

COMMAND 18-25 HP VERTICAL CRANKSHAFT

CV18	Specs. 61500 - 61531
CV20	Specs. 65500 - 65532
CV22	Specs. 67500 - 67524
CV25	Specs. 69500 - 69512



KOHLER
COMMAND
18-25 HP



Kohler 20 Hp Engine Service Manual

Tao Wei



Kohler 20 Hp Engine Service Manual:

The book delves into Kohler 20 Hp Engine Service Manual. Kohler 20 Hp Engine Service Manual is a vital topic that needs to be grasped by everyone, ranging from students and scholars to the general public. The book will furnish comprehensive and in-depth insights into Kohler 20 Hp Engine Service Manual, encompassing both the fundamentals and more intricate discussions.

1. The book is structured into several chapters, namely:
 - Chapter 1: Introduction to Kohler 20 Hp Engine Service Manual
 - Chapter 2: Essential Elements of Kohler 20 Hp Engine Service Manual
 - Chapter 3: Kohler 20 Hp Engine Service Manual in Everyday Life
 - Chapter 4: Kohler 20 Hp Engine Service Manual in Specific Contexts
 - Chapter 5: Conclusion
2. In chapter 1, the author will provide an overview of Kohler 20 Hp Engine Service Manual. The first chapter will explore what Kohler 20 Hp Engine Service Manual is, why Kohler 20 Hp Engine Service Manual is vital, and how to effectively learn about Kohler 20 Hp Engine Service Manual.
3. In chapter 2, the author will delve into the foundational concepts of Kohler 20 Hp Engine Service Manual. This chapter will elucidate the essential principles that need to be understood to grasp Kohler 20 Hp Engine Service Manual in its entirety.
4. In chapter 3, this book will examine the practical applications of Kohler 20 Hp Engine Service Manual in daily life. This chapter will showcase real-world examples of how Kohler 20 Hp Engine Service Manual can be effectively utilized in everyday scenarios.
5. In chapter 4, this book will scrutinize the relevance of Kohler 20 Hp Engine Service Manual in specific contexts. The fourth chapter will explore how Kohler 20 Hp Engine Service Manual is applied in specialized fields, such as education, business, and technology.
6. In chapter 5, the author will draw a conclusion about Kohler 20 Hp Engine Service Manual. The final chapter will summarize the key points that have been discussed throughout the book.

This book is crafted in an easy-to-understand language and is complemented by engaging illustrations. It is highly recommended for anyone seeking to gain a comprehensive understanding of Kohler 20 Hp Engine Service Manual.

https://staging.conocer.cide.edu/files/scholarship/HomePages/El_Mundo_En_Color_Gran_Bretana.pdf

Table of Contents Kohler 20 Hp Engine Service Manual

1. Understanding the eBook Kohler 20 Hp Engine Service Manual
 - The Rise of Digital Reading Kohler 20 Hp Engine Service Manual
 - Advantages of eBooks Over Traditional Books
2. Identifying Kohler 20 Hp Engine Service Manual
 - Exploring Different Genres
 - Considering Fiction vs. Non-Fiction
 - Determining Your Reading Goals
3. Choosing the Right eBook Platform
 - Popular eBook Platforms
 - Features to Look for in a Kohler 20 Hp Engine Service Manual
 - User-Friendly Interface
4. Exploring eBook Recommendations from Kohler 20 Hp Engine Service Manual
 - Personalized Recommendations
 - Kohler 20 Hp Engine Service Manual User Reviews and Ratings
 - Kohler 20 Hp Engine Service Manual and Bestseller Lists
5. Accessing Kohler 20 Hp Engine Service Manual Free and Paid eBooks
 - Kohler 20 Hp Engine Service Manual Public Domain eBooks
 - Kohler 20 Hp Engine Service Manual eBook Subscription Services
 - Kohler 20 Hp Engine Service Manual Budget-Friendly Options
6. Navigating Kohler 20 Hp Engine Service Manual eBook Formats
 - ePub, PDF, MOBI, and More
 - Kohler 20 Hp Engine Service Manual Compatibility with Devices
 - Kohler 20 Hp Engine Service Manual Enhanced eBook Features
7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Kohler 20 Hp Engine Service Manual
 - Highlighting and Note-Taking Kohler 20 Hp Engine Service Manual
 - Interactive Elements Kohler 20 Hp Engine Service Manual

8. Staying Engaged with Kohler 20 Hp Engine Service Manual
 - Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers Kohler 20 Hp Engine Service Manual
9. Balancing eBooks and Physical Books Kohler 20 Hp Engine Service Manual
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection Kohler 20 Hp Engine Service Manual
10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
11. Cultivating a Reading Routine Kohler 20 Hp Engine Service Manual
 - Setting Reading Goals Kohler 20 Hp Engine Service Manual
 - Carving Out Dedicated Reading Time
12. Sourcing Reliable Information of Kohler 20 Hp Engine Service Manual
 - Fact-Checking eBook Content of Kohler 20 Hp Engine Service Manual
 - Distinguishing Credible Sources
13. Promoting Lifelong Learning
 - Utilizing eBooks for Skill Development
 - Exploring Educational eBooks
14. Embracing eBook Trends
 - Integration of Multimedia Elements
 - Interactive and Gamified eBooks

Kohler 20 Hp Engine Service Manual Introduction

Kohler 20 Hp Engine Service Manual Offers over 60,000 free eBooks, including many classics that are in the public domain. Open Library: Provides access to over 1 million free eBooks, including classic literature and contemporary works. Kohler 20 Hp Engine Service Manual Offers a vast collection of books, some of which are available for free as PDF downloads, particularly older books in the public domain. Kohler 20 Hp Engine Service Manual : This website hosts a vast collection of scientific articles, books, and textbooks. While it operates in a legal gray area due to copyright issues, its a popular resource

for finding various publications. Internet Archive for Kohler 20 Hp Engine Service Manual : Has an extensive collection of digital content, including books, articles, videos, and more. It has a massive library of free downloadable books. Free-eBooks Kohler 20 Hp Engine Service Manual Offers a diverse range of free eBooks across various genres. Kohler 20 Hp Engine Service Manual Focuses mainly on educational books, textbooks, and business books. It offers free PDF downloads for educational purposes. Kohler 20 Hp Engine Service Manual Provides a large selection of free eBooks in different genres, which are available for download in various formats, including PDF. Finding specific Kohler 20 Hp Engine Service Manual, especially related to Kohler 20 Hp Engine Service Manual, might be challenging as theyre often artistic creations rather than practical blueprints. However, you can explore the following steps to search for or create your own Online Searches: Look for websites, forums, or blogs dedicated to Kohler 20 Hp Engine Service Manual, Sometimes enthusiasts share their designs or concepts in PDF format. Books and Magazines Some Kohler 20 Hp Engine Service Manual books or magazines might include. Look for these in online stores or libraries. Remember that while Kohler 20 Hp Engine Service Manual, sharing copyrighted material without permission is not legal. Always ensure youre either creating your own or obtaining them from legitimate sources that allow sharing and downloading. Library Check if your local library offers eBook lending services. Many libraries have digital catalogs where you can borrow Kohler 20 Hp Engine Service Manual eBooks for free, including popular titles. Online Retailers: Websites like Amazon, Google Books, or Apple Books often sell eBooks. Sometimes, authors or publishers offer promotions or free periods for certain books. Authors Website Occasionally, authors provide excerpts or short stories for free on their websites. While this might not be the Kohler 20 Hp Engine Service Manual full book , it can give you a taste of the authors writing style. Subscription Services Platforms like Kindle Unlimited or Scribd offer subscription-based access to a wide range of Kohler 20 Hp Engine Service Manual eBooks, including some popular titles.

FAQs About Kohler 20 Hp Engine Service Manual Books

1. Where can I buy Kohler 20 Hp Engine Service Manual books? Bookstores: Physical bookstores like Barnes & Noble, Waterstones, and independent local stores. Online Retailers: Amazon, Book Depository, and various online bookstores offer a wide range of books in physical and digital formats.
2. What are the different book formats available? Hardcover: Sturdy and durable, usually more expensive. Paperback: Cheaper, lighter, and more portable than hardcovers. E-books: Digital books available for e-readers like Kindle or software like Apple Books, Kindle, and Google Play Books.
3. How do I choose a Kohler 20 Hp Engine Service Manual book to read? Genres: Consider the genre you enjoy (fiction,

- non-fiction, mystery, sci-fi, etc.). Recommendations: Ask friends, join book clubs, or explore online reviews and recommendations. Author: If you like a particular author, you might enjoy more of their work.
4. How do I take care of Kohler 20 Hp Engine Service Manual books? Storage: Keep them away from direct sunlight and in a dry environment. Handling: Avoid folding pages, use bookmarks, and handle them with clean hands. Cleaning: Gently dust the covers and pages occasionally.
 5. Can I borrow books without buying them? Public Libraries: Local libraries offer a wide range of books for borrowing. Book Swaps: Community book exchanges or online platforms where people exchange books.
 6. How can I track my reading progress or manage my book collection? Book Tracking Apps: Goodreads, LibraryThing, and Book Catalogue are popular apps for tracking your reading progress and managing book collections. Spreadsheets: You can create your own spreadsheet to track books read, ratings, and other details.
 7. What are Kohler 20 Hp Engine Service Manual audiobooks, and where can I find them? Audiobooks: Audio recordings of books, perfect for listening while commuting or multitasking. Platforms: Audible, LibriVox, and Google Play Books offer a wide selection of audiobooks.
 8. How do I support authors or the book industry? Buy Books: Purchase books from authors or independent bookstores. Reviews: Leave reviews on platforms like Goodreads or Amazon. Promotion: Share your favorite books on social media or recommend them to friends.
 9. Are there book clubs or reading communities I can join? Local Clubs: Check for local book clubs in libraries or community centers. Online Communities: Platforms like Goodreads have virtual book clubs and discussion groups.
 10. Can I read Kohler 20 Hp Engine Service Manual books for free? Public Domain Books: Many classic books are available for free as they're in the public domain. Free E-books: Some websites offer free e-books legally, like Project Gutenberg or Open Library.

Find Kohler 20 Hp Engine Service Manual :

~~el mundo en color gran bretana~~

~~einstein~~hundred years of relativity

~~el caballo de arena~~

eintagsfliegen leben langer

~~el intrepido simon~~

~~eksperty o biudzhethnoi politike~~

~~el dia de los albaniles 2~~

~~el espejo distraido versicuentos~~

~~el cuento hispanoamericano antologia criticohistorica~~

~~ekhokardiograficheskaiia diagnostika anmoalnogo drenazha legochnykh ven~~

~~el holandes errante~~

~~el arte y la creacion de la mente the arts and t~~

~~el enano saltarin~~

~~ekonomika i ekolohiia vodnykh resursiv dnipra~~

~~ein mann faar eine nacht roman die frau in der gesellschaft~~

Kohler 20 Hp Engine Service Manual :

grosser hundertwasser architektur kalender 2020 d - Jan 12 2022

web aug 11 2023 architektur kalender 2020 buch grosser architektur kalender 2020 das ab 19 03 kalender hokusai

japanese woodblock printing 2020 japan context xxi

großer hundertwasser architektur kalender 2020 das original - Mar 26 2023

web apr 1 2019 the large hundertwasser architecture calendar 2020 is officially approved by the hundertwasser non profit foundation the glossy foil embossed cover image

grosser hundertwasser architektur kalender 2020 d copy - Feb 10 2022

web das original der große hundertwasser architektur kalender 2022 wurde mit der hundertwasser gemeinnützigen privatstiftung abgestimmt sein großes format von 49

grosser hundertwasser architektur kalender 2020 d copy - Nov 21 2022

web grosser hundertwasser architektur kalender 2020 kalender hundertwasser doppelband m original farbradierung ebay großer hundertwasser architektur

grosser hundertwasser architektur kalender 2020 d pdf - Jul 18 2022

web 2 grosser hundertwasser architektur kalender 2020 d 2021 07 03 preserved reproduced and made generally available to the public to ensure a quality reading

großer hundertwasser architektur kalender 2024 - Jan 24 2023

web 2 grosser hundertwasser architektur kalender 2020 d 2023 01 17 initially won acclaim for his paintings but is now more renowned as an architect whose style was heavily

großer hundertwasser architektur kalender 2020 das original - Mar 14 2022

web 2 grosser hundertwasser architektur kalender 2020 d 2022 09 30 the princess in the forest gestalten van gogh is dead but the van gogh chaps are alive and how alive

großer hundertwasser architektur kalender 2020 das original - Feb 22 2023

web jetzt hundertwasser architektur 2022 bestellen und weitere tolle kalender entdecken auf weltbild de versandkostenfrei ab 29 bücher ab 5 30 tage widerrufsrecht

hundertwasser kalender und planer - Jun 28 2023

web sep 13 2023 hundertwasser architektur kalender 2020 namida ag hundertwasser architektur kalender 2020 vom wörner verlag die 38 besten bilder zu hundertwasser

großer hundertwasser architektur kalender 2020 das original - Sep 19 2022

web you could purchase guide grosser hundertwasser architektur kalender 2020 d or get it as soon as feasible you could quickly download this grosser hundertwasser

grosser hundertwasser architektur kalender 2020 d pdf - Oct 21 2022

web das original der große hundertwasser architektur kalender 2023 wurde mit der hundertwasser gemeinnützigen privatstiftung abgestimmt sein großes format von 49

grosser hundertwasser architektur kalender 2021 2020 - Apr 26 2023

web architektur kalender 2020 wurde mit der hundertwasser gemeinnützigen privatstiftung abgestimmt sein großes format von 49 x 65 cm die hervorragende druckqualität der

grosser hundertwasser architektur kalender 2020 d wrbb neu - Apr 14 2022

web this comprehensive directory of hundertwasser s architectural works presents all his buildings and projects whether realized or not tracing them from the first sketches

großer hundertwasser architektur kalender 2020 das original - Nov 09 2021

hundertwasser architektur kalender 2022 vom wörner verlag - Dec 11 2021

hundertwasser architektur 2022 kalender bei weltbild de kaufen - Dec 23 2022

web this comprehensive directory of hundertwasser s architectural works presents all his buildings and projects whether realized or not tracing them from the first sketches

grosser hundertwasser architektur kalender 2020 d copy - Jun 16 2022

web right here we have countless books grosser hundertwasser architektur kalender 2020 d and collections to check out we additionally present variant types and as a

[grosser hundertwasser architektur kalender 2020 d copy](#) - Aug 31 2023

web grosser hundertwasser architektur kalender 2020 d 3 3 mexico s glittering cave of crystals then visit the world s largest cave in vietnam peer over a 355 foot waterfall in

[großer hundertwasser architektur kalender 2020 das original](#) - May 28 2023

web entdecken sie grosser hundertwasser architektur kalender 2021 282020 2c calendar 29

grosser hundertwasser architektur kalender 2020 d - May 16 2022

web jun 25 2023 das original der große hundertwasser architektur kalender 2020 wurde mit der hundertwasser gemeinnützigen privatstiftung abgestimmt sein großes format von 49

[hundertwasser architektur kalender 2023 vom wörner verlag](#) - Aug 19 2022

web grosser hundertwasser architektur kalender 2020 d treat coloring book hundertwasser songs of the hebrides korpys löffler the monocle guide to shops

[hundertwasser architecture 2022 kalender bei weltbild de kaufen](#) - Jul 30 2023

web the hundertwasser grid calendar architecture 2022 in format 30 x 30 cm is officially approved by the hundertwasser non profit foundation quality features like the cover

grosser hundertwasser architektur kalender 2020 d pdf stoa - Oct 01 2023

web grosser hundertwasser architektur kalender 2020 d pdf right here we have countless book grosser hundertwasser architektur kalender 2020 d pdf and collections to

resume formats for freshers 32 free resume - Dec 06 2022

web jun 9 2022 writing a resume as a fresher is similar to writing a resume as an experienced job applicant however you need to make sure you use the best resume

2 fresher doctor resume samples examples download now - Jan 27 2022

web free fresher dme requirement example resume sample fresher dme requirement job resume fresher dme requirement cv and biodata examples a fresher dme

fresher resume templates formats for 2022 easy resume - May 31 2022

web 1 90 days training from xxxx hospital assisting the senior doctor for patient s check up observing them while performing their duties assisting to them in surgery checking the

[free fresher resume template download in word google](#) - Mar 29 2022

web sample resume format for fresher dme requirement sample resumes download best sample resume or biodata cv formats for fresher dme requirement sample resumes

[dme resume format for fresher and experience yuvajobs com](#) - May 11 2023

web jun 29 2023 learning more about this type of resume and referencing a template and example can help prepare you before searching for a role in this article we explain what

summary for a resume for freshers examples how to write - Jan 07 2023

web jun 13 2023 an example of a resume format for freshers that ticks all the right boxes how to choose a resume format for fresher jobs that will land you more interviews tips

customer service durable medical equipment resume - Jun 12 2023

web advertisement we provide sample resume for dme freshers with complete guideline and tips to prepare a well formatted resume the dme cv is typically the first item that a

profile summary for freshers 10 examples talent - Nov 05 2022

web professional resume anil kumar p k kalapurakkal h p o kodakara thrissur pin 680684 kerala india mob 9562545334 email anilkumarkodakara

the best 2022 fresher resume formats and samples - Oct 04 2022

web fresher resume templates if you re new to the industry and still finding your footing you ll benefit from one of these single page resume templates that highlight your education

dme supervisor cover letter example great sample resume - Dec 26 2021

how to write a fresher resume with example and - Mar 09 2023

web may 30 2023 a resume summary for freshers is a short introductory paragraph at the top of your resume that helps you present your qualifications skills and accomplishments in

diploma in mechanical engineering dme resume - Jul 13 2023

web supervisor of customer support center for durable medical equipment call center as well as 12 years experience as a customer service representative in a busy dme office expert

resume format for hiring fresher dme - Oct 24 2021

how to write a fresher resume tips and samples glassdoor - Apr 29 2022

web here is the experienced dme supervisor cover letter example dear ms jessica neal i am applying for the dme supervisor position with interface rehab and i have the

resume format for freshers best simple examples for jobs zety - Sep 03 2022

web jun 29 2021 the resume format for freshers is generally simple and easy to scan by highlighting your skills strengths and work experience the resume helps to bring you to

resume for freshers templates format tips cv genius - Feb 25 2022

web sample resume format for hiring fresher dme download best sample resume or biodata cv formats for hiring fresher dme freshers and experience in pdf ms word format

how to write a fresher resume with simple format examples - Aug 02 2022

web template net gives freshers a chance to get competent applicant resumes with our free printable fresher resume templates choose from template examples that fit your

resume format for fresher dme requirement - Sep 22 2021

fresher mechanical diploma technician resume format - Jul 01 2022

web may 19 2023 resume for freshers templates fresher resume format tips 19 may 2023 by aaron case cprw reviewed by samuel johns cprw scroll down to learn

resume for freshers how to make objective sample - Feb 08 2023

web a profile summary for freshers is an essential section to be included in a resume and cover letter it is a headline to the rest of the document that portrays skills qualifications

resume format for fresher dme requirement sample resumes - Nov 24 2021

durable medical equipment specialist resume example - Aug 14 2023

web looking for resumes online search hundreds of thousands of real resumes samples from livecareer s resume example directory the largest publicly searchable database of

about me in resume for fresher 31 strong examples - Apr 10 2023

web apr 24 2023 how to make a resume for a fresher that will boost your chances of landing your first job which resume sections you should include in your fresher resume and in

torque of a wind turbine by solidworks flow simulation - Oct 15 2023

web feb 20 2021 torque of a wind turbine by solidworks flow simulation in this flow simulation tutorial i will tell you how to calculate the torque of a wind turbine by using solidworks flow

wind turbine blade fea simulation tutorials solidworks forums - Mar 28 2022

web bc by bryan chua 02 22 13 hi guys i had some troubles in analysing loads caused by aerodynamics gravity and centrifugal force onto the blades is there any tutorials or information to work out the force applied on each element currently i had finished my nrel 5mw blade modelling and on progression to stress analysis thanks for your time

solidworks model of the blade download scientific diagram - Oct 03 2022

web the wind turbine rotor blades were designed using blade element momentum bem method and modelled by solidworks software the sg6042 and sg6043 airfoils were used for the composite airfoil blades

torque of a wind turbine by solidworks flow simulation - Mar 08 2023

web 20 feb 2021 02 13 pm in this flow simulation tutorial i will tell you how to calculate the torque of a wind turbine by using solidworks flow simulation i will also tell you how you can find the value of forces which are acting of the blades of windmill due to flow effect

3d modeling of wind turbine blade based on solidworks - Feb 07 2023

web abstract in this paper the main design parameters of 750 kw horizontal axis wind turbine wheel are computed based on simplified theoretical design model the airfoil coordinates of the blade derived from profili are spatial switched in excel then the spatial coordinates of every foline are obtained in solidworks the curves of foline

how to make and simulate wind turbine blade solidworks - Jan 06 2023

web nov 14 2018 solid works wind bladectto

wind turbine blade in solidworks part1 youtube - Sep 14 2023

web feb 13 2018 9 5k views 5 years ago these videos show the 3d design in solidworks of a wind turbine rotor blades forward swept with load simulation results and assembly process for passive

simulation research of a wind turbine using solidworks software - Apr 09 2023

web nov 1 2019 pdf the paper presents wind turbine simulation tests using solidworks software the geometrical model of the hawt wind turbine was developed based on find read and cite all the research

paper open access - Sep 02 2022

web the paper presents wind turbine simulation tests using solidworks software the geometrical model of the hawt wind turbine was developed based on a real object it consisted of three selected parts shell bearing girders and stiffening ribs the wing profile of the analyzed object was modelled using nrel s and naca airfoils

design and simulation of wind turbine blades researchgate - Jul 12 2023

web oct 2 2020 a wind turbine blade has been modelled in solidworks and its simulation implemented in ansys frameworks structural fatigue and computational fluid dynamics cfd analysis has been

myriad wind energy systems improves wind turbine design with solidworks - May 10 2023

web oct 6 2023 commercial onshore wind turbine blades are typically over 150 feet long and some offshore blades exceed 350 feet extreme blade length complicates not only testing and manufacturing but also blade transport and delivery to customer sites the winds of change glasgow based myriad wind energy systems is innovating next generation

wind loading analysis with solidworks simulation and flow youtube - Aug 13 2023

web jul 17 2019 this quick video shows how the fea and cfd capabilities within solidworks can be combined to perform a more realistic wind loading analysis external airflow

[reynolds averaged navier stokes method for wind turbine simulations](#) - Feb 24 2022

web nov 14 2023 the impact of hub size on the ducted wind turbine is also studied by simulating a smaller hub with 77 diameter at the design tip speed ratio the smaller hub has a power coefficient of 0.417

solidworks flow simulation using a virtual wind tunnel - Jun 30 2022

web mar 22 2021 this video will give the basics on how to create a virtual wind tunnel to test models using solidworks flow simulation we will look at creating the wind tunnel creating lids creating

how create wind turbine blade in solidworks grabcad - Apr 28 2022

web sep 11 2013 how create wind turbine blade in solidworks kornengineer 10 feb 2013 06:40 pm hi i designed the wind turbine blade by blade element theory but i can not create 3d model blade how to do the simulation for vertical axis wind turbine in

[qblade next generation wind turbine simulation](#) - May 30 2022

web this powerful tool enables highly detailed simulations of wind turbine designs featuring physics models that are more than 30 times faster than real time all of this functionality is accessible through an intuitive and user friendly graphical interface

[design and simulation of wind turbine blades iopscience](#) - Jun 11 2023

web sep 1 2020 abstract a wind turbine blade has been modelled in solidworks and its simulation implemented in ansys frameworks structural fatigue and computational fluid dynamics cfd analysis has been carried out to determine the performance of this blade

3d modeling of wind turbine blade based on solidworks - Dec 05 2022

web jul 1 2014 in this paper the main design parameters of 750 kw horizontal axis wind turbine wheel are computed based on simplified theoretical design model the airfoil coordinates of the blade derived

solidworks turbine recent models 3d cad model - Nov 04 2022

web turbine blade by sami reddioui 4 29 0 solidworks rendering solidworks tag turbine august 8th 2021 wind turbine rüzgar türb by Ömer faruk KÜÇÜK 3 28 0 parasolid solidworks august 8th 2021 turbina eólica by jose elorreaga 4 52 2 solidworks [myriad wind energy systems improves wind turbine design solidworks](#) - Aug 01 2022

web using fea simulation capabilities in solidworks to assess if designs were structurally sound easy to build up the complexity of designs to start reducing unnecessary material and become more efficient