

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

# BIODIESEL DECODED

Wood-to-fuel science and a practical fuel-label check.



## 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

Separate biodiesel from synthetic diesel, then check commercial fuel against your equipment manual. Fuel science and label-reading; no home fuel recipe.

NUKE ON TIKTOK

MORE FREE BUILD GUIDES

SOURCES / DOE: renewable diesel

BUILD MAP

NEXT

# YOUR BUILD MAP

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

## HAVE THESE READY

- Equipment manual and warranty
- Model and engine information
- Commercial fuel label or supplier sheet
- Notebook and pencil
- Manufacturer or service contact

## READ IN ORDER

|      |                                  |    |
|------|----------------------------------|----|
| PREP | Three names, different chemistry | 03 |
| PREP | The missing industrial work      | 04 |
| 01   | Identify the equipment first     | 05 |
| 02   | Read the complete fuel label     | 06 |
| 03   | Match approval and conditions    | 07 |
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QUICK REFERENCE / PAGE 10

## BEFORE YOU START

Fuel-science and commercial-label companion. No home gasifier, pressure reactor or chemical fuel recipe. Use equipment-specific fuel approval; no aviation substitution.

## 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

# Three names, different chemistry

READ BEFORE STEP 01

# PREP

The label matters more than the green marketing.



## BIODIESEL VERSUS RENEWABLE DIESEL

- **Biodiesel consists of esters typically made from oils or fats.**
- Renewable diesel is a hydrocarbon fuel; commercial production commonly uses hydrotreating.
- They are not interchangeable names for the same chemistry.

## WHERE THE WOOD GOES

- **The episode depicts a biomass-to-liquid idea: wood becomes synthesis gas, which can be converted into liquid hydrocarbons through Fischer-Tropsch synthesis.**
- That is not the usual oil-to-biodiesel route.

SOURCES / DOE: renewable diesel · DOE: gasification systems

BUILD MAP

PREVIOUS

NEXT

SETUP

# The missing industrial work

READ BEFORE STEP 01

PREP

A cartoon drum does not produce certified motor fuel.



MORE THAN FILTERING

- **Biomass gasification produces gas containing mainly carbon monoxide and hydrogen.**
- Industrial processing cleans contaminants and adjusts the gas before catalytic conversion.
- Removing visible soot is not proof of suitable gas.

DO NOT COPY THE RIG

- **This guide supplies no reactor design, pressure, temperature or chemical recipe.**
- A dripped liquid is not proof of fuel quality.
- The episode artwork explains the idea, not equipment you should build.

SOURCES / DOE: gas conversion

BUILD MAP

PREVIOUS

NEXT

STEP

Identify the equipment first

1 OF 4 / READ IN ORDER

01

Start with paperwork, before selecting a pump.



FIND THE EXACT MANUAL

- **Record manufacturer, model, year and engine identification from existing documents.**
- Locate the specified fuel grade and allowed biodiesel blend.
- Ask the manufacturer or a qualified service provider when wording is unclear.

CHECKPOINT

- **Do not infer compatibility from the word diesel alone.**
- Keep aircraft out of this comparison; road-fuel approval does not establish aviation-fuel approval.

SOURCES / DOE: biodiesel blends

STEP

Read the complete fuel label

2 OF 4 / READ IN ORDER

02

A B number describes biodiesel content, not overall quality.



DECODE THE NAME

- **B100 means pure biodiesel.**
- B20 commonly denotes a blend containing up to 20% biodiesel; read the posted range.
- Record the fuel name, blend range and supplier rather than guessing from nozzle color.

CHECKPOINT

- **Renewable diesel and biodiesel use different names and specifications.**
- If the label is missing or ambiguous, ask the supplier before buying.
- Never substitute unidentified fuel.

SOURCES / DOE: biodiesel blends · DOE: renewable diesel

STEP

03

Match approval and conditions

3 OF 4 / READ IN ORDER

Compatibility is a document match, not an experiment.



COMPARE THE INFORMATION

- **Check the supplier specification against the manual and warranty conditions.**
- Do not select a higher biodiesel blend just because it costs less.
- Ask about suitability for your expected temperatures.

CHECKPOINT

- **High biodiesel blends can have cold-flow and storage concerns.**
- If the manual or supplier cannot resolve a mismatch, choose a clearly approved commercial fuel instead.

SOURCES / DOE: biodiesel blends

STEP

# Save a fuel record

4 OF 4 / READ IN ORDER

04

Make the next check easier for your future self.



### WRITE THE DECISION

- **Record equipment model, manual page, permitted blend, fuel label, supplier and date.**
- Keep the receipt or a label photo.
- Note any questions and who answered them.

### IF SOMETHING WENT WRONG

- **If you suspect wrong or contaminated fuel, do not start the engine to see what happens.**
- Contact qualified service staff and give them the record.

SOURCES /

BUILD MAP

PREVIOUS

NEXT

NOTE

Your reusable comparison card

KEEP THESE LIMITS WITH THE STEPS

REF

Use one card per machine, not one rule for every engine.



COPY THESE FIELDS

- **Machine / engine:** \_\_\_\_\_.
- Manual revision / page: \_\_\_\_\_.
- Required fuel: \_\_\_\_\_.
- Maximum blend: \_\_\_\_\_.
- Product / supplier: \_\_\_\_\_.
- Specification: \_\_\_\_\_.
- Question / answer / date: \_\_\_\_\_.

KEEP THE DISTINCTION

- **The episode introduces industrial chemistry.**
- This guide helps you compare labeled commercial products.
- It does not qualify homemade fuel or certify a machine to use it.

SOURCES / DOE: renewable diesel

# QUICK REFERENCE

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

BEFORE STEP 01

Fuel-science and commercial-label companion. No home gasifier, pressure reactor or chemical fuel recipe. Use equipment-specific fuel approval; no aviation substitution.

|    |                                                                                                     |     |
|----|-----------------------------------------------------------------------------------------------------|-----|
| 01 | <b>Identify equipment</b><br>Find its exact fuel and blend requirements.                            | P05 |
| 02 | <b>Read the complete label</b><br>Record product, blend range and supplier.                         | P06 |
| 03 | <b>Match requirements</b><br>Resolve specification, warranty and weather questions before purchase. | P07 |
| 04 | <b>Save the record</b><br>Keep the manual reference, receipt and advice.                            | P08 |

NUKE SAYS

This is the boring page that saves an exciting repair.