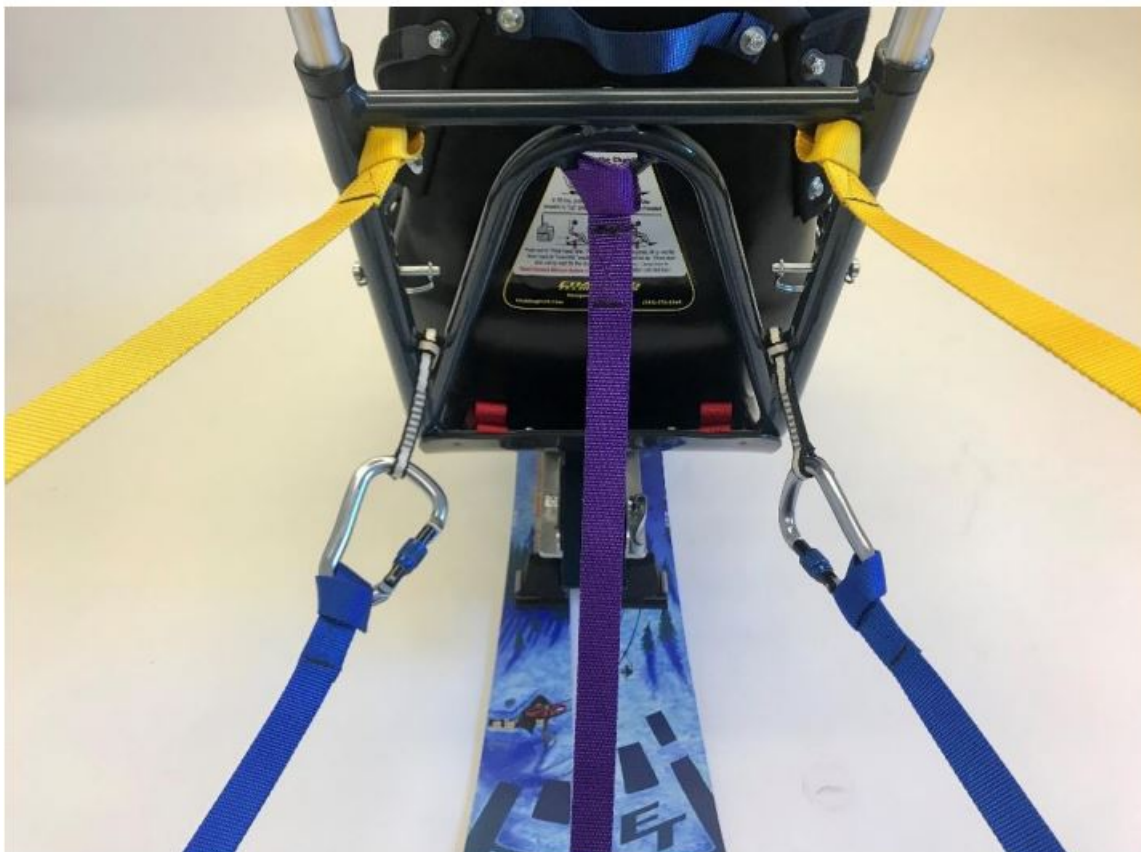
Ski away a safe distance from the unload area and adjust the seat angle



Tethers

- **High tether points** = most trails / carving turns
- **Low tether points** = narrow trails / sliding the tails
- **Single tether point** = speed control only

We do not recommend attaching metal carabiners directly to the connection points. We've pictured two approved options below. We recommend slip knotting tethers directly to the frame or attaching carabiners to a runner. This prevents metal on metal wear and reduces the chance of inadvertent release.



Tethering is a dynamic skill. Enabling Technologies only recommends tethering connection points and is not responsible for tethering practices. Programs and individuals are responsible for learning and executing safe tethering practices.

Never attach an open gate carabineer directly to the connection points. An open gate carabineer can inadvertently release while tethering.

Shock Setup

Choose the appropriate spring:

We recommend jumping to the next spring rate once the skier's weight exceeds half of the spring rate:

- **Under 125 lbs** = air shock (recommended for individual use)
- **Under 155 lbs** = 300 lb spring
- **160-205 lbs** = 400 lb spring
- **210-250 lbs** = 500 lb spring

To change a spring:

1. Shift the Dynamique into the "Up" position.
2. Remove the M8 socket bolt¹ from the shock's upper eyelet using a M6 Allen wrench. The lower shock bolt does not need to be removed.
3. Completely loosen the preload coil nut³.
4. Remove the spring retainer² from the shock's shaft and remove the spring.

5. Swap in the new spring and reinstall the spring retainer².
6. Tighten the coil preload nut³ at least one full turn.
7. Refasten the M8 socket bolt¹ and spacers to the upper eyelet.



A 400lb spring is not a universal recommendation to suspension setup. When a significantly wrong spring rate is used it reduces the skier's ability to absorb the terrain and causes premature wear to you shock and ski.

Set the skier's sag:

Sag adjusts the shock to the ideal starting position within its travel. When set up correctly, the Dynamique's footrest tube will be level.



If the skier is sitting:

- Too high in the travel, loosen the coil nut's2 preload. The spring requires at least one full turn of preload.
- Too low in the travel, tighten the coil nut's2 preload. Do not tighten more than 4 full turns.

Set the shock to the recommended base setting:

Verify a previous user hasn't changed any adjustments. Rebound and low speed compression have been custom valved so the middle of the range is a fair starting point. High speed compression should be adjusted back 10 clicks counter clockwise from fully closed. This will be sufficient for most new skiers. More in depth tuning can be found in the next section.

If the proper sag cannot be achieved within the turn limits outlined above, you must change the spring to a different weight before skiing.

Seat

Choose the appropriate size:

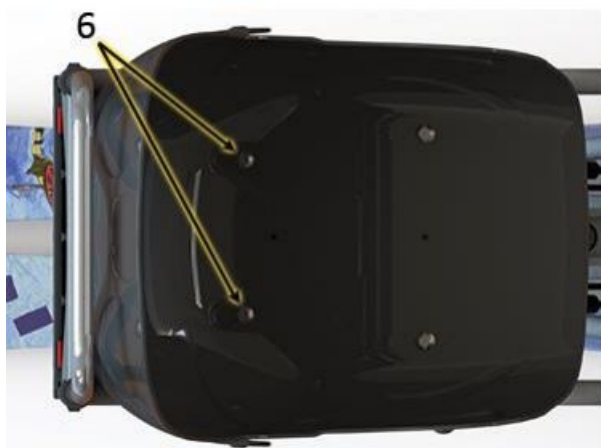
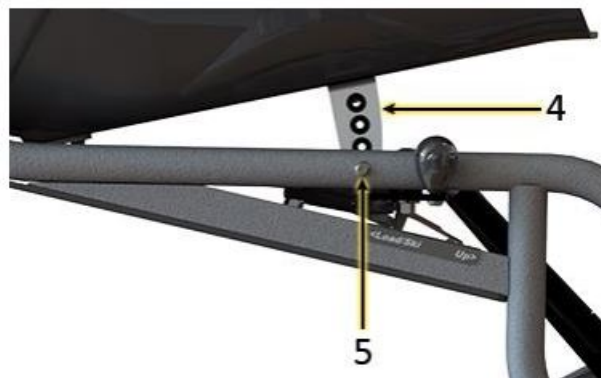
- Small (12") | Medium (14") | Large (16") | Extra Large (18")

* We measure seat size by the shell width at the hips. This measurement takes a thin liner or padding into account. If using our Seat Liners, they are approximately 3/4" thick on each side and you can subtract approximately another inch of width from the stated measurement.

To change a seat:

1. Remove the seat liner.
2. Shift the ski into the "Up" position and raise up.
3. Remove the two 1/4-20 button head socket screws⁵ with a 5/32" Allen wrench. The Adjustable Dump Bracket⁴ will stay attached to the seat.
4. Remove the rear two 1/4-20 truss head bolts⁶ using a #2 Philips screwdriver.

5. Align the new seat on the frame.
6. Reinstall the 1/4-20 truss head bolts3 finger tight.
7. Align the adjustable dump bracket5 and refasten the 1/4-20 button head socket screws5.
8. Finish fastening the two 1/4-20 truss head bolts6.



Excessive hip foam reduces the skier's ability to safely control the ski. Foam can be used to fit half sizes but should not be used in lieu of the proper size shell.

Adjust the dump angle:

- **Low angle** = shorter, good core strength, or less forward weight (amputees, high atrophy, etc.)
- **High angle** = taller, weaker core strength, or looking for improved suspension performance.



To adjust the dump angle:

1. Shift the ski into the “Up” position.
2. Remove the two ¼-20 button head socket screws² with a 5/32” Allen wrench.
3. Pivot the seat to the desired adjustable dump position.
4. Thread one of the ¼-20 button head socket screws⁵ in 2-3 turns.
5. Go to the other side and thread the second ¼-20 button head socket screw⁵ in completely.
6. Return to the first button screw and finish fastening it into position.

Large foam wedges raise the skier outside of the shell reducing the skier’s ability to safely control the ski. Foam can be used for pelvic support, but should not be used in lieu of the proper seat dump angle.

Footrest

Choose the appropriate size:

Approximate skier height:

- **Small** = 4’1” – 5’1”
- **Med** = 5’0” – 5’8”
- **Large** = 5’7” – 6’3”+

Small:

Attaches to the upper frame with quick release tube clamps. It must be used with a U-Loop. The U-Loop provides structural protection to the frame.



Medium:

Slides into the frame and has 4" of length adjustment.



Large:

Begins one hole before where the medium footrest ends. Taller skiers can be accommodated by increasing the seat dump angle and tucking their knees more.



Foam weakens the skier's connection with the ski and increases their risk for injury by moving their feet outside of the plastics protection. Never use foam on the Footrest.

Adjust the ankle angle:

Adjusting the ankle angle distributes pressure evenly across the footrest.



To adjust the ankle angle:

1. Release the clamp levers⁷ at the front of the Footrest bar.
2. Align the skier's feet flush with the footrest plastic.
3. Re-clamp levers⁷ facing up as shown.

If the clamps are loose, release the lever, place thumb pressure on the head of the socket bolt on the inside of the footrest, spin the lever clockwise to tighten, and then re-clamp the lever.

The clamp should only need finger pressure to tighten, but if conditions require more, the socket bolt can be tightened with an M5 Allen.

Failure to adjust the ankle angle creates stress at the heels of the footrest. This can cause the aluminum clamps to crack, fail and break. This stress is catastrophically aggravated by able bodied skiers wearing ski boots.

Handle

- **Mostly hands on** = Wide
- **Mostly tethered** = Narrow
- **Independent** = U-Loop

Wide:

The wide handle is ergonomically shaped like a mountain bike handlebar. The ends should sweep backwards and the middle should point forwards.



Narrow:

Has a slimmer profile to promote tangle free tethering.



U-Loop:

The U-loop is a minimalist option for independent skiers. The Dynamique should not be used without a handle. The handle provides structural protection to the frame.



If a lesson is predominantly tethered, we do not recommend using the Wide Handle. Slack tethers can inadvertently loop around the handle ears while skiing. This is less likely to happen with the Narrow Handle.

Center of Mass Adjustment

Sit skiers do not have as much leverage over the noses and tails of their skis compared to stand up skiers. To compensate we adjust the skier's center of mass to start at the ski's sweet spot.



A dowel test is recommended before going out on the slopes:

- With a skier in the ski, place a dowel underneath the center of the bi-skis.
- There is a center line etched into Mega III bi-skis approximately 1" in front of the serial number. Otherwise, center the dowel between the bindings.
- Adjust the quick release skewers along the mechanism channel's slots until the skier's balance fore aft is centered on the dowel.

Once on the slopes you may need to fine tune the skier's balance:

- If the noses of the bi-skis are washing out, move the frame towards the front of the mechanism channels.
- If the tails of the bi-skis are washing out, move the frame towards the rear of the mechanism channels.

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Documents / Resources



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Dynamique Bi Ski, Bi Ski, Ski

References

-  [Enabling Technologies - Adaptive Skiing Equipment & Crutches](#)
-  [Enabling Technologies - Adaptive Skiing Equipment & Crutches](#)
-  [MRP Tech Resources – Mountain Racing Products](#)
-  [Dynamique Bi Ski Parts & Accessories - Enabling Technologies](#)
-  [Superlite Outriggers - Enabling Technologies](#)
-  [RA Request Form – Mountain Racing Products](#)

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