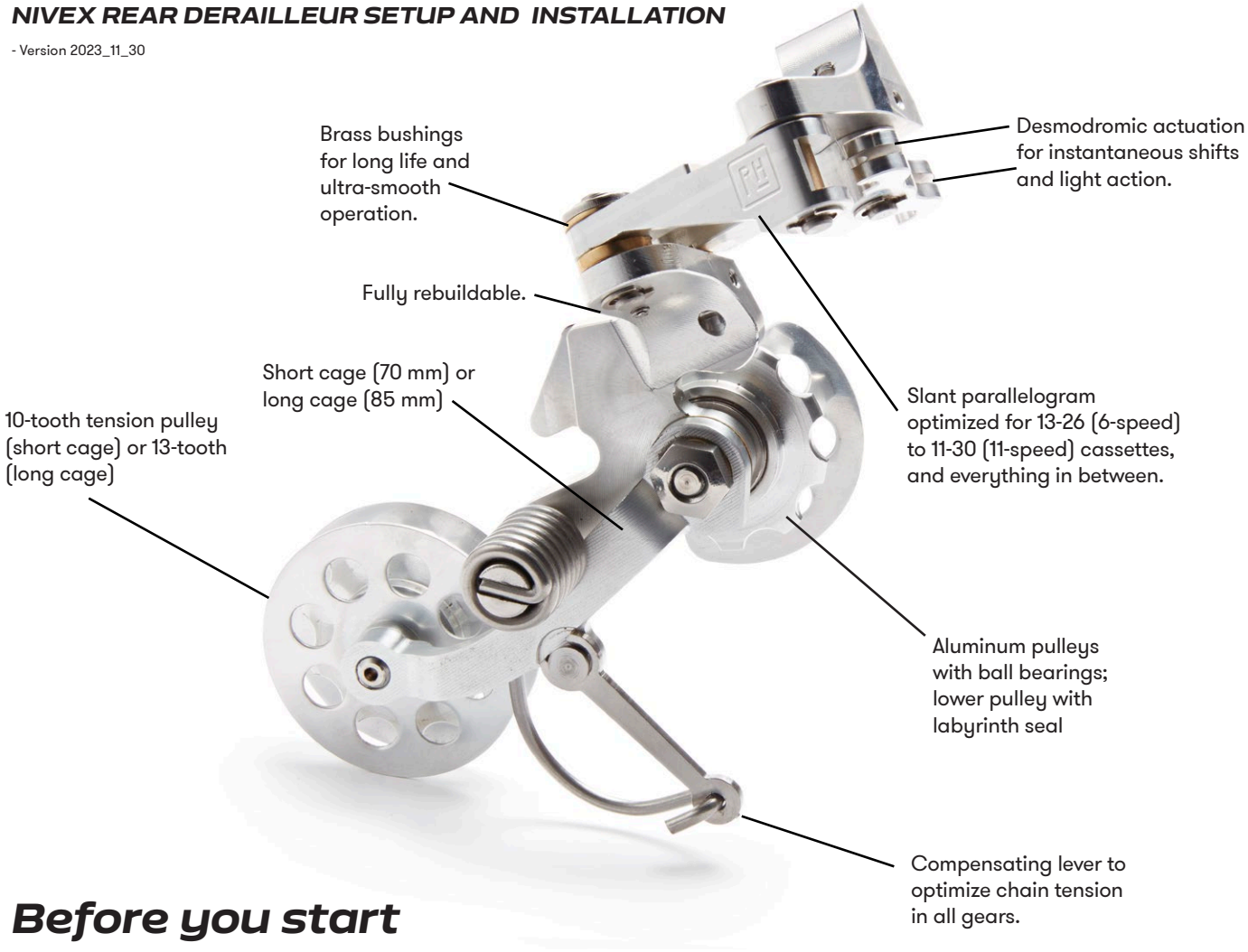
RenéHERSE CYCLES

NIVEX REAR DERAILLEUR SETUP AND INSTALLATION

- Version 2023_11_30



Before you start

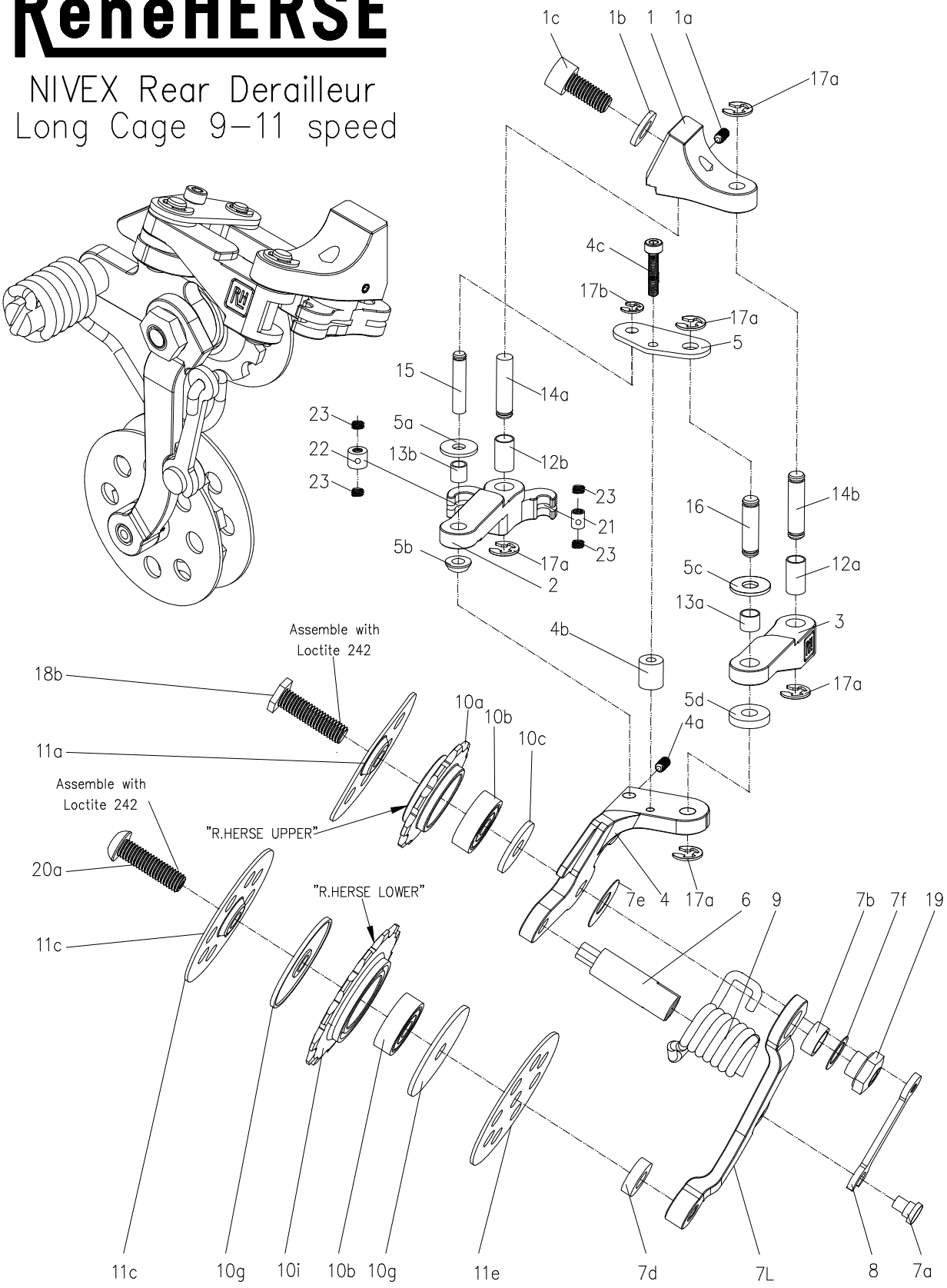
- Setup of the Nivex rear derailleur is different from conventional derailleurs. It takes more time, but you will be rewarded with lightning-fast shifts and years of trouble-free operation.
- Lay out your parts, read the entire instructions, and familiarize yourself with the steps **before** you start installing the derailleur.
- Max. rear cog size:
  - Short cage: 26 teeth; capacity: 29 teeth.
  - Long cage: 30 teeth; capacity: 35 teeth.
- Make sure your frame is suited for the Nivex rear derailleur:
  - Nivex rear derailleur mount under the chainstay.
  - Cable guide for 2 cables underneath the BB shell. (Both cables can run through a single guide if it's wide enough.)
  - Standard shift lever braze-on on the down tube.
- Make sure you have the correct derailleur for your installation.
  - For 6-8-speed chains, the pulleys are marked 'R.HERSE 6-8.'
  - For 9-11-speed chains, the pulleys are marked 'R.HERSE 9-11.'
- Shift levers are available in various versions. Make sure your shift lever is the correct model for your cassette (number of cogs **and** cassette manufacturer).

Tools required

- 5 mm Allen wrench
- 3 mm Allen wrench
- 1.5 mm Allen wrench
- 7 mm open-end wrench
- Cable cutter
- Beeswax or other lubricant

RenéHERSE

NIVEX Rear Derailleur
Long Cage 9–11 speed



For parts diagrams of 6- to 8-speed Nivex derailleurs, see page 15 and 16.

Shifting the Nivex derailleur

• There is nothing special about shifting the Nivex derailleur.
• Move the shift lever quickly, but without brute force. You want to 'throw' the chain to the next cog.
• Don't 'feed' the chain slowly, as shifting quality will not be as good.
• Enjoy the direct connection and analog feel of your Nivex!

INSTALLATION

Rear derailleur

1. Insert the derailleur into the braze-on.

2. Install the M6 screw (1c) and washer (1b) from the inside of the chainstay (5 mm Allen). Tighten to 12 Nm.

Index shift lever

1. Loosen Screw 5 and remove the shift lever from the dummy holder.

2. Place the shift lever base plate (2) onto the shifter boss of your frame (12). Make sure the base plate is oriented correctly and engages with the square of the braze-on.

2. Loosen the nut (7) and slide the placeholder rod outside the cable hole.

3. Slide the shift lever (1) onto the braze-on. Align the tab on the brass outer socket (3) with the flat on the base plate (2). Install the outer cap (4) and screw (5) (3 mm Allen).

Friction shift lever

1. Place the shift lever base plate (2) onto the shifter boss of your frame (12). Make sure the base plate is oriented correctly and engages with the square of the braze-on.

2. Loosen the nut (7) and slide the placeholder rod outside the cable hole.

2. Slide the brass outer socket (3) onto the base plate (2). Alig the tab on the brass outer plate with the flat on the base plate.

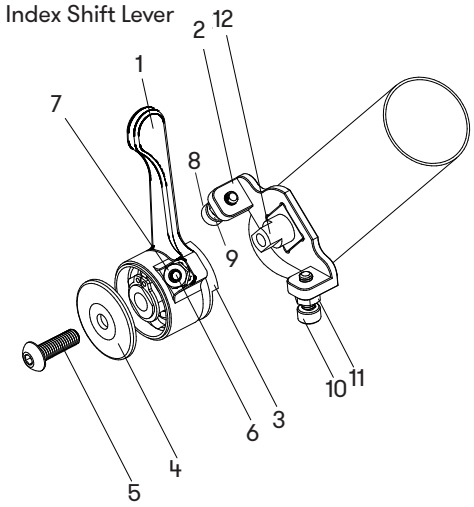
3. Slide on the shift lever (1).

4. Slide on one or two washers (14). Use one washer for ultralight shifting action. Use two washers if you would like a little more resistance when shifting.

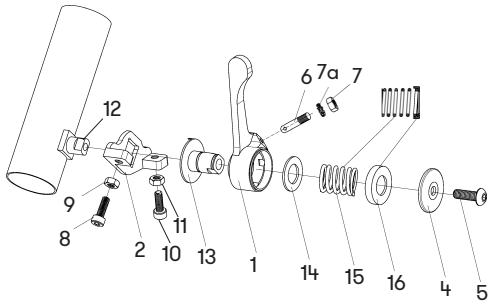
5. Slide on the spring (15) and spring cup (16). Make sure the spring sits squarely in the recess of the spring cup.

6. Insert the screw (5) in the outer cap (4) and compress the spring until the screw engages in the shifter boss of your frame (12). Tighten with a 3 mm Allen wrench.

Index Shift Lever



Friction Shift Lever



Shifter cable (no cable tensioner)

Hint: We recommend using one cable tensioner (friction shifting). Two cable tensioners are required for index shifting. Please skip to page 5 for installation with cable tensioners.

1. It's essential that the brass cylinders (13, 15) rotate smoothly in the hooks of the derailleur, otherwise the shifter cable can break prematurely. Rub beeswax onto the cylinders or use another long-term lubricant.

2. Thread the 6 mm brass cylinder (13, bottom drawing) onto the shifter cable until it sits against the nipple (14) at the end of the cable. Tighten both set screws (1.5 mm Allen), alternating between the screws.

3. Thread the shifter cable through the cable guide under your frame's bottom bracket (inner guide).

4. Thread the cable into the clamp eyebolt (6) in the shift lever from the front. (See also top drawing.) Do not tighten the nut (7) yet.

5. Route the free end of the shifter cable through the cable guide under your frame's bottom bracket (outer guide) and to the rear derailleur. Make sure you don't cross the cables.

6. Hook the 6 mm brass cylinder (13) over the inner hooks of the derailleur.

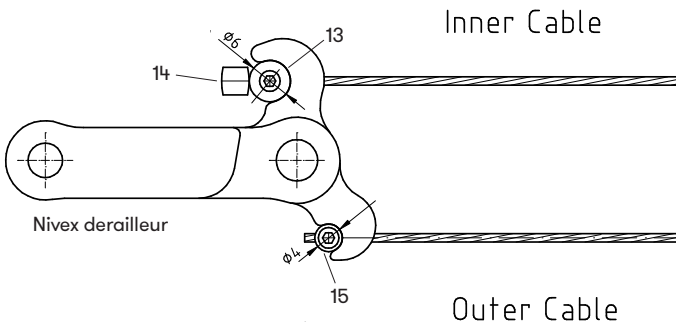
7. Thread the shifter cable through the hole of the 4 mm brass cylinder (15). Eyeball the required length of the shifter cable and tighten the set screws (1.5 mm Allen).

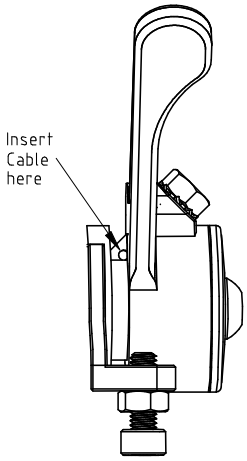
8. The shifter cable should be too short to go onto the hooks of the derailleur. Remove the shift lever (1) from the boss (12). Place the 4 mm brass cylinder onto the outer hooks of the derailleur. Slide the shift lever (1) back onto the boss (12). Align the tab on the brass outer socket (3) with the base plate (2).

The cable should be so tight that the shift lever barely slides onto the boss while you pull the shift lever forward/upward. There should be zero slack when you move the shift lever in one direction and then in the opposite direction. Pluck the cable like a guitar string: It should make a dull sound (not slack, but also not high-pitched like a well-tensioned spoke). Repeat steps 7 and 8 to adjust the cable tension until it is correct.

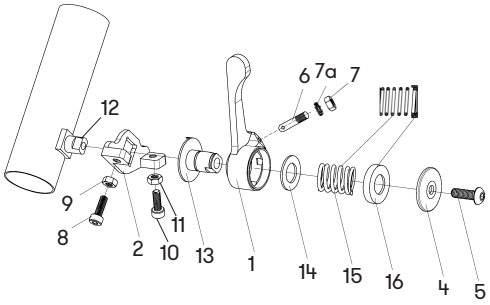
9. Remove the shift lever and outer tensioner again. Cut off the extra shifter cable as close to the brass cylinder (15) as possible.

10. Reinstall adjuster and shift lever. Insteall outer cap (4) and tighten the screw (5) (3 mm Allen).





Friction Shift Lever



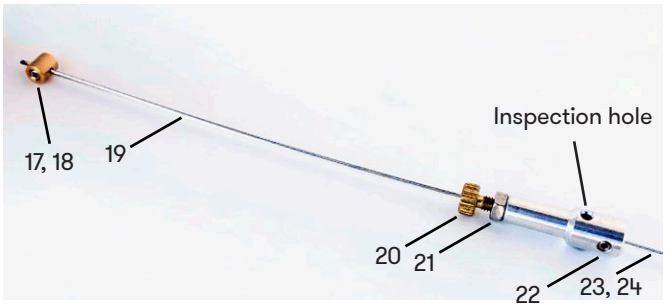
Shifter cable (with cable tensioners)

• The cable tensioner attaches to the end of the shifter cable, underneath the chainstay.

• Use 1 cable tensioner to simplify adjusting the shifter cable tension. Use only the inner tensioner. (Recommended for Nivex with friction shifting.)

• Use 2 cable tensioners (one for each cable end) to allow adjusting the indexed shifting. (Required for indexed shifting.)

• With 2 cable tensioners, stagger the tensioners (see drawing on p. 5). Otherwise, they can touch when you shift to the largest cog. (The two cables get very close to each other.)

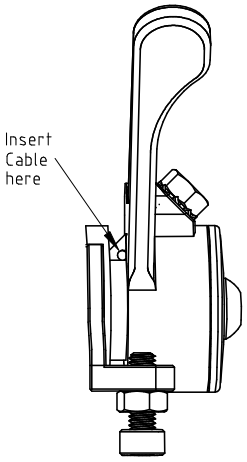


1. Prepare the cable tensioners:

- Unscrew the barrel adjusters (20) so that 8 mm of threads are exposed between the adjuster head and the locknut. **Important:** Never expose more 8.5 mm of threads. If not enough threads are engaged, the cable tensioner can break.

- It's essential that the 4 mm and 6 mm brass cylinders (17, 18) rotate smoothly in the hooks of the derailleur, otherwise the shifter cable can break prematurely. Rub beeswax onto the cylinders or use another long-term lubricant.

- Inner tensioner: Thread the 6 mm brass cylinder (17) onto the shifter cable at the end of the tensioner (19). Locate it about **50 mm** from the end of the barrel adjuster. Tighten both set screws (1.5 mm Allen), alternating between the screws.

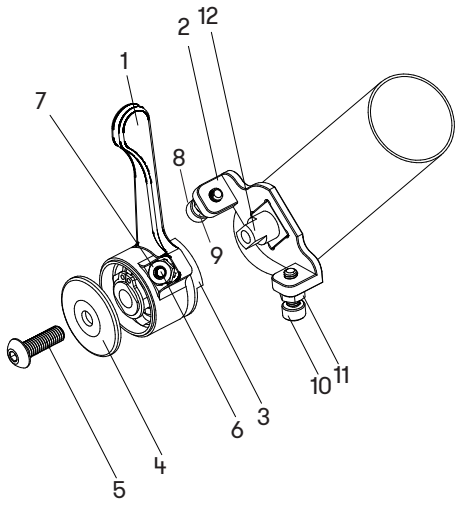


- Outer tensioner: Thread the 4 mm brass cylinder (18) onto the shifter cable at the end of the tensioner (19). Locate it about **15 mm** from the end of the barrel adjuster. Tighten both set screws (1.5 mm Allen), alternating between the screws.

2. Thread the main shifter cable (23) through the cable guide under your frame's bottom bracket (outer guide).

3. Thread the cable into the clamp eyebolt (6) in the shift lever from the front. Do not tighten the nut (7) yet.

4. Route the free end of the shifter cable through the cable guide under your frame's bottom bracket (inner guide). Make sure you don't cross the cables.



5. Inner tensioner: Use a 1.5 mm Allen wrench to loosen the set screw (22). Insert the inner run of the main shifter cable (23, no nipple) until it appears in the inspection hole. Tighten the set screw (22). Hook the 6 mm brass cylinder (17) onto the inner hooks of the derailleur.

Hint: If using only one tensioner, move directly to step 23.

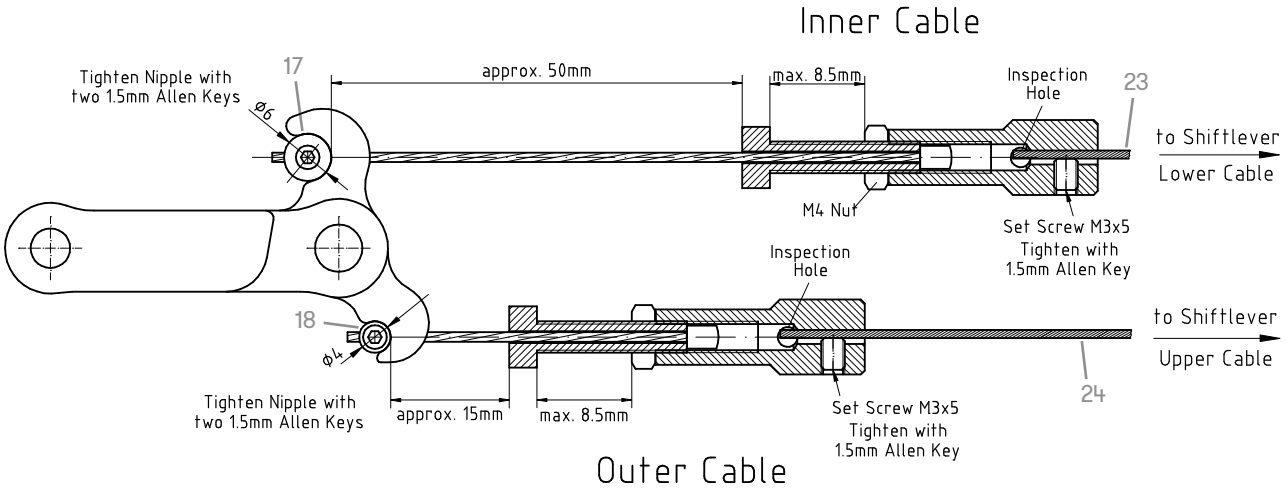
6. Hook the outer tensioner onto the outer hooks of the derailleur. Pull on the outer run of the main shifter cable (24) until it is taut. Cut the cable so it just reaches the inspection hole of the tensioner.

7. Outer tensioner: Loosen the set screw (22). Insert the outer run of the main shifter cable (24) until it appears in the inspection hole. Tighten the set screw (22). Hook the 4 mm brass cylinder (18) onto the outer hooks of the derailleur. The cable should be just long enough to barely hook the tensioner onto the derailleur. If the cable is slightly too long, adjust the 4 mm brass cylinder so it's closer to the barrel adjuster. If the cable is a lot too long, remove the main shifter cable from the tensioner and shorten it.

8. Unhook both tensioners. Cut off the overhanging ends of the cables at the 4 mm and 6 mm brass cylinders. Reinstall the tensioners. Install the chain (p. 6).

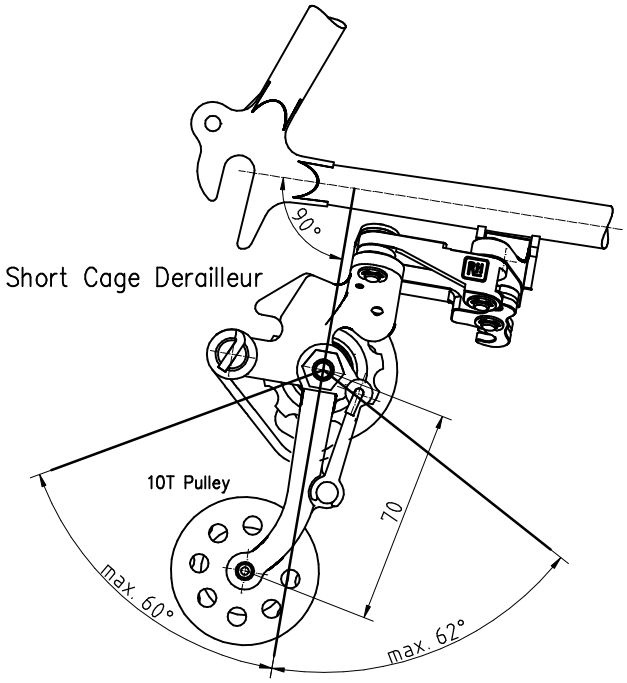
Variation with one cable tensioner:

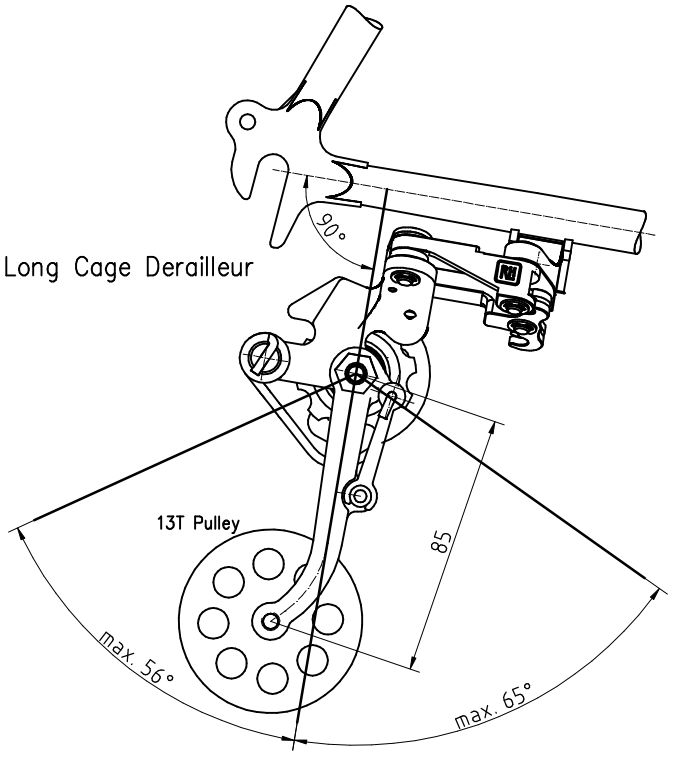
9. Thread the 4 mm brass cylinder (18) onto the outer run of the main shifter cable (24). Pull on the cable until it is taut. Adjust the brass cylinder to it can barely be hooked over the outer hooks of the derailleur. Tighten both set screws (1.5 mm Allen), alternating between the screws.



Install the chain

- The compensator arm keeps the chain tension constant, but it works only if the chain tension arm is positioned correctly.
- Long-Cage Derailleur: Refer to the table on page 8 to determine the correct chain length for popular chainring/cassette combinations.
- Short-Cage Derailleur: Refer to the table on page 9 to determine the correct chain length for popular chainring/cassette combinations.
- If your bike's chainring/cassette combination is not in the tables on page 8-9:
  - Place the chain on the largest cog and large chainring: The chain tension arm should not be angled forward more than 62° (short-cage derailleur) or 65° (long-cage derailleur).
  - Place the chain on the smallest cog and small chainring: The chain tension arm should not be angled backward more than 60° (short-cage derailleur) or 56° (long-cage derailleur).
  - To check this, it's often easiest to take a photo and measure the angles on the photo.





Chain Length for Long-Cage Nivex with 11-30 Cassette

Chainrings / Chainstay Length mm	42/26 Number of chain links	44/28 Number of chain links	46/30 Number of chain links	48/33 Number of chain links
400	104	104	106	108
401	104	104	106	108
402	104	106	106	108
403	104	106	106	108
404	104	106	106	108
405	104	106	106	108
406	104	106	106	108
407	104	106	106	108
408	106	106	106	108
409	106	106	108	108
410	106	106	108	108
411	106	106	108	108
412	106	106	108	108
413	106	106	108	110
414	106	106	108	110
415	106	108	108	110
416	106	108	108	110
417	106	108	108	110
418	106	108	108	110
419	106	108	108	110
420	106	108	108	110
421	108	108	110	110
422	108	108	110	110
423	108	108	110	110
424	108	108	110	110
425	108	108	110	110
426	108	108	110	112
427	108	110	110	112
428	108	110	110	112
429	108	110	110	112
430	108	110	110	112
431	108	110	110	112
432	108	110	110	112
433	110	110	110	112
434	110	110	112	112
435	110	110	112	112
436	110	110	112	112
437	110	110	112	112
438	110	110	112	114
439	110	110	112	114
440	110	112	112	114
441	110	112	112	114
442	110	112	112	114
443	110	112	112	114
444	110	112	112	114
445	110	112	112	114
446	112	112	114	114
447	112	112	114	114
448	112	112	114	114
449	112	112	114	114
450	112	112	114	114
451	112	112	114	116
452	112	114	114	116
453	112	114	114	116
454	112	114	114	116
455	112	114	114	116
456	112	114	114	116
457	112	114	114	116
458	114	114	114	116
459	114	114	116	116
460	114	114	116	116

Chain Length for Short-Cage Nivex with 13-26 Cassette

Chainrings	**42/26**	**44/26**	**46/30**	**48/33**
Chainstay Length mm	Number of Chainlinks	Number of Chainlinks	Number of Chainlinks	Number of Chainlinks
400	102	102	104	104
401	102	102	104	104
402	102	102	104	106
403	102	102	104	106
404	102	104	104	106
405	102	104	104	106
406	102	104	104	106
407	102	104	104	106
408	102	104	104	106
409	102	104	104	106
410	104	104	106	106
411	104	104	106	106
412	104	104	106	106
413	104	104	106	106
414	104	104	106	108
415	104	104	106	108
416	104	106	106	108
417	104	106	106	108
418	104	106	106	108
419	104	106	106	108
420	104	106	106	108
421	104	106	106	108
422	106	106	106	108
423	106	106	108	108
424	106	106	108	108
425	106	106	108	108
426	106	106	108	108
427	106	106	108	110
428	106	106	108	110
429	106	108	108	110
430	106	108	108	110
431	106	108	108	110
432	106	108	108	110
433	106	108	108	110
434	106	108	108	110
435	108	108	110	110
436	108	108	110	110
437	108	108	110	110
438	108	108	110	110
439	108	108	110	112
440	108	108	110	112
441	108	110	110	112
442	108	110	110	112
443	108	110	110	112
444	108	110	110	112
445	108	110	110	112
446	108	110	110	112
447	110	110	110	112
448	110	110	112	112
449	110	110	112	112
450	110	110	112	112
451	110	110	112	114
452	110	110	112	114
453	110	110	112	114
454	110	112	112	114
455	110	112	112	114
456	110	112	112	114
457	110	112	112	114
458	110	112	112	114
459	110	112	112	114
460	112	112	114	114

Set up the shifter/indexing (2 cable adjusters)

1. Loosen the locknuts (9, 11) on the limit screws (8, 10). Loosen the screws (8, 10) until they are flush with the inside of the base plate.

2. Loosen the nut (7) on the cable eyebolt. Move the shift lever to check that the cable slides freely through the lever.

3. Move the shift lever forward to the last indent of the indexing.

4. Move the derailleur by hand to center it on the smallest cog.

5. Tighten the barrel adjusters evenly to adjust the cable tension. The cable should be taut, but not yet tensioned.

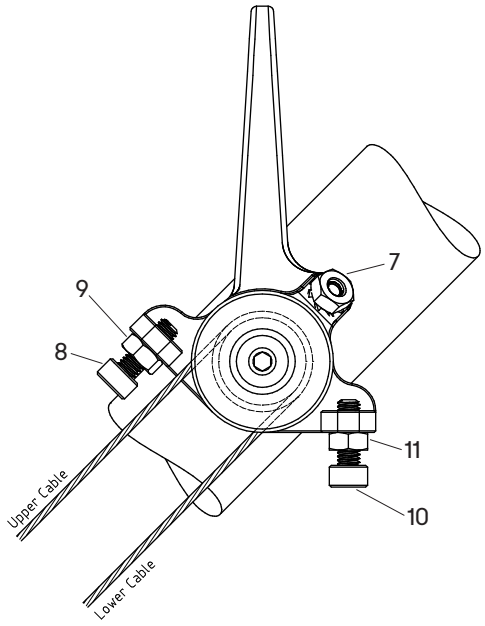
6. Tighten the nut (7) on the shift lever to lock the shifter cable inside the shift lever. Don't tighten all the way yet, as you may need to adjust it further. When tightened all the way, the eyebolt deforms the cable, making further adjustments harder. For now, the eyebolt just needs to grip the cable.

7. Adjust the barrel adjuster on the inner tensioner to fine-tune shifts to bigger cogs. Then adjust the outer tensioner for shifts to smaller cogs.

8. Once you have a rough adjustment of the indexing, tighten the nut (7) on the shift lever to lock the shifter cable securely in place. Then continue to fine-tune the indexing by repeating step 7.

The derailleur should shift well in both directions when the shifter cable is tensioned optimally. Pluck the cable like a guitar string: It should make a dull sound (not slack, but also not high-pitched like a well-tensioned spoke).

9. Once the shifting is as you want it, tighten the locknuts (21) on the cable tensioners to lock in the adjustment.1



Set up the shifter (1 cable adjuster)

1. Tighten the barrel adjusters evenly to adjust the cable tension.

There should be zero slack when you move the shift lever in one direction and then in the opposite direction. Pluck the cable like a guitar string: It should make a dull sound (not slack, but also not high-pitched like a well-tensioned spoke).

2. Once the shifting is as you want it, tighten the locknut (21) on the cable tensioner to lock in the adjustment.

Adjust the limit screws

Adjust the limit screws (8, 10) on the shift lever: Screw them inward until the derailleur no longer shifts onto the smallest/largest cog. Then back out the screw until the shifting works again. Tighten the locknuts (9, 11) to lock the limit screws in place.

Hint: If the limit screws bottom out, move the locknuts (9, 11) to the inside of the shift lever base plate. (Usually required for 5-8-speed drivetrains.)

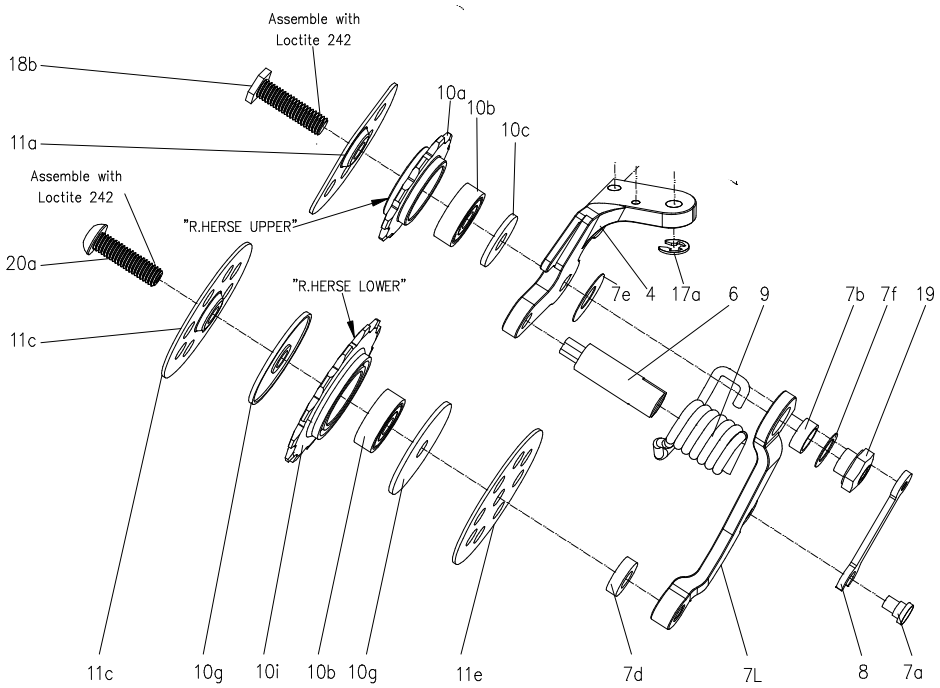
Replacing the Derailleur Pulleys

Tools needed:
• 3 mm Allen wrench
• 12 mm socket and ratchet or 12 mm Y-wrench
• Loctite 243

Important: Use only Rene Herse Nivex pulleys. Make sure you have the correct pulleys:
• 10-tooth marked 'Rene Herse Upper': upper pulley (all models), lower pulley (short-cage derailleur)
• 13-tooth marked 'Rene Herse Lower': lower pulley (long-cage derailleur)
• 10-tooth un-marked: lower pulley (short-cage derailleur)
• Pulley bearings are replaceable. Standard 626 bearings are pressed into the pulleys. See p. 14.

Lower Pulley:
• Carefully grab the aluminum discs (11) that surround the lower pulley and turn them counterclockwise to loosen the pulley. Unse a 3 mm Allen wrench to remove the bolt that holds the pulley.
• Replace the pulley (10). With 13-tooth pulley, orient the pulley so the lettering will face the bicycle (also note the rotation arrow on the pulley). Keep the aluminum discs (11) and washers (10).
• Apply Loctite 243 on the lower pulley bolt (20). Use a 3 mm Allen wrench to install the pulley.
• For 6- to 8-speed Nivex derailleurs: Install the 0.5 mm washers on both sides of the pulley.
• Use the 3 mm wrench to tighten the pulley. Turn the aluminum discs clockwise to ensure the pulley is tight.

Upper Pulley:
• Push the spring all the way forward, so the compensator arm (8) is loose. Unhook the compensator arm (8) from the tension arm (7) to disconnect the derailleur spring.
• Use a 12 mm socket to unscrew the brass hex nut (19).
• Remove the tension arm.
• Tap the bolt (18) lightly to remove it. The bolt does not turn. It has a flat surface that holds it in place in the D-shaped hole in part 4.
• Remove washer (10c) and pulley (10). Replace the pulley (10).
• For 6- to 8-speed derailleurs: Install the 0.5 mm washers on both sides of the pulley.
• Apply Loctite 243 to the bolt (18).
• Make sure to position the upper disc (11a) correctly when you reassemble the derailleur. (It is held in place by the hex head of Bolt 18). Refer to the photo on p. 1.



For exploded diagram of short-cage Nivex derailleurs, see p. 16.

Spare parts

• All spare parts are available from Rene Herse Cycles. For parts not shown on the website, contact us via the Warranty Contact Form. Print out the exploded diagram and mark the part you need. Then attach a scan or photo of the printout with your request.

• The Nivex uses a standard derailleur cable. This is available from Rene Herse Cycles and many bike shops. Look for an extra-long cable as used for tandems and triplets.

Rear derailleur mount location

• Correct location of the Nivex braze-on is essential for optimum shifting (see drawing on the right).

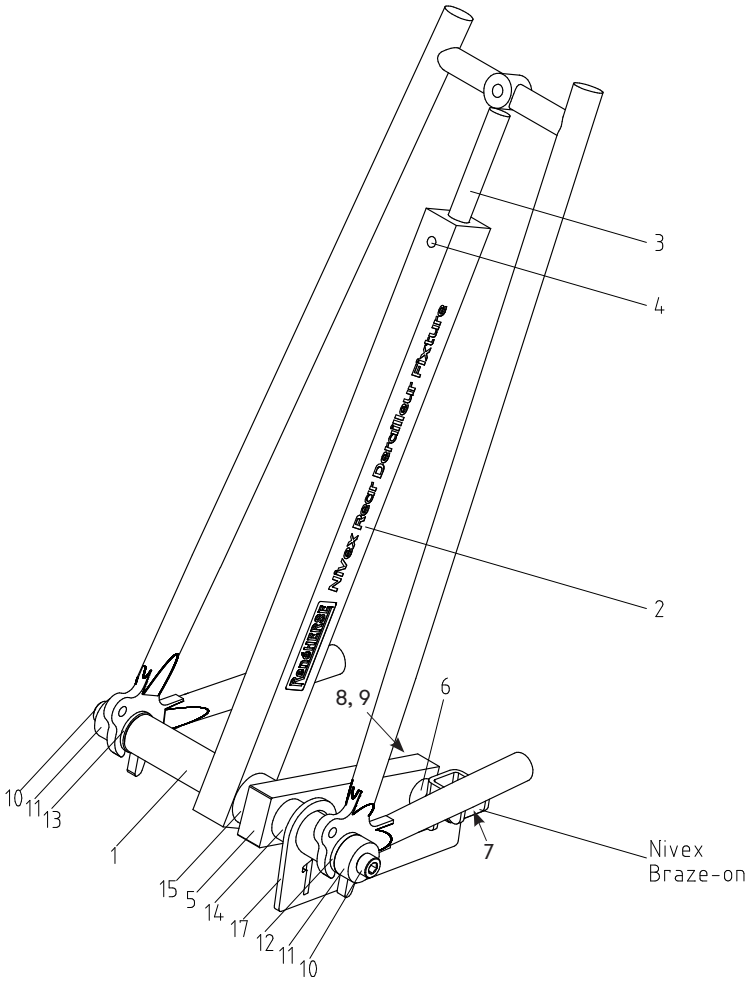
• We strongly recommend using the Nivex Rear Derailleur Braze-On Jig (below) when brazing the derailleur mount to the chainstay. This ensures correct positioning of the mount.

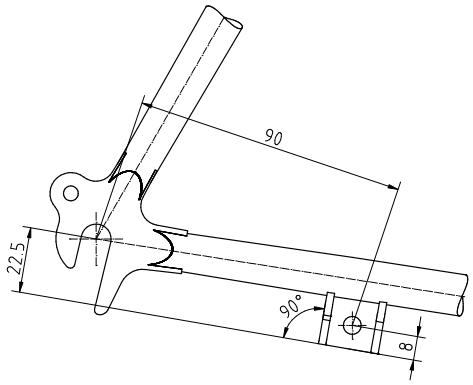
• Remove spacers to get the correct spacing, then insert the dummy axle (1) in the rear dropouts.

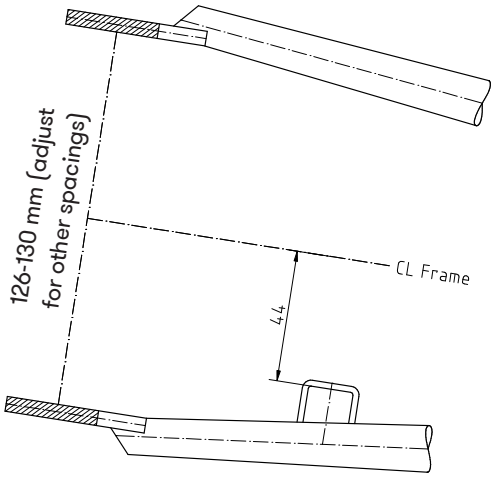
• Use the pin (3) on the long arm to make sure the jig is aligned correctly in the dropouts.

• The short arm (5) ensures the correct distance from the derailleur mount to the rear axle and to the centerline of the bike.

• The laser-cut arm (17) ensures the correct angle of the derailleur mount.



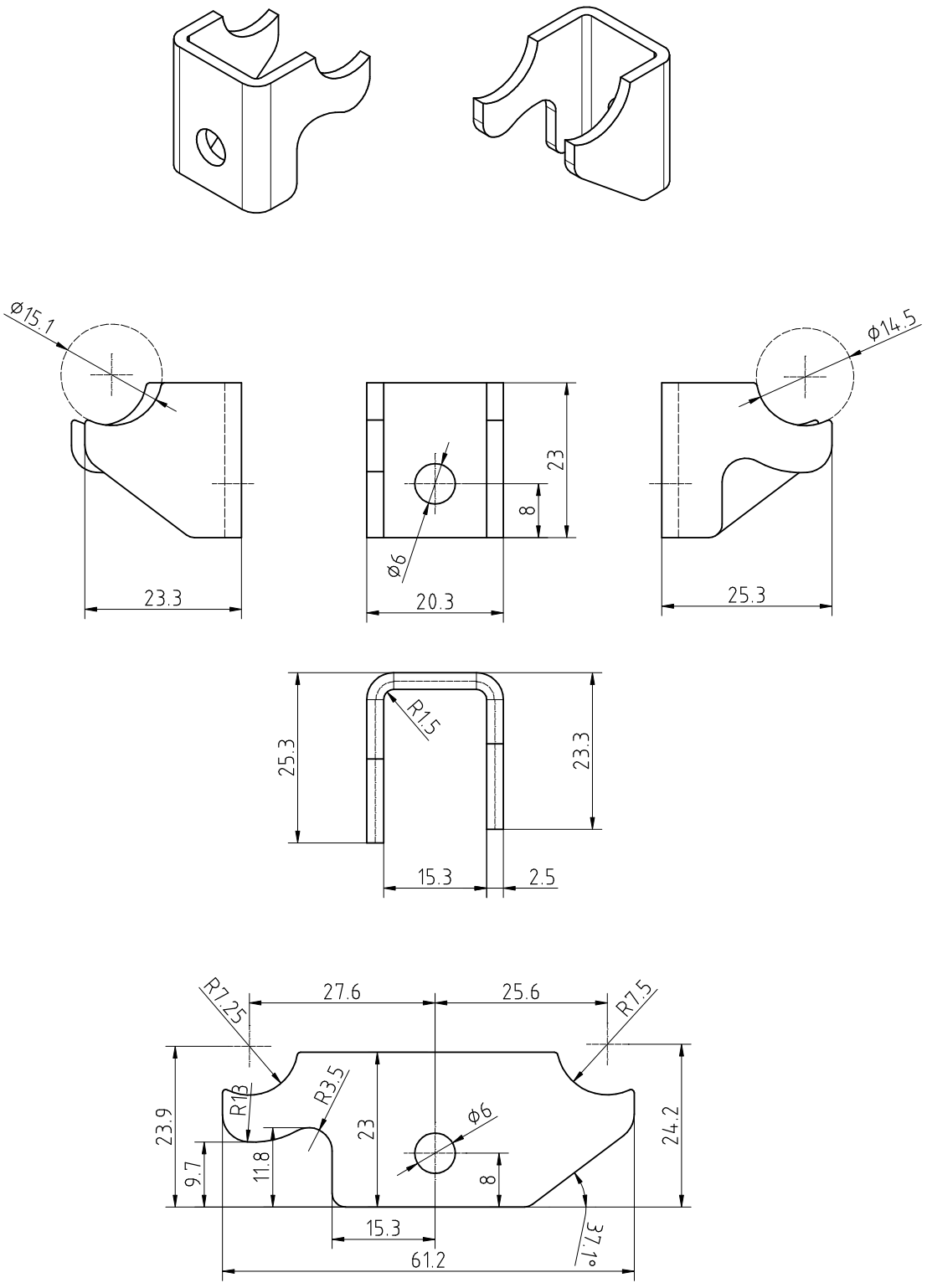




Loading the derailleur mount into the jig

• Insert the screw (7) into the laser-cut arm (17).
• Slide the Nivex rear derailleur mount onto the screw (7).
• Place the spacer (6) on the screw (7).
• Insert the screw (7) and assembled parts into the short arm (5).
• Attach washer (8) and nut (9) to the screw (7). Tighten to firmly attach the derailleur mount to the braze-on jig.

Nivex Mount Dimensions

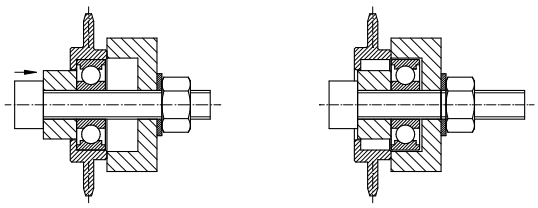


Replacing the Pulley Bearings

• Bearing type: 626
• Tools to remove and install the pulley bearings are available from Rene Herse Cycles.
• The tools can also be machined from aluminum on a lathe (see below).

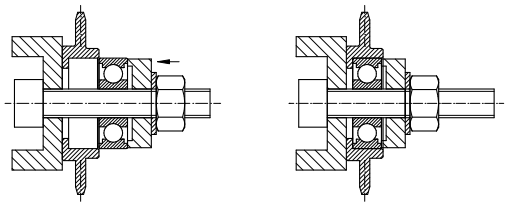
Nivex 10-Tooth Pulley

Bearing Removal



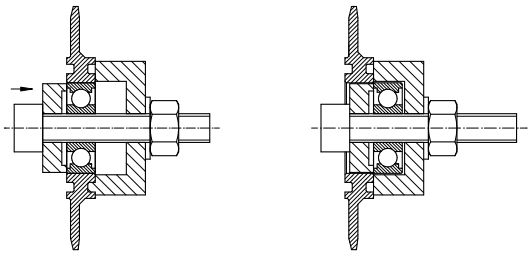
Nivex 10-Tooth Pulley

Bearing Installation



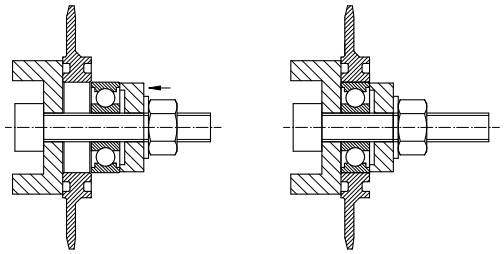
Nivex 13-Tooth Pulley

Bearing Removal



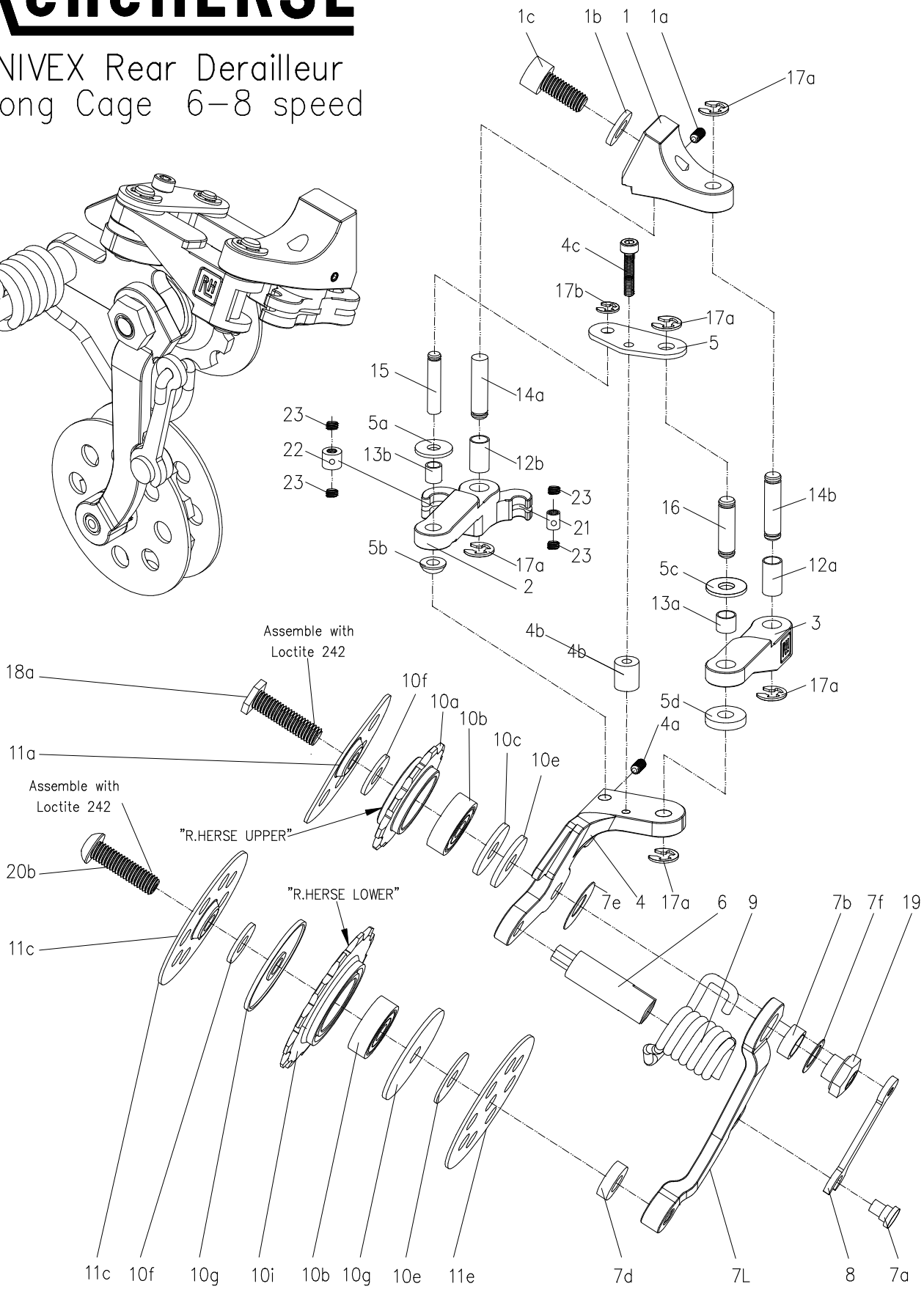
Nivex 13-Tooth Pulley

Bearing Installation



RenéHERSE

NIVEX Rear Derailleur
Long Cage 6–8 speed



RenéHERSE

NIVEX Rear Derailleur
Short Cage 6–8 speed