

Fix a flat

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TORONTO BICYCLING NETWORK

Agenda

- 5 mins: Intros
 - Name
 - What do you want to get out of this workshop?
 - One sentence
- 25 mins: General Overview
- 20 mins: Practical Demonstration
- 5 mins: Wrap-up
- 5 mins: Couple of Survey Questions

housekeeping

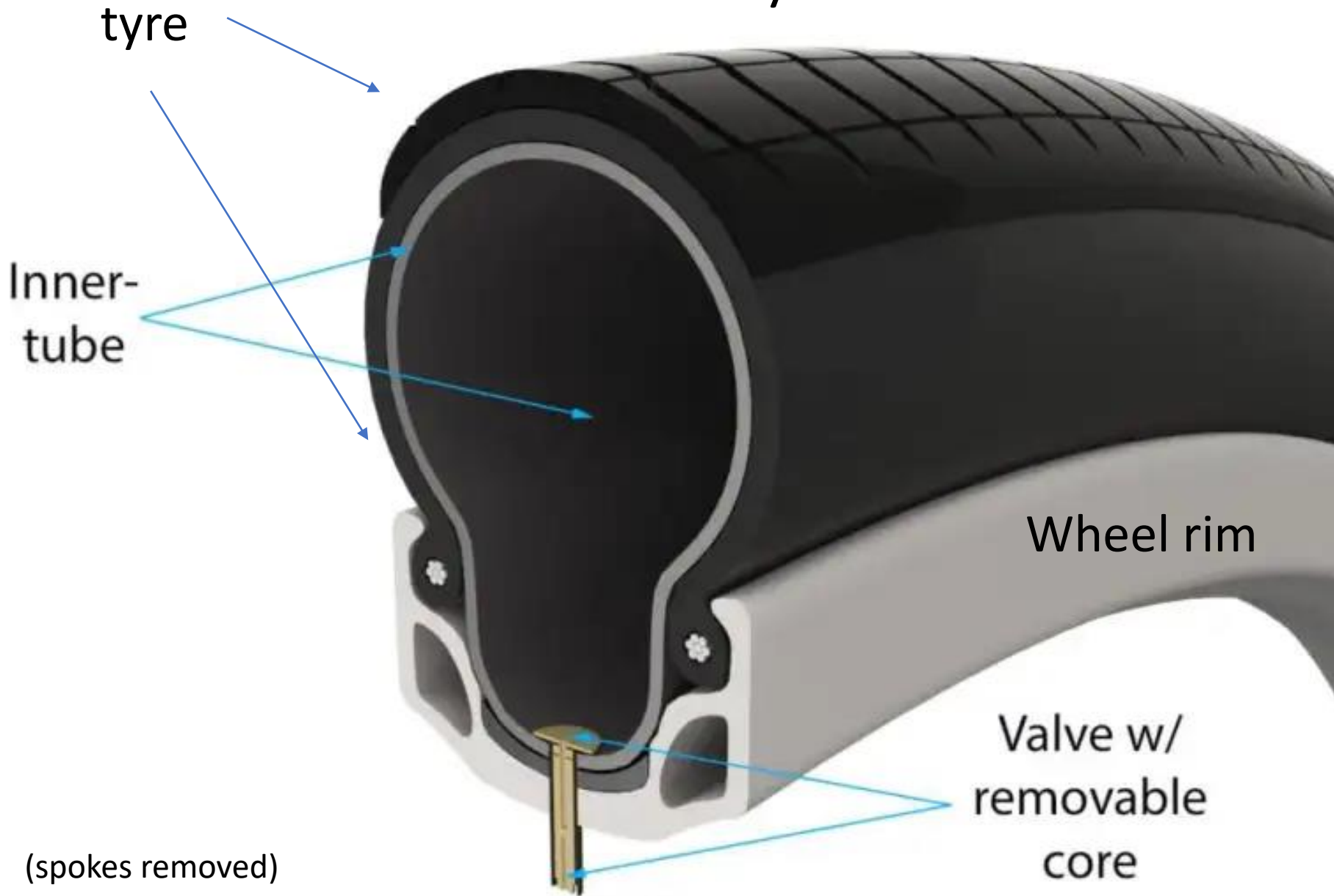
- Zoom etiquette: please MUTE unless speaking
 - Session will be recorded for quality improvement
- 1. slides will be available
- 2. questions at the end of each slide (hand up, unmute, or chat)

- Will NOT cover tubeless tyres

Why fix your own flats?

- No spare bike/wheel
- Cost
- Convenience
 - Bike shop not always open
 - Can do anywhere/anytime

Anatomy



Tyre size and tube size



Rim diameter 700mm = 70 cm



Rim cross-section, with inner and outer width. This one has a 19 mm inner rim width.

The following table tells the range of acceptable tyre widths depending on inner rim width:

Tyre width (mm) / Rim width	18	20	23	25	28	32	35	37	40	44	47	50	54	57	60	62
13	x	x	x	x												
15			x	x	x	x										
17				x	x	x	x	x	x	x	x	x				
19					x	x	x	x	x	x	x	x	x	x		
21							x	x	x	x	x	x	x	x	x	x
23								x	x	x	x	x	x	x	x	x
25										x	x	x	x	x	x	x
27											x	x	x	x	x	x
29													x	x	x	x

Table 2: which tyre width can fit which rim widths (in millimetres)



NEW

★★★★★ (0)

Rubbers 700 x 37-45C Tube
(Threaded 48mm Presta Valve)

\$8.95

Compare



★★★★★ (0)

Rubbers 700 x 25-35 Tube (48mm
Presta Valve)

\$8.95

Compare



★★★★★ (15)

Rubbers 700 x 23-25C Tube (Black
48mm Presta Valve)

\$7.50

Compare



★★★★★ (1)

Rubbers 29 x 2.2-2.6" Tube (48mm
Presta Valve)

\$9.95

Compare



NEW

★★★★★ (0)

Rubbers 27.5 x 1.9-2.3" Tube (48mm
Presta Valve)

\$8.95

Compare



★★★★★ (0)

Rubbers 27.5+ x 2.5-3.0" Tube
(48mm Presta Valve)

\$9.95

Compare



NEW

★★★★★ (0)

Rubbers 700 x 20-25 Tube (48mm
Presta Valve)

\$8.95

Compare



NEW

★★★★★ (0)

Rubbers 650b x 35-45" Tube (48mm
Presta Valve)

\$8.95

Compare

Tyre pressure



Valve types

Presta



Schrader
(car tyre)



Convertors:
Allows to use
gas station
Schrader
pump



Prevention

- ‘An ounce of prevention is worth a pound of cure’
- Inflated tyres – how find pressure
 - Not under-, nor over-
 - Rear vs front (weight distribution/wear)
 - Check regularly
- Inspect tyres for bald spots/defects
- Avoid glass, sharp kerbs, potholes, streetcar tracks, rail tracks, tyre levers!
 - Report them to the city: 311
- Puncture resistant tyres (Kevlar)
- Self-sealing inner-tubes
- Tire liners (Mr. Tuffy)

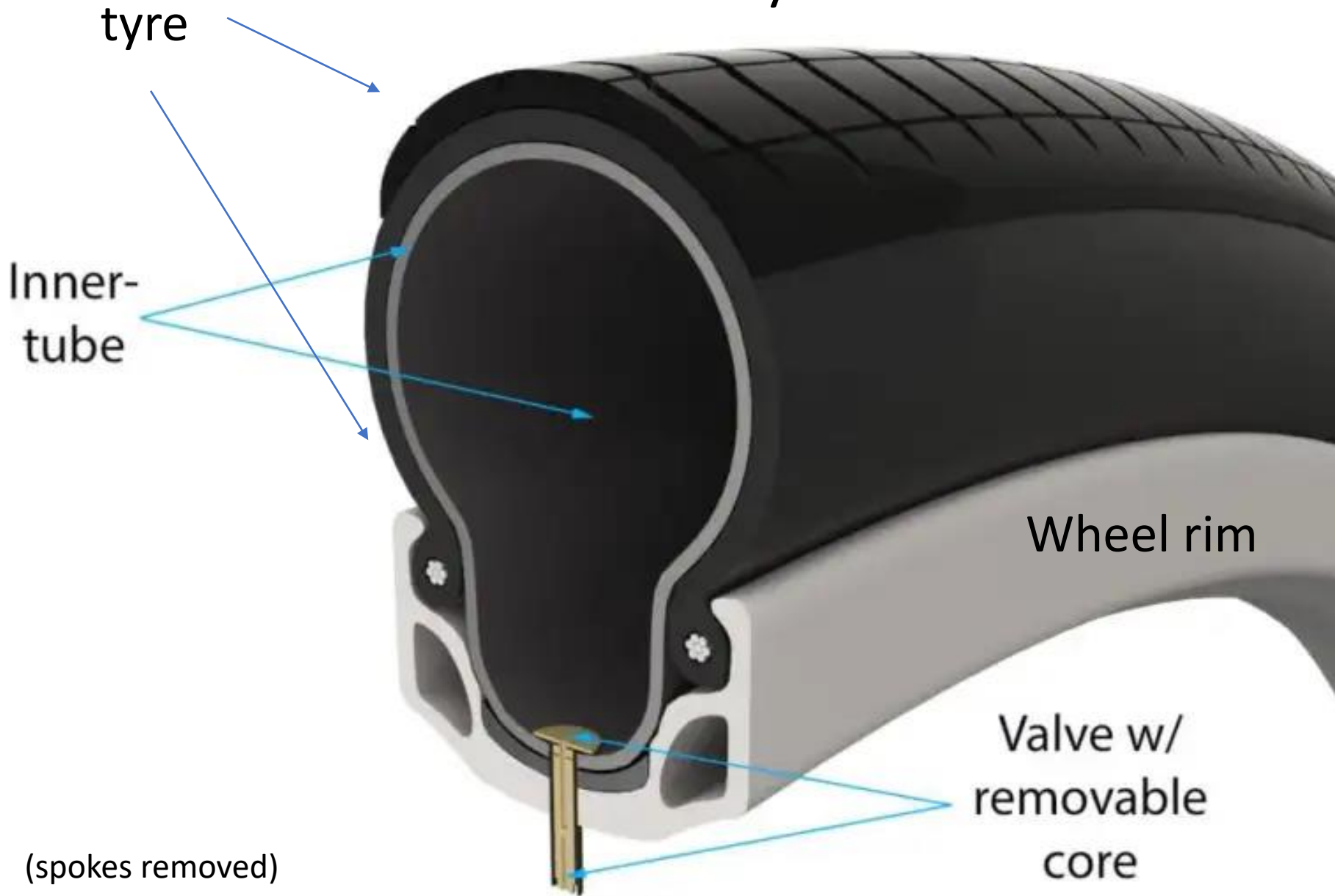


Types of flats

- Not enough air -> pump
- Puncture
 - Nail/screw/staple
 - Glass
 - Pinch flat: diagram->
 - Sharp curb
 - Pothole
 - Avoid them
 - Lift weight off seat
 - Pedals horizontal
 - Move weight slightly forwards
- Mystery



Anatomy

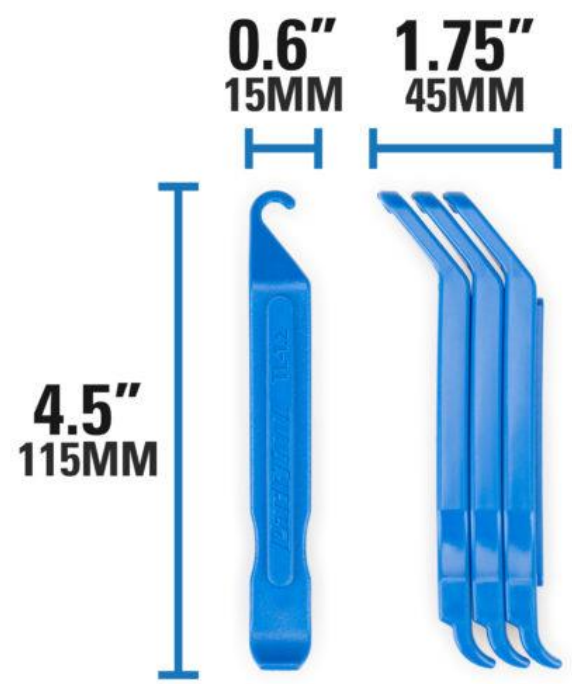


Tools

- Pump/CO₂ cartridge
- Pressure gauge
- Hands and fingers
- Tyre levers
- Tube
- Patches
- Tyre
- Wrench
- Hand degreaser
- Towel
- Water/liquid
- Patience
- A friend

Tyre levers

- Plastic
- Metal
- Crankbrothers: speedier lever:
- <https://www.crankbrothers.com/collections/speedier-lever>



RS IN STOCK - TOOLS / SPEEDIER TIRE

MATCH

SYNTHESIS

SPEEDIER TIRE LEVER

The tire lever has finally been revolutionized.

★★★★☆ (3)

\$5.99



Pump

- Ideally standing
- With pressure gauge
 - Don't scrimp
- Also mini (take with you)
- Or cartridge



Change tyre

- Don't ride (risk damage rim and tyre)
- SAFETY FIRST
 - Get off road/path -> verge, sidewalk, parking lot
- Remove lights/water bottle etc.
- Invert bike
- Deflate tyre
- (unlock brakes)
- Undo axel
- Remove wheel (take photo!)
 - rear wheel, bend derailleur backwards, lift out of chain
- Remove tyre
 - Start opposite to the valve
- Remove inner-tube

Find cause of puncture

- Inflate inner-tube (low pressure)
- Find leak
 - Use water/spit etc. to find bubbles
 - Listen for leak
 - Feel for leak
 - Check around valve
- Check inside of tyre all way around for defects
 - Mind fingers!
- Check rim of wheel for defects/spokes, rim tape

Patch puncture

- Follow instructions
- Dry
- Sandpaper
- Inflate
- Glue around hole
- Patch
- Hold
- Wait
- Test
- (repeat)
- Or New tube



Prepare to fail

- Have spare tubes
- Spare patches

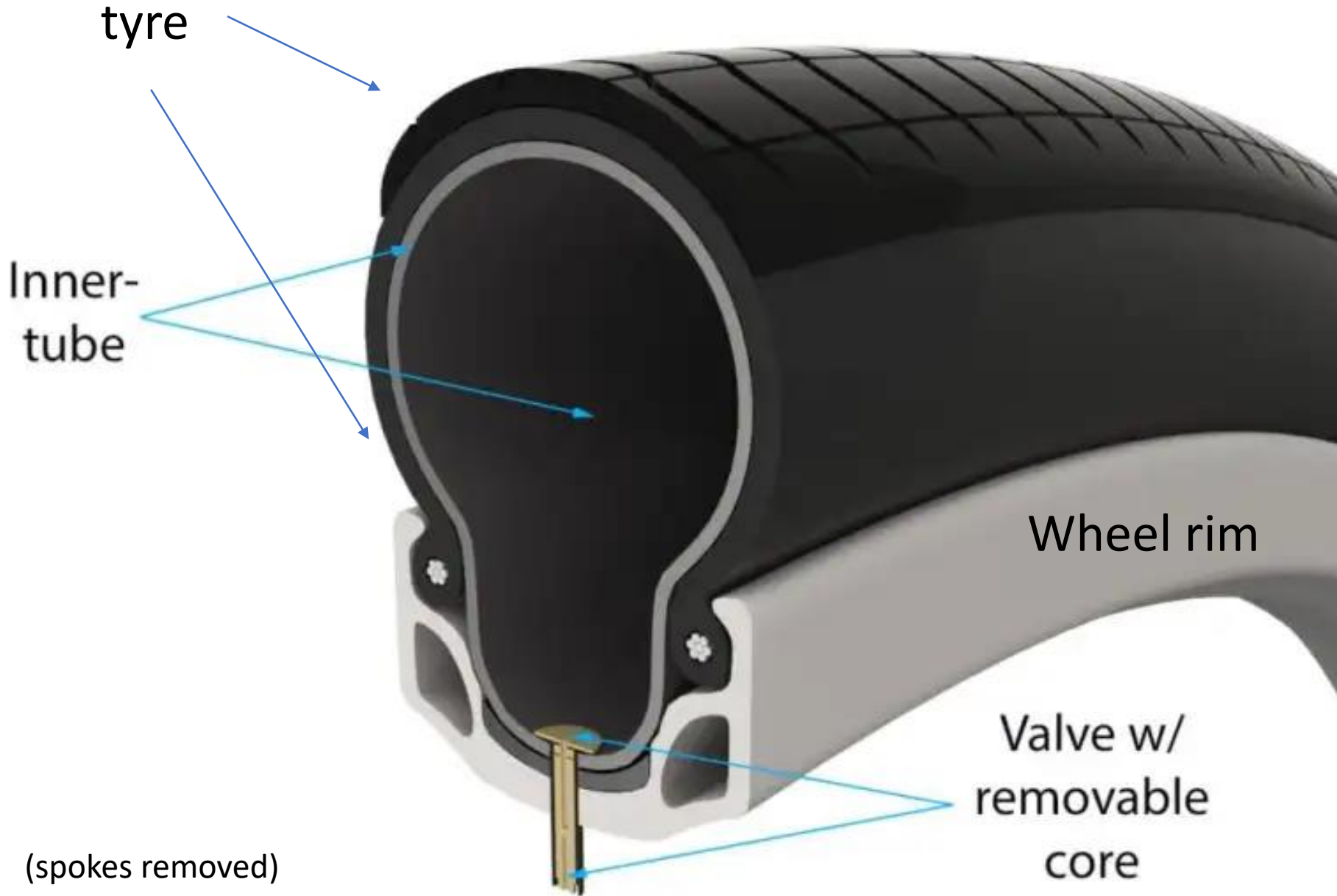
Return new tyre to bike

- Put tube inside tyre
- Put valve through hole in rim
- Partially inflate tube (1/2 pump)
- Start at valve, put one side of tyre on rim, all way around
- Start at value, put other side of tyre on rim
- Partially inflate tyre
- Put wheel on bike, check rotation/brake clearance
- Tighten axel
- Fully inflate
- Revert bike
- Check pressure after few mins

SAFETY!

- Check BRAKES

Tight tyres; unseat bead



Patsy Cook

(Sat Morn ride co-organizer)

- Always carry 2 spare inner tubes in case there is a tube failure with first attempt
- Always carry tire levers, inner tubes and a small hand pump
 - That way, another cyclist passing by can assist in fixing your flat
- Many cyclist passerbys are happy to help using your equipment

Tyre boots

(Dennis Szilvassy, TBN Touring Director)

- tyre boots are used if you get a combined cord failure in your tyre and a flat
- A piece of an old tyre cut into a sleeve will line the tyre inside and allow you to fix the flat and get back home
- Normally without such a thing a large piece of glass will make it impossible to ride your bike back to the start

Deňnis Szilvasy



Var Nylon Tyre Levers

Martin Lansche (TBN technical director)

- Practice at home, with only the tools that you carry with you on the ride, remove tire, and replace inner tube. Pump it up to hardness high enough that would get you back home/to car etc.
 - Repeat. Get used to the process.
 - At home is the time to find out that your pump doesn't work, or to learn how to muscle the tire back onto the wheel.
- Know how to remove your rear wheel - most flats are on the back.
 - shift to smallest cog on cassette.
- Warnings about CO2 cartridges - once opened they are used up. They also get extremely cold when used. You can "frost-burn" unprotected hands.
 - Even if you have CO2, you still need a hand pump - see below.
- When installing tube, partially inflate so it pushes the tire wall, and has no folds/twists - this will avoid pinches
- I would recommend NEVER use tire irons to install a tire. This can cause a pinch flat.
 - Use your fingers.
 - Move tire into well in middle of rim to provide an extra millimeter or two of space get tire over rim
- NEVER slide a tire iron - this can slice a tube.
 - Use the hook on irons to clamp onto spoke.
 - Use 3 irons, and move the middle to next spoke, repeat until you can remove the tire with your fingers
- Find out why you flatted - by type of hole. Hand pump "flat" tube to locate hole. Spit/Water can help.
- Like the shop mechanics do, line up the tire logo with your valve.
 - If you know that the hole was 15 cm from valve, then carefully examine tire 15 cm from logo for objects/sharp spokes/rims.
- With rim brakes, be prepared to partially inflate, then install on bike, then complete the inflation. A fully inflated tire may be hard to fit through the rim pads.
- Tires wear out. Having a flat because of a worn out tire is completely avoidable.
- Ensure tire is seated well before fully inflating. You don't want a "bubble burst" tube.
- If you have a sidewall blow-out, unless you carry a spare foldable tire, you are looking at walking/taxiing back to base and a visit to a bike store.
- Purchase a spare tire - keep at home. Avoid supply chain shortages when you urgently need that replacement tire.
- There are great GCN videos that cover a lot of this. For example: <https://www.youtube.com/watch?v=S2HMwOHyfsc>

Resources

- Youtube / internet
- Books
- Local bike shop
- TDSB: Learn4Life bike maintenance course (evening)
- [Toronto Community Bike Collectives:](#)

TCBC Contacts

Bikechain 230 College St (Huron Entrance); bikechainuoft@gmail.com

bikeSauce 341 Broadview Ave.; info@bikesauce.org

Tobermory Bike Hub 15 Tobermory Dr.; bikehub@culturelink.ca

Bike Pirates 1564 Bloor St W; info@bikepirates.com

Charlie's FreeWheels 242.5 Queen St. E; info@charliesfreewheels.ca

Cycle York 95 The Pond Rd.; info@regenesiscycle.org

Gateway Bicycle Hub 10 Gateway Blvd., Suite 100B; info@gatewaybikehub.com

RESCUE BIKE at the South Riverdale Community Health Centre 955 Queen St. E. pyoung@srchc.com

Scarborough Cycles 3079 Danforth Ave. mmacaraig@accessalliance.ca

Other TBN events

- Spring Kickoff Breakfast
 - Sat May 7 2022 @ 9am
 - Etienne Brule Park (near Old Mill Subway)
 - Sign-up on TBN website
- Cyclon
 - London ON
 - Friday, July 29 - Monday, August 1 2022
 - Friday evening fix flat in person workshop

Practical demonstration

Wrap-up

Survey and feedback

- Zoom survey questions
- Type into CHAT your suggestions for future education sessions if not covered