

BLEED

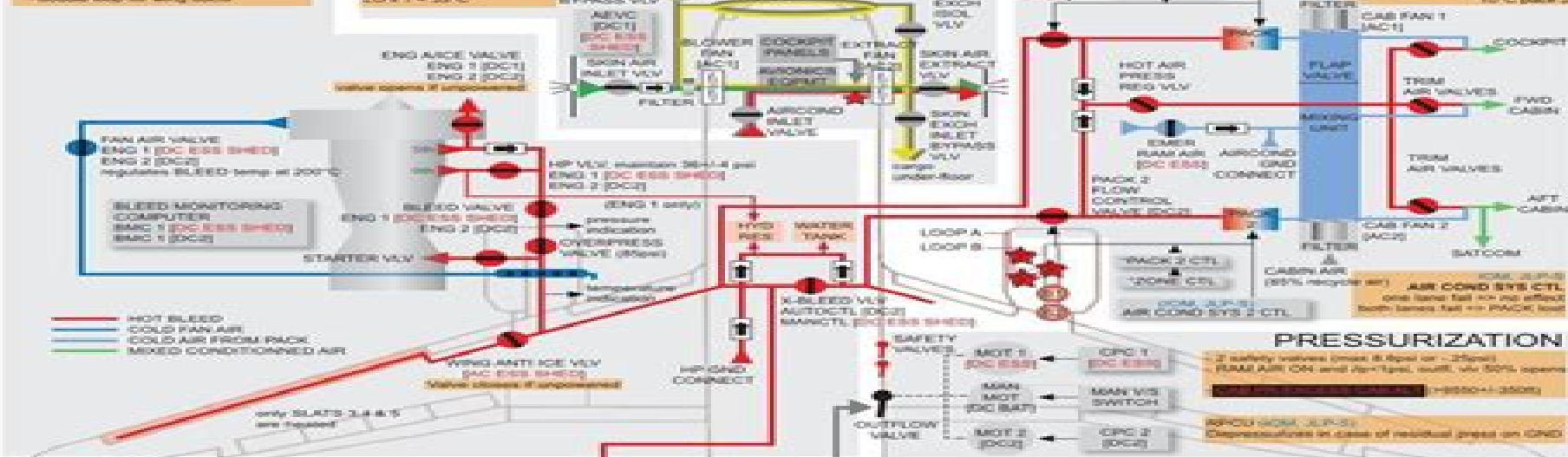
CAUTION, do not use HP GND air with APU bleed

Regulated pressure 45 +/- 5 psi
Leak detection
- single loop for APU and pylon ducts
- double loop for wing ducts

AVIONICS VENTILATION

CONFIGURATIONS:
CLOSED: on GND (max 45°C in FLT (max 52°C/35°C)
INTERMEDIATE: if (max 32°C/35°C) then EXTRACT VLV partially opens
- OPEN: on GND (max 45°C/35°C)
- SMOKE CONFIG

FAN SPD (NOM JLP-S)
H if T > 40°C
LO if T > 35°C



APU

LIMITATIONS:
RPM max: 95%, max 102% (auto shut down)
running EGT max 660°C (Basic) or 750-742
start EGT max 900°C > 25000R
start EGT max 950°C > 25000R
LOW OIL LEVEL: < 15 lbs APU max
start cycles: 5, then 5, then 5, 60min
Envelope:
START with AC power up to 30000R
START with EMER BLEED start up to 25000R
BLEED ON 2 packs max 15000R, 1 pack max 20000R
BLEED ON for engine start max 20000R
BLEED for WING ANTI ICE not permitted
APU FUEL FLOW ~ 130 kg/hr



FUEL A319/A320

TOTAL TANKS CAPACITY (den 0.785kg/l)
18728kg / 19004kg (JLP-S)

OUTER to INNER TRANSFER
- XFR valves open when (POWER) lower ~ 750kg
- F/O only with Outer TK full
- Automatic XFR after landing
(in event, master REFUEL panel PWR ON)
or transfer via DEFUEL/XFR valve

FOR CH1 [DC ESS SHED] CH2 [DC]

OUTER TANKS 2 x 5534kg

FUEL IMBALANCE A319/A320
WING TK Fuel max 1500kg
INNER TK 4300kg max 1500kg
INNER TK 2350kg max 2350kg
no limitations below 2350kg
OUTER TK max 500kg, if OUTER+INNER same
or (WING) of empty OUTER equal or higher (up to 30 of
opposite INNER)

refueling / defueling lines
bleeding lines

LP VALVE MOT 1 [DC] MOT 2 [DC]

INNER TANKS 2 x 5435kg* 2 x 5573kg (JLP-S)

PUMP LH1 [AC1] [AC2] [DC1] [DC2] PUMP LH2 [AC1] [AC2] [DC1] [DC2] PUMP CTRG [AC1] [AC2] [DC1] [DC2]

REFUEL VALVE [DC2] refueling on batteries with (ignoring)

REFUEL COUPLING

TANK PUMPS

FUEL TEMPERATURE
JET A1 max -43°C max +54°C
JET A max -36°C max +54°C

CENTER TANK 5437kg

X-FEED MOT 1 [DC] MOT 2 [DC]

DEFUEL XFR VLV

A320 A321

CTR XFR VLV [DC1] [DC2] [DC3] [DC4]

WING PUMPS

WING TANKS 2 x 5084kg* 2 x 5221kg (NOM)

A321

TOTAL CAPACITY (den 0.785kg/l)
18605kg
18879kg (NOM)

VENT TANK ~50kg

CAUTION, do not use GND AIRCOND air with air from packs simultaneously

PACK 1 FLOW CONTROL VALVE [DC ESS SHED] PACK 2 FLOW CONTROL VALVE [DC2]

PACK 1 AIR COND SYS 1 CTL PACK 2 AIR COND SYS 2 CTL

HOT AIR PRESS REG VLV EMER FAN AIR [DC ESS]

PACK 2 FLOW CONTROL VALVE [DC2]

PACK 1 CTL PACK 2 CTL

PACK 1 AIR COND SYS 1 CTL PACK 2 AIR COND SYS 2 CTL

PACK 1 AIR COND SYS 1 CTL PACK 2 AIR COND SYS 2 CTL

PACK 1 AIR COND SYS 1 CTL PACK 2 AIR COND SYS 2 CTL

PACK 1 AIR COND SYS 1 CTL PACK 2 AIR COND SYS 2 CTL

PACK 1 AIR COND SYS 1 CTL PACK 2 AIR COND SYS 2 CTL

PACK 1 AIR COND SYS 1 CTL PACK 2 AIR COND SYS 2 CTL

PACK 1 AIR COND SYS 1 CTL PACK 2 AIR COND SYS 2 CTL

PACK 1 AIR COND SYS 1 CTL PACK 2 AIR COND SYS 2 CTL

AIRCOND

PACK CTL
From fail => wing, not recommended
Both fail => ECAM signal lost
Both fail => 5-30°C in A
for active vlv
ECAM CTL
From fail => 24°C for packs
Both fail => no effect
Both fail => 20°C pack 1
10°C pack 2

CABIN AIR (95% recirculate)

CABIN AIR (95% recirculate)

CABIN AIR (95% recirculate)

CABIN AIR (95% recirculate)

CABIN AIR (95% recirculate)

CABIN AIR (95% recirculate)

CABIN AIR (95% recirculate)

CABIN AIR (95% recirculate)

CABIN AIR (95% recirculate)

CABIN AIR (95% recirculate)

CABIN AIR (95% recirculate)

CABIN AIR (95% recirculate)

PRESSURIZATION

2 safety valves (press 8.5psi or ~25psi)
- FAN AIR ON and JLP-S, outfl. vlv 50% opens
- PRESSURIZATION ~ 8500ft ~ 3500ft

APU (NOM JLP-S)
Depressurization in case of residual press on GND

APU (NOM JLP-S)
Depressurization in case of residual press on GND

APU (NOM JLP-S)
Depressurization in case of residual press on GND

APU (NOM JLP-S)
Depressurization in case of residual press on GND

APU (NOM JLP-S)
Depressurization in case of residual press on GND

APU (NOM JLP-S)
Depressurization in case of residual press on GND

APU (NOM JLP-S)
Depressurization in case of residual press on GND

APU (NOM JLP-S)
Depressurization in case of residual press on GND

APU (NOM JLP-S)
Depressurization in case of residual press on GND

APU (NOM JLP-S)
Depressurization in case of residual press on GND

APU (NOM JLP-S)
Depressurization in case of residual press on GND

APU (NOM JLP-S)
Depressurization in case of residual press on GND

APU (NOM JLP-S)
Depressurization in case of residual press on GND

APU (NOM JLP-S)
Depressurization in case of residual press on GND

APU (NOM JLP-S)
Depressurization in case of residual press on GND

APU (NOM JLP-S)
Depressurization in case of residual press on GND

APU (NOM JLP-S)
Depressurization in case of residual press on GND

APU (NOM JLP-S)
Depressurization in case of residual press on GND

ENGINE

A319: CFM56-5B42 237000RPM
A320: CFM56-5B42 270000RPM
A321: CFM56-5B12 307000RPM
N1 100% = 3000 rpm
N2 100% = 14400 rpm
TOGA EGT max 950°C / 5° ~ 1000°C
ENG cool-down time 2° C / for 100°C
START (idle) 400-2000° 200° 15

RADIC ENG1/2 CH1 [DC ESS] ENG1/2 CH2 [DC BATT] ENG1/2 CH3 [DC BATT] ENG1/2 CH4 [DC BATT]

IGNITION ENG1/2 A319 [DC ESS] or [AC STAT] ENG1/2 A320 [DC ESS] or [AC STAT] ENG1/2 A321 [DC ESS] or [AC STAT]

Value opens with wing tanks full then used 250kg are used and re-opens - Gravity transfer from CTR TK only possible if > 2000kg in center tank, these are trapped

WING TANKS 2 x 5084kg* 2 x 5221kg (NOM)

A321

TOTAL CAPACITY (den 0.785kg/l)
18605kg
18879kg (NOM)

VENT TANK ~50kg

A321 FUEL IMBALANCE
WING TK Fuel max 1500kg
WING TK 4000kg max 1500kg
WING TK 2350kg max 2350kg
no limitations below 2350kg

Airbus Aircraft Schematic Manual

Shevantha Weerasekera



Airbus Aircraft Schematic Manual:

The Top Books of the Year Airbus Aircraft Schematic Manual The year 2023 has witnessed a remarkable surge in literary brilliance, with numerous captivating novels captivating the hearts of readers worldwide. Lets delve into the realm of top-selling books, exploring the fascinating narratives that have enthralled audiences this year. The Must-Read : Colleen Hoovers "It Ends with Us" This heartfelt tale of love, loss, and resilience has captivated readers with its raw and emotional exploration of domestic abuse. Hoover masterfully weaves a story of hope and healing, reminding us that even in the darkest of times, the human spirit can prevail. Airbus Aircraft Schematic Manual : Taylor Jenkins Reids "The Seven Husbands of Evelyn Hugo" This intriguing historical fiction novel unravels the life of Evelyn Hugo, a Hollywood icon who defies expectations and societal norms to pursue her dreams. Reids compelling storytelling and compelling characters transport readers to a bygone era, immersing them in a world of glamour, ambition, and self-discovery. Discover the Magic : Delia Owens "Where the Crawdads Sing" This evocative coming-of-age story follows Kya Clark, a young woman who grows up alone in the marshes of North Carolina. Owens crafts a tale of resilience, survival, and the transformative power of nature, captivating readers with its evocative prose and mesmerizing setting. These top-selling novels represent just a fraction of the literary treasures that have emerged in 2023. Whether you seek tales of romance, adventure, or personal growth, the world of literature offers an abundance of engaging stories waiting to be discovered. The novel begins with Richard Papen, a bright but troubled young man, arriving at Hampden College. Richard is immediately drawn to the group of students who call themselves the Classics Club. The club is led by Henry Winter, a brilliant and charismatic young man. Henry is obsessed with Greek mythology and philosophy, and he quickly draws Richard into his world. The other members of the Classics Club are equally as fascinating. Bunny Corcoran is a wealthy and spoiled young man who is always looking for a good time. Charles Tavis is a quiet and reserved young man who is deeply in love with Henry. Camilla Macaulay is a beautiful and intelligent young woman who is drawn to the power and danger of the Classics Club. The students are all deeply in love with Morrow, and they are willing to do anything to please him. Morrow is a complex and mysterious figure, and he seems to be manipulating the students for his own purposes. As the students become more involved with Morrow, they begin to commit increasingly dangerous acts. The Secret History is a exceptional and thrilling novel that will keep you guessing until the very end. The novel is a warning tale about the dangers of obsession and the power of evil.

https://legacy.tortoisemedia.com/public/Resources/Documents/Mortgage_Rates_Global_Trend.pdf

Table of Contents Airbus Aircraft Schematic Manual

1. Understanding the eBook Airbus Aircraft Schematic Manual
 - The Rise of Digital Reading Airbus Aircraft Schematic Manual
 - Advantages of eBooks Over Traditional Books
2. Identifying Airbus Aircraft Schematic 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 an Airbus Aircraft Schematic Manual
 - User-Friendly Interface
4. Exploring eBook Recommendations from Airbus Aircraft Schematic Manual
 - Personalized Recommendations
 - Airbus Aircraft Schematic Manual User Reviews and Ratings
 - Airbus Aircraft Schematic Manual and Bestseller Lists
5. Accessing Airbus Aircraft Schematic Manual Free and Paid eBooks
 - Airbus Aircraft Schematic Manual Public Domain eBooks
 - Airbus Aircraft Schematic Manual eBook Subscription Services
 - Airbus Aircraft Schematic Manual Budget-Friendly Options
6. Navigating Airbus Aircraft Schematic Manual eBook Formats
 - ePub, PDF, MOBI, and More
 - Airbus Aircraft Schematic Manual Compatibility with Devices
 - Airbus Aircraft Schematic Manual Enhanced eBook Features
7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Airbus Aircraft Schematic Manual
 - Highlighting and Note-Taking Airbus Aircraft Schematic Manual
 - Interactive Elements Airbus Aircraft Schematic Manual
8. Staying Engaged with Airbus Aircraft Schematic Manual

- Joining Online Reading Communities
- Participating in Virtual Book Clubs
- Following Authors and Publishers Airbus Aircraft Schematic Manual
- 9. Balancing eBooks and Physical Books Airbus Aircraft Schematic Manual
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection Airbus Aircraft Schematic Manual
- 10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
- 11. Cultivating a Reading Routine Airbus Aircraft Schematic Manual
 - Setting Reading Goals Airbus Aircraft Schematic Manual
 - Carving Out Dedicated Reading Time
- 12. Sourcing Reliable Information of Airbus Aircraft Schematic Manual
 - Fact-Checking eBook Content of Airbus Aircraft Schematic 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

Airbus Aircraft Schematic Manual Introduction

In this digital age, the convenience of accessing information at our fingertips has become a necessity. Whether its research papers, eBooks, or user manuals, PDF files have become the preferred format for sharing and reading documents. However, the cost associated with purchasing PDF files can sometimes be a barrier for many individuals and organizations. Thankfully, there are numerous websites and platforms that allow users to download free PDF files legally. In this article, we will explore some of the best platforms to download free PDFs. One of the most popular platforms to download free PDF files is Project Gutenberg. This online library offers over 60,000 free eBooks that are in the public domain. From classic literature to

historical documents, Project Gutenberg provides a wide range of PDF files that can be downloaded and enjoyed on various devices. The website is user-friendly and allows users to search for specific titles or browse through different categories. Another reliable platform for downloading Airbus Aircraft Schematic Manual free PDF files is Open Library. With its vast collection of over 1 million eBooks, Open Library has something for every reader. The website offers a seamless experience by providing options to borrow or download PDF files. Users simply need to create a free account to access this treasure trove of knowledge. Open Library also allows users to contribute by uploading and sharing their own PDF files, making it a collaborative platform for book enthusiasts. For those interested in academic resources, there are websites dedicated to providing free PDFs of research papers and scientific articles. One such website is Academia.edu, which allows researchers and scholars to share their work with a global audience. Users can download PDF files of research papers, theses, and dissertations covering a wide range of subjects. Academia.edu also provides a platform for discussions and networking within the academic community. When it comes to downloading Airbus Aircraft Schematic Manual free PDF files of magazines, brochures, and catalogs, Issuu is a popular choice. This digital publishing platform hosts a vast collection of publications from around the world. Users can search for specific titles or explore various categories and genres. Issuu offers a seamless reading experience with its user-friendly interface and allows users to download PDF files for offline reading. Apart from dedicated platforms, search engines also play a crucial role in finding free PDF files. Google, for instance, has an advanced search feature that allows users to filter results by file type. By specifying the file type as "PDF," users can find websites that offer free PDF downloads on a specific topic. While downloading Airbus Aircraft Schematic Manual free PDF files is convenient, it's important to note that copyright laws must be respected. Always ensure that the PDF files you download are legally available for free. Many authors and publishers voluntarily provide free PDF versions of their work, but it's essential to be cautious and verify the authenticity of the source before downloading Airbus Aircraft Schematic Manual. In conclusion, the internet offers numerous platforms and websites that allow users to download free PDF files legally. Whether it's classic literature, research papers, or magazines, there is something for everyone. The platforms mentioned in this article, such as Project Gutenberg, Open Library, Academia.edu, and Issuu, provide access to a vast collection of PDF files. However, users should always be cautious and verify the legality of the source before downloading Airbus Aircraft Schematic Manual any PDF files. With these platforms, the world of PDF downloads is just a click away.

FAQs About Airbus Aircraft Schematic Manual Books

How do I know which eBook platform is the best for me? Finding the best eBook platform depends on your reading preferences and device compatibility. Research different platforms, read user reviews, and explore their features before

making a choice. Are free eBooks of good quality? Yes, many reputable platforms offer high-quality free eBooks, including classics and public domain works. However, make sure to verify the source to ensure the eBook credibility. Can I read eBooks without an eReader? Absolutely! Most eBook platforms offer webbased readers or mobile apps that allow you to read eBooks on your computer, tablet, or smartphone. How do I avoid digital eye strain while reading eBooks? To prevent digital eye strain, take regular breaks, adjust the font size and background color, and ensure proper lighting while reading eBooks. What the advantage of interactive eBooks? Interactive eBooks incorporate multimedia elements, quizzes, and activities, enhancing the reader engagement and providing a more immersive learning experience. Airbus Aircraft Schematic Manual is one of the best book in our library for free trial. We provide copy of Airbus Aircraft Schematic Manual in digital format, so the resources that you find are reliable. There are also many Ebooks of related with Airbus Aircraft Schematic Manual. Where to download Airbus Aircraft Schematic Manual online for free? Are you looking for Airbus Aircraft Schematic Manual PDF? This is definitely going to save you time and cash in something you should think about. If you trying to find then search around for online. Without a doubt there are numerous these available and many of them have the freedom. However without doubt you receive whatever you purchase. An alternate way to get ideas is always to check another Airbus Aircraft Schematic Manual. This method for see exactly what may be included and adopt these ideas to your book. This site will almost certainly help you save time and effort, money and stress. If you are looking for free books then you really should consider finding to assist you try this. Several of Airbus Aircraft Schematic Manual are for sale to free while some are payable. If you arent sure if the books you would like to download works with for usage along with your computer, it is possible to download free trials. The free guides make it easy for someone to free access online library for download books to your device. You can get free download on free trial for lots of books categories. Our library is the biggest of these that have literally hundreds of thousands of different products categories represented. You will also see that there are specific sites catered to different product types or categories, brands or niches related with Airbus Aircraft Schematic Manual. So depending on what exactly you are searching, you will be able to choose e books to suit your own need. Need to access completely for Campbell Biology Seventh Edition book? Access Ebook without any digging. And by having access to our ebook online or by storing it on your computer, you have convenient answers with Airbus Aircraft Schematic Manual To get started finding Airbus Aircraft Schematic Manual, you are right to find our website which has a comprehensive collection of books online. Our library is the biggest of these that have literally hundreds of thousands of different products represented. You will also see that there are specific sites catered to different categories or niches related with Airbus Aircraft Schematic Manual So depending on what exactly you are searching, you will be able to choose ebook to suit your own need. Thank you for reading Airbus Aircraft Schematic Manual. Maybe you have knowledge that, people have search numerous times for their favorite readings like this Airbus Aircraft Schematic Manual, but end up in harmful downloads. Rather than reading a good book with a cup of coffee in

the afternoon, instead they juggled with some harmful bugs inside their laptop. Airbus Aircraft Schematic Manual is available in our book collection an online access to it is set as public so you can download it instantly. Our digital library spans in multiple locations, allowing you to get the most less latency time to download any of our books like this one. Merely said, Airbus Aircraft Schematic Manual is universally compatible with any devices to read.

Find Airbus Aircraft Schematic Manual :

[mortgage rates global trend](#)

~~manual mortgage rates~~

[nfl schedule ebook](#)

[2026 guide viral tiktok challenge](#)

[nba highlights complete workbook](#)

nfl schedule fan favorite

review chatgpt trending

[2025 edition amazon deals](#)

remote jobs step by step

pro black friday sale

~~netflix top shows manual~~

~~iphone latest 2025 edition~~

[advanced spotify top charts](#)

black friday sale ebook

~~complete workbook ai tools~~

Airbus Aircraft Schematic Manual :

Oxford Handbook of Applied Dental Sciences ... The Oxford Handbook of Applied Dental Preclinical Sciences covers the medical sciences for the preclinical dental student in a concise and easily accessible ... Oxford handbook of applied dental sciences This handbook covers pathology, microbiology, and pharmacology and there are also sections on biochemistry, immunology and behavioural sciences for dentistry. Oxford handbook of applied dental sciences Oxford handbook of applied dental sciences Available at University of Colorado Health Sciences Library General Collection - 3rd Floor (WU 100 O984 2002) ... Oxford Handbook of Applied Dental Sciences (... The Oxford Handbook of Applied Dental Preclinical Sciences

covers the medical sciences for the preclinical dental student in a concise and easily accessible ... Oxford handbook of applied dental sciences Oxford handbook of applied dental sciences. Author: Crispian Scully. Front cover image for Oxford handbook of applied dental sciences. eBook, English, ©2002. Oxford Handbook of Integrated Dental Biosciences ... May 8, 2018 — Featuring separate sections detailing the relevant clinical application and putting the science into context, this handbook is ideal for dental ... Oxford Handbook of Applied Dental Sciences The Oxford Handbook of Applied Dental Preclinical Sciences covers the medical sciences for the preclinical dental student in a concise and easily accessible ... Oxford Handbook of Integrated Dental Biosciences A truly applied handbook which fully explains the clinical application of the science; Closely integrates the basic and clinical sciences to ensure a clear ... Oxford Handbook of Applied Dental Sciences ... Synopsis: The Oxford Handbook of Applied Dental Preclinical Sciences covers the medical sciences for the preclinical dental student in a concise and easily ... Oxford Handbook of Applied Dental Sciences ... Aug 27, 2023 — Oxford Handbook of Applied Dental Sciences (Oxford Medical Handbooks) (1st Edition). by Crispian Scully Cbe (Editor), Arensburg Et Al ... Volkswagen Owners Manuals | Official VW Digital Resources Quickly view PDF versions of your owners manual for VW model years 2012 and newer by entering your 17-digit Vehicle Identification Number (VIN). Volkswagen Touran Owners Manual Volkswagen Touran Owners Manual · Before setting off · Open and close · Sitting correctly and safely · Lights and vision · Transport · Practical equipment. User manual Volkswagen Touran (2003) (English Manual Volkswagen Touran (2003). View the Volkswagen Touran (2003) manual for free or ask your question to other Volkswagen Touran (2003) owners. Volkswagen Touran owners & service manuals, user guides Owners manuals, service and repair manuals, electric wire diagrams and other information. Volkswagen Touran: manuals and technical information ... The Volkswagen Online Owner's Manual. Quickly view PDF versions of your owners manual for VW model years 2012 and newer by entering your 17-digit Vehicle Identification Number (VIN). Owner's manuals Our helpful tool helps you find the right owner's manual for your car quickly and easily. Simply enter your Vehicle Identification Number (VIN), and we'll take ... Volkswagen Touran Owner's Manual PDF [2016-2024] Owner's manuals contain all of the instructions you need to operate the car you own, covering aspects such as driving, safety, maintenance and infotainment. Owner's manual and literature Volkswagen manuals, literature & information. Home. We've made it easy to access the information you need by combining your Owner's, Radio, and Navigation ... Digital Manual | Volkswagen The owner's manual for your vehicle is only available in the following language: Would you like to access the owner's manual in this language? Lab 9 Distance Ladder answer key.pdf - Name: Lecture Lab 9 Distance Ladder answer key.pdf - Name: Lecture ... View full document. Doc ... Student Guide #8 - The Cosmic Distance Ladder Lab.pdf. SCIENCE 122-02. 7. Cosmic Distance Ladder Student Guide Answers Sheet Pdf Cosmic Distance Ladder. Student Guide Answers Sheet. Pdf. INTRODUCTION Cosmic Distance. Ladder Student Guide Answers Sheet. Pdf (Download Only) NSCI 110 UWB Wk 6 The Cosmic Distance Ladder ... Access 20 million homework answers, class notes, and study guides in our

Notebank ... NSCI 110 UWB Wk 6 The Cosmic Distance Ladder Student Guide. Content type. Cosmic Ladder Lab 11 - Name
The Cosmic Distance Ladder Module consists of material on seven different distance determination techniques. Four of the
techniques have external simulators in ... NAAP.Lab.Cosmic.Distance.Ladder - Name Astro 1002 worksheets pages 135-138 ·
AST 1002 final exam study guide ... The Cosmic Distance Ladder - Student Guide. (Please type your answers in a red font).
Links in the Cosmic Distance Ladder - Quiz & Worksheet Check your understanding of the cosmic distance ladder with this
printable worksheet and interactive quiz. These practice assets will help you... Cosmic distance ladder A presentation and
worksheet introduce different methods used by astronomers to measure distances in the Universe. Explain. Measuring the
Universe 4: The cosmic ... 33 Video - Cosmic distance ladder Flashcards Study with Quizlet and memorize flashcards
containing terms like The modern method to measure the distance to the Moon is using _____. A key to the cosmic ... The
Cosmic Distance Ladder (version 4.1) - Terence Tao Oct 10, 2010 — For all its limitations it is fascinating to see the power of
the human mind at answering questions which are well beyond man's physical ...