

ILLUSTRATED STEPS / SAVE IT. FIND IT. BUILD IT.

CHAINSAW BIKE

Turn an old chainsaw or string-trimmer engine into a friction-drive motor bike: hinged mount, pipe roller, mixed fuel and a safe first ride.



SAFETY FIRST / BEFORE YOU BUILD:

FULL RULES / PAGE 03

Bar and chain OFF. Brakes that stop you hard. Helmet on. Local motor-bike rules checked.

Never run straight gas. Never start a fuel siphon by mouth.

START HERE

01

GET READY

Tools + clickable build map

02

FOLLOW THE STEPS

One clearly numbered stage at a time

03

FIND IT AGAIN

Quick reference + PDF bookmarks

For a working bicycle and an old 2-stroke saw or trimmer you own. The bar and chain come off first and never go back on this bike.

NUKE ON TIKTOK

MORE FREE BUILD GUIDES

SOURCES / Wikipedia: Motorized bicycle (friction drive, regulation) · Wikipedia: Friction drive

BUILD MAP

NEXT

YOUR BUILD MAP

Tap a step to jump there. The printed page numbers work offline too.

HAVE THESE READY

- Bicycle with working brakes
- Old gas chainsaw or string trimmer
- Steel pipe (about 1 in) or a drive socket
- Sturdy rear rack, hinge plate, spring
- Hose clamps or heavy fence wire
- Throttle cable and handlebar lever
- Fuel can, fresh gas, 2-stroke oil
- Hand siphon pump
- Helmet, eye protection, gloves

READ IN ORDER

PREP	Gather the kit, check the rules	03
01	Get the engine	04
02	Mount it on a hinge	05
03	Build the roller	06
04	Fuel, throttle and start	07
NOTE	First ride and stopping	08
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QUICK REFERENCE / PAGE 10

BEFORE YOU START

Bar and chain **OFF**; engine cool before every wrench. Working brakes, helmet, local rules checked. Never straight gas; never siphon by mouth.

KEEP THIS COPY

Save the PDF with its guide ID. Use the build map, bookmarks, or your PDF reader's search to find a step later. Video and source links need internet; the instructions do not.

SETUP

Gather the kit, check the rules

READ BEFORE STEP 01

PREP

Everything is laid out and checked before a single bolt turns.



STOP / BEFORE YOU BUILD

- Engine off and cool, spark plug wire pulled: then work.
- The bar and chain come off and stay off.
- Brakes that cannot stop you hard from a fast ride?
- Fix them before you add an engine.

GEAR AND RULES

- Wear a helmet, eye protection, gloves and closed shoes.
- Motorized-bicycle rules differ by state and city.
- Check engine size, speed, age and helmet rules before any ride on a road.

SOURCES / Wikipedia: Motorized bicycle (friction drive, regulation) · Bicycle Helmet Safety Institute

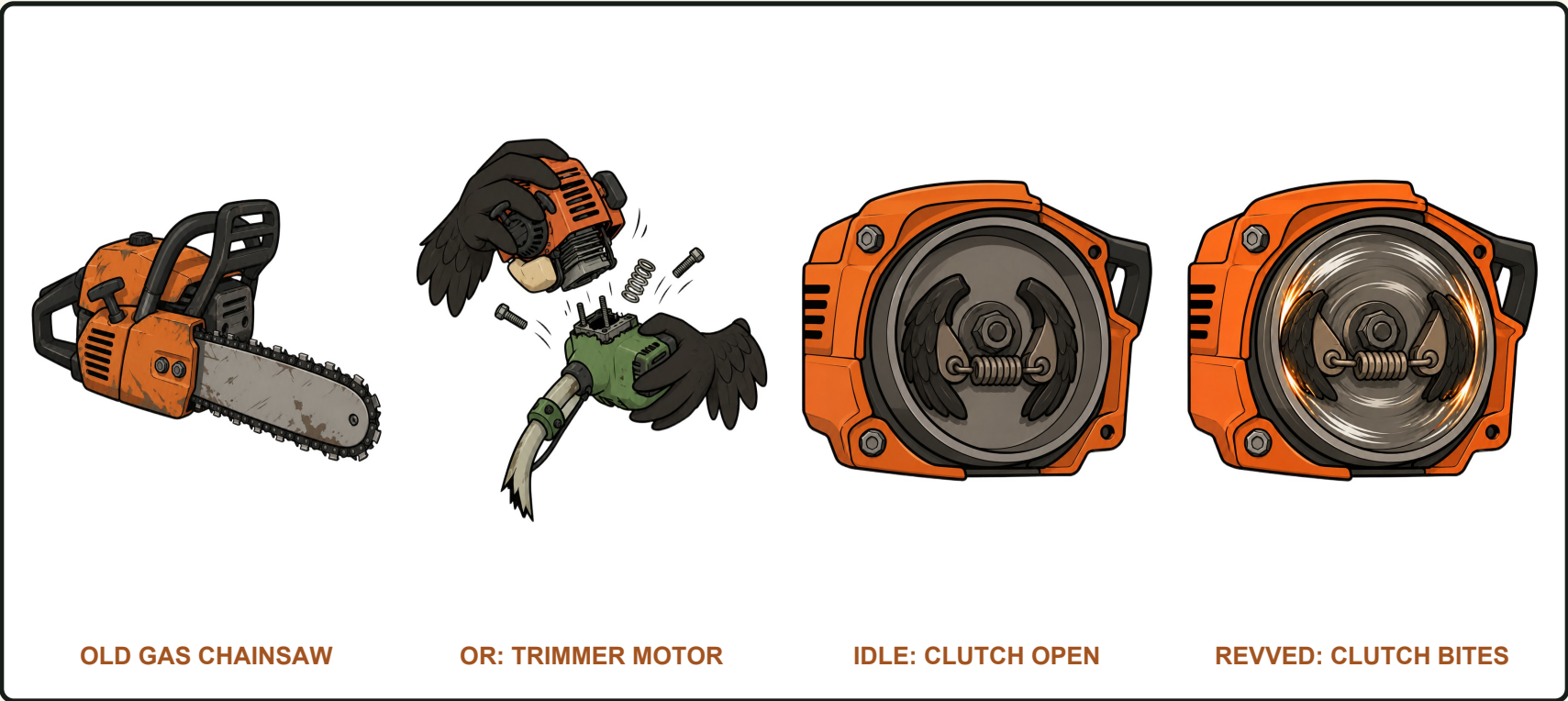
STEP

Get the engine

1 OF 4 / READ IN ORDER

01

You need a small 2-stroke engine with a centrifugal clutch.



CHOOSE THE MOTOR

- **Use an old gas chainsaw or string trimmer you own or salvage with permission.**
- Both are small air-cooled 2-stroke engines with a centrifugal clutch.
- Make sure it starts, idles and stops on its switch before you build.
- A leaf blower has no clutch: skip it.

WHY IT WORKS

- **At idle, the clutch shoes stay pulled in, so the drive does not turn and the bike stays put.**
- Rev it past roughly 3,000 rpm and the shoes fly out and grab the drum.

SOURCES / Wikipedia: Centrifugal clutch · Wikipedia: Motorized bicycle (friction drive, regulation)

STEP

Mount it on a hinge

2 OF 4 / READ IN ORDER

02

The engine rides above the back wheel and leans its weight onto the tire.



HINGE, CLAMP, SPRING

- **Bolt a sturdy rear rack to the frame.**
- Clamp the engine to a plate that pivots on the rack's front edge, so the drive sits right above the rear tire.
- Use worm-drive hose clamps, or many twists of heavy fence wire.
- Add a spring that pulls the drive down, and a lever or cord that lifts it off the tire.

STOP / CHECK THE CLEARANCE

- **The muffler and hot parts must not touch the fuel line, the tire's sidewall, a bag or your legs.**
- Shake the bike hard: nothing may shift.

SOURCES / Wikipedia: Friction drive · Wikipedia: Motorized bicycle (friction drive, regulation)

BUILD MAP

PREVIOUS

NEXT

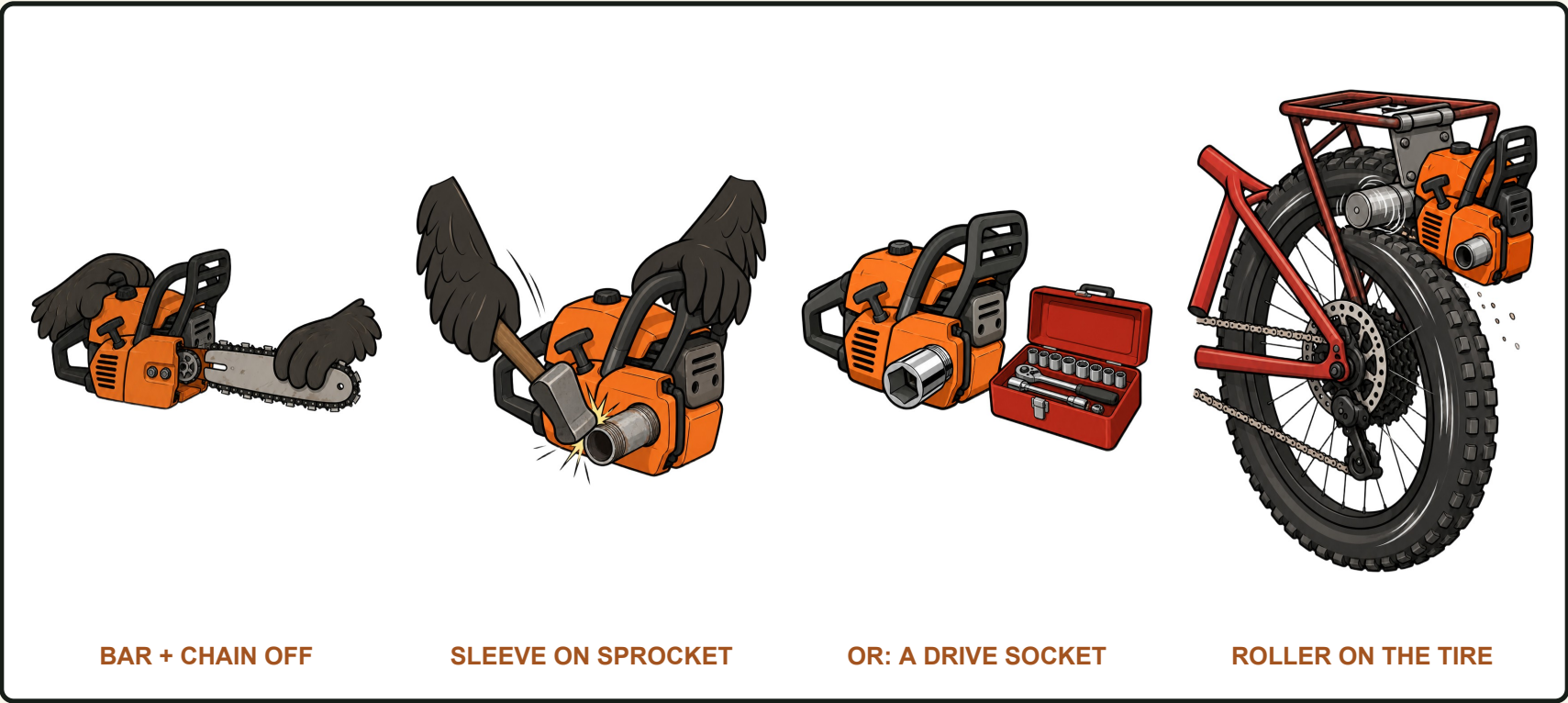
STEP

Build the roller

3 OF 4 / READ IN ORDER

03

The chain comes off. A short steel sleeve on the clutch sprocket drives the tire.



MAKE THE DRIVE

- **Engine off and cool, plug wire pulled.**
- Remove the bar and chain.
- Slide a short steel pipe, about 1 inch across, or a drive socket over the clutch drum's sprocket.
- Press it on tight, then pin, set-screw or weld it so it cannot slip.

SPEED MATH

- **Top speed in mph is about roller diameter in inches x rpm x 0.003.**
- A 1-inch roller at 10,000 rpm is about 30 mph.
- A smaller roller is slower but pulls harder up hills.

SOURCES / Wikipedia: Friction drive · Wikipedia: Motorized bicycle (friction drive, regulation)

BUILD MAP

PREVIOUS

NEXT

STEP

Fuel, throttle and start

4 OF 4 / READ IN ORDER

04

Oil goes INTO the gas. Then start it with the roller lifted.



2-STROKE OIL INTO GAS



THROTTLE TO HANDLEBAR



START, THEN DROP IT



STRAIGHT GAS SEIZES

MIX, WIRE, START

- **Mix fresh gas with 2-stroke oil at the ratio printed on the engine: 50:1 is about 2.6 fl oz of oil per gallon, 40:1 about 3.2 fl oz.**
- Run the throttle cable to a handlebar lever and keep the stop switch in reach.
- Lift the roller, pull the cord and let it idle.
- Roll forward, then drop the roller onto the tire.

STOP / FUEL RULES

- **Never run straight gas: a 2-stroke gets its oil only from the fuel, so it seizes.**
- Plain motor oil is a smoky emergency stopgap, not the right oil.
- Never start a siphon by mouth; use a hand pump.
- Fuel up outside with the engine off and cool.

SOURCES / Wikipedia: Two-stroke oil (premix ratios) · CDC NIOSH Pocket Guide: Gasoline (aspiration hazard) · Wikipedia: Centrifugal clutch

NOTE

First ride and stopping

KEEP THESE LIMITS WITH THE STEPS

REF

Practice in an empty lot before you go anywhere.



PRACTICE IN A LOT



RIDE SLOWER THAN THIS



CHECK TIRE WEAR

GO, THEN STOP

- Pedal to walking speed, drop the roller, and ease the throttle open.
- To stop: close the throttle, lift the roller or hit the stop switch, then brake.

STOP / RIDE SLOWER THAN THE MATH

- Bicycle brakes, wheels and tires are not built for 30 mph.
- Keep well below it.
- Check the tire often: the roller wears the tread, and wet tires slip.

KEEP IN MIND

- Pump gas goes stale within a few months; mix small batches.
- Never ride with a passenger.

SOURCES / Bicycle Helmet Safety Institute · Wikipedia: Motorized bicycle (friction drive, regulation) · Wikipedia: Two-stroke oil (premix ratios)

BUILD MAP

PREVIOUS

NEXT

NOTE

Sources and limits

KEEP THESE LIMITS WITH THE STEPS

REF

Checked October 3, 2026. Tap a source in the box to open it.

SOURCES / TAP A TITLE TO OPEN IT

Wikipedia: Motorized bicycle (friction drive, regulation)
https://en.wikipedia.org/wiki/Motorized_bicycle

Wikipedia: Friction drive
https://en.wikipedia.org/wiki/Friction_drive

Wikipedia: Centrifugal clutch
https://en.wikipedia.org/wiki/Centrifugal_clutch

Wikipedia: Two-stroke oil (premix ratios)
https://en.wikipedia.org/wiki/Two-stroke_oil

CDC NIOSH Pocket Guide: Gasoline (aspiration hazard)
<https://www.cdc.gov/niosh/npg/npgd0299.html>

Bicycle Helmet Safety Institute
<https://www.helmets.org/>

ABOUT THIS GUIDE

- This is an editorial source review, not a tested build.
- The rack, hinge and spring hardware depend on your bike.
- The numbers stay approximate: about 3,000 rpm clutch, about 1-inch roller, about 30 mph at 10,000 rpm.

STOP / WHERE THIS GUIDE ENDS

- No chain or bar on the bike, no children riding, no passengers.
- Where motorized bicycles are not allowed, ride only on private ground with permission.

SOURCES / Wikipedia: Motorized bicycle (friction drive, regulation) · Wikipedia: Friction drive · Wikipedia: Centrifugal clutch · Wikipedia: Two-stroke oil (premix ratios) · CDC NIOSH Pocket Guide: Gasoline (aspiration hazard) · Bicycle Helmet Safety Institute

QUICK REFERENCE

Read the full steps first. Tap any row to return to its instructions.

BEFORE STEP 01

Bar and chain OFF; engine cool before every wrench. Working brakes, helmet, local rules checked. Never straight gas; never siphon by mouth.

01	Get the engine Old 2-stroke saw or trimmer with a centrifugal clutch. It must start, idle and stop on its switch.	P04
02	Mount it on a hinge Engine above the back tire on a pivot plate; spring pulls it down, lever lifts it. Hot parts clear.	P05
03	Build the roller Bar and chain off. Steel sleeve or socket pinned on the sprocket. 1 in at 10,000 rpm = about 30 mph.	P06
04	Fuel, throttle, start 2-stroke oil in the gas (50:1 = 2.6 fl oz/gal). Roller up, pull, idle, roll, drop it. Brake to stop.	P07

NUKE SAYS

Helmet on, chain off, throttle easy. The saw finally does something nice.

STOP / BEFORE EVERY RIDE

FULL RULES / PAGE 03

▪ Bar and chain removed

▪ Brakes stop you hard

▪ Helmet and eye protection

▪ Stop switch in reach

▪ Hot parts clear of fuel, legs

▪ Mixed fuel, never straight gas

▪ Roller lifts off the tire

▪ Local rules checked

Never start a siphon by mouth. Fuel up outside with the engine off and cool. Practice in an empty lot first; never carry a passenger.

SOURCES / Wikipedia: Motorized bicycle (friction drive, regulation) · Wikipedia: Friction drive · Wikipedia: Centrifugal clutch · Wikipedia: Two-stroke oil (premix ratios) · CDC NIOSH Pocket Guide: Gasoline (aspiration hazard) · Bicycle Helmet Safety Institute