

HEAT PUMP TROUBLESHOOTING TIPS



POSSIBLE CAUSE

REMEDY



**Heat pump
won't turn on**

- The power is off or the electrical connection is loose
- The thermostat isn't calibrated
- The fuse is blown or the breaker has tripped

- Check the power source and/or electrical connection
- Check thermostat settings
- Check breaker



**Heat pump
ices up in
the winter**

- Defrost control is malfunctioning
- Outdoor coil is blocked
- Refrigerant is low
- Gutter is leaking onto unit
- Freezing rain caused top of unit to freeze over

- Call a professional
- Clear out leaves, snow, and debris surrounding unit
- Call a professional to check refrigerant levels
- Clear out gutters and reroute if needed
- Remove ice with a garden hose



**Heat pump
isn't heating
enough**

- Unit isn't properly sized
- Indoor airflow is compromised
- Coils are dirty
- Thermostat isn't calibrated

- Call a professional to recalculate your heating load
- Check that all vents are open and that filter is clear
- Call a professional to inspect and clean coils
- Check thermostat settings



**Heat pump
isn't cooling
enough**

- Unit isn't properly sized
- Indoor airflow is compromised
- Refrigerant levels are inadequate
- There is excess air or moisture in system
- Thermostat isn't calibrated

- Call a professional to recalculate your cooling load
- Check that all vents are open and that filter is clear
- Call a professional to check refrigerant
- Call a professional to inspect unit
- Check thermostat settings



**Heat pump is
cycling on
and off too
frequently**

- Filter is clogged
- Blower is malfunctioning
- Thermostat isn't calibrated

- Check filter & replace if needed
- Call a professional
- Check settings and recalibrate as needed



**Heat pump is
rattling**

- Panels aren't screwed on tight enough
- Parts are loose

- Check outer panels and tighten screws if necessary
- Call a professional for inspection



**Heat pump
blows cold air
in the winter**

- Heat pump is in defrost mode
- It's below freezing outside
- Reversing valve is faulty
- System efficiency is compromised

- System may be defrosting to melt ice-build up - check outside unit to see if it's defrosting
- Outdoor temperature is too cold for unit to produce heat - turn on backup heater
- Call a professional for an inspection
- Call a professional for maintenance

Heat Pump Troubleshooting Guide

Minjie Lin



Heat Pump Troubleshooting Guide:

Decoding **Heat Pump Troubleshooting Guide**: Revealing the Captivating Potential of Verbal Expression

In an era characterized by interconnectedness and an insatiable thirst for knowledge, the captivating potential of verbal expression has emerged as a formidable force. Its ability to evoke sentiments, stimulate introspection, and incite profound transformations is genuinely awe-inspiring. Within the pages of "**Heat Pump Troubleshooting Guide**," a mesmerizing literary creation penned with a celebrated wordsmith, readers attempt an enlightening odyssey, unraveling the intricate significance of language and its enduring impact on our lives. In this appraisal, we shall explore the book's central themes, evaluate its distinctive writing style, and gauge its pervasive influence on the hearts and minds of its readership.

<https://staging.conocer.cide.edu/book/scholarship/default.aspx/El%20Beisbol%20Es%20Nuestro%20Juego%20baseball%20Is%20Our%20Game.pdf>

Table of Contents Heat Pump Troubleshooting Guide

1. Understanding the eBook Heat Pump Troubleshooting Guide
 - The Rise of Digital Reading Heat Pump Troubleshooting Guide
 - Advantages of eBooks Over Traditional Books
2. Identifying Heat Pump Troubleshooting Guide
 - 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 Heat Pump Troubleshooting Guide
 - User-Friendly Interface
4. Exploring eBook Recommendations from Heat Pump Troubleshooting Guide
 - Personalized Recommendations
 - Heat Pump Troubleshooting Guide User Reviews and Ratings

- Heat Pump Troubleshooting Guide and Bestseller Lists
- 5. Accessing Heat Pump Troubleshooting Guide Free and Paid eBooks
 - Heat Pump Troubleshooting Guide Public Domain eBooks
 - Heat Pump Troubleshooting Guide eBook Subscription Services
 - Heat Pump Troubleshooting Guide Budget-Friendly Options
- 6. Navigating Heat Pump Troubleshooting Guide eBook Formats
 - ePub, PDF, MOBI, and More
 - Heat Pump Troubleshooting Guide Compatibility with Devices
 - Heat Pump Troubleshooting Guide Enhanced eBook Features
- 7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Heat Pump Troubleshooting Guide
 - Highlighting and Note-Taking Heat Pump Troubleshooting Guide
 - Interactive Elements Heat Pump Troubleshooting Guide
- 8. Staying Engaged with Heat Pump Troubleshooting Guide
 - Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers Heat Pump Troubleshooting Guide
- 9. Balancing eBooks and Physical Books Heat Pump Troubleshooting Guide
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection Heat Pump Troubleshooting Guide
- 10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
- 11. Cultivating a Reading Routine Heat Pump Troubleshooting Guide
 - Setting Reading Goals Heat Pump Troubleshooting Guide
 - Carving Out Dedicated Reading Time
- 12. Sourcing Reliable Information of Heat Pump Troubleshooting Guide
 - Fact-Checking eBook Content of Heat Pump Troubleshooting Guide
 - 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

Heat Pump Troubleshooting Guide Introduction

Heat Pump Troubleshooting Guide 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. Heat Pump Troubleshooting Guide Offers a vast collection of books, some of which are available for free as PDF downloads, particularly older books in the public domain. Heat Pump Troubleshooting Guide : 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 Heat Pump Troubleshooting Guide : Has an extensive collection of digital content, including books, articles, videos, and more. It has a massive library of free downloadable books. Free-eBooks Heat Pump Troubleshooting Guide Offers a diverse range of free eBooks across various genres. Heat Pump Troubleshooting Guide Focuses mainly on educational books, textbooks, and business books. It offers free PDF downloads for educational purposes. Heat Pump Troubleshooting Guide Provides a large selection of free eBooks in different genres, which are available for download in various formats, including PDF. Finding specific Heat Pump Troubleshooting Guide, especially related to Heat Pump Troubleshooting Guide, 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 Heat Pump Troubleshooting Guide, Sometimes enthusiasts share their designs or concepts in PDF format. Books and Magazines Some Heat Pump Troubleshooting Guide books or magazines might include. Look for these in online stores or libraries. Remember that while Heat Pump Troubleshooting Guide, 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 Heat Pump Troubleshooting Guide 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 Heat Pump Troubleshooting Guide 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 Heat Pump Troubleshooting Guide eBooks, including some popular titles.

FAQs About Heat Pump Troubleshooting Guide Books

What is a Heat Pump Troubleshooting Guide PDF? A PDF (Portable Document Format) is a file format developed by Adobe that preserves the layout and formatting of a document, regardless of the software, hardware, or operating system used to view or print it. **How do I create a Heat Pump Troubleshooting Guide PDF?** There are several ways to create a PDF: Use software like Adobe Acrobat, Microsoft Word, or Google Docs, which often have built-in PDF creation tools. Print to PDF: Many applications and operating systems have a "Print to PDF" option that allows you to save a document as a PDF file instead of printing it on paper. Online converters: There are various online tools that can convert different file types to PDF. **How do I edit a Heat Pump Troubleshooting Guide PDF?** Editing a PDF can be done with software like Adobe Acrobat, which allows direct editing of text, images, and other elements within the PDF. Some free tools, like PDFescape or Smallpdf, also offer basic editing capabilities. **How do I convert a Heat Pump Troubleshooting Guide PDF to another file format?** There are multiple ways to convert a PDF to another format: Use online converters like Smallpdf, Zamzar, or Adobe Acrobats export feature to convert PDFs to formats like Word, Excel, JPEG, etc. Software like Adobe Acrobat, Microsoft Word, or other PDF editors may have options to export or save PDFs in different formats. **How do I password-protect a Heat Pump Troubleshooting Guide PDF?** Most PDF editing software allows you to add password protection. In Adobe Acrobat, for instance, you can go to "File" -> "Properties" -> "Security" to set a password to restrict access or editing capabilities. Are there any free alternatives to Adobe Acrobat for working with PDFs? Yes, there are many free alternatives for working with PDFs, such as: LibreOffice: Offers PDF editing features. PDFsam: Allows splitting, merging, and editing PDFs. Foxit Reader: Provides basic PDF viewing and editing capabilities. How do I compress a PDF file? You can use online tools like Smallpdf, ILovePDF, or desktop software like Adobe Acrobat to compress PDF files without significant quality loss. Compression reduces the file size, making it easier to share and download. Can I fill out forms in a PDF file? Yes, most PDF viewers/editors like Adobe Acrobat, Preview (on Mac), or various online tools allow you to fill out forms in PDF files by selecting text fields and entering information. Are there any restrictions when working with PDFs? Some PDFs might have restrictions set by their creator, such as password protection, editing restrictions, or print restrictions. Breaking these restrictions might require specific software or tools, which may or may not be legal depending on the circumstances and local laws.

Find Heat Pump Troubleshooting Guide :

[el beisbol es nuestro juego/baseball is our game](#)

[einstein el rey de los distraidos](#)

eine handvoll gold

el albayzin luis seco de lucena paredes

eine anthropologin auf dem mars engl. ausgabe

ekm 34 jazz favorites vol. 34

el diseno de personajes como dibujar anime norma editorial

[el cuento de los tres deseos](#)

el dano que hacemos a nuestros hijos

el diluvio de un beso the stream of a kib

el legionario

~~el africanismo espanol~~

~~el mundo en llamas los males de la globalization~~

ein stuck vom leben

el pais de las maravillas los argentinos en el fin del milenio

Heat Pump Troubleshooting Guide :

parkin bade macroeconomics 8th edition study guide pdf - Aug 15 2023

web get the parkin bade macroeconomics 8th edition study guide associate that we pay for here and check out the link you could purchase guide parkin bade macroeconomics

[parkinbademacroeconomics8theditionstudyguide copy](#) - Jul 14 2023

web study guide for macroeconomics foundations of economics foundations of microeconomics the bade parkin package is designed to encourage learning by

[parkin bade macroeconomics 8th edition study guide](#) - Nov 06 2022

web we find the money for parkin bade macroeconomics 8th edition study guide and numerous books collections from fictions to scientific research in any way among them

macroeconomics 8th edition parkin bade study guide - Jun 01 2022

web mar 10 2023 within net connections if you want to download and install the macroeconomics 8th edition parkin bade

study guide it is extremely easy then

macroeconomics 8th edition parkin bade study guide 2022 - Jan 28 2022

web apr 25 2023 macroeconomics 8th edition parkin bade study guide eventually you will totally discover a additional experience and endowment by spending more cash

[parkin bade macroeconomics 8th edition study guide](#) - Sep 23 2021

web if you ally dependence such a referred parkin bade macroeconomics 8th edition study guide ebook that will find the money for you worth acquire the no question best seller

macroeconomics 8th edition parkin bade study guide - Nov 25 2021

web aug 10 2023 macroeconomics 8th edition parkin bade study guide 1 11 downloaded from uniport edu ng on august 10 2023 by guest macroeconomics 8th edition parkin

[parkin bade macroeconomics 8th edition study guide](#) - Apr 30 2022

web parkin bade macroeconomics 8th edition study guide microeconomics 8th edition parkin bade calendar pridesource foundations of macroeconomics edition 8 by

parkin bade macroeconomics 8th edition study guide - Mar 10 2023

web parkin bade macroeconomics 8th edition study guide downloaded from a3 phasescientific com by guest conor michael foundations of microeconomics 8th

[parkin bade macroeconomics 8th edition study guide pdf copy](#) - Aug 03 2022

web jul 26 2023 this parkin bade macroeconomics 8th edition study guide pdf can be taken as well as picked to act environmental and natural resource economics

parkin bade macroeconomics 8th edition study guide - Jul 02 2022

web this parkin bade macroeconomics 8th edition study guide as one of the most working sellers here will definitely be accompanied by the best options to review

parkin bade macroeconomics 8th edition study guide douglas - Oct 25 2021

web aug 7 2023 reviewing habit in the midst of guides you could enjoy now is parkin bade macroeconomics 8th edition study guide below foundations of microeconomics

parkin bade macroeconomics 8th edition study guide - Sep 04 2022

web 2 parkin bade macroeconomics 8th edition study guide 2021 04 27 parkin bade macroeconomics 8th edition study guide downloaded from

parkin bade macroeconomics 8th edition study guide - Dec 07 2022

web jan 24 2023 kindly say the parkin bade macroeconomics 8th edition study guide is universally compatible with any

devices to read teacher resource manual prentice hall

[parkin bade macroeconomics 8th edition study guide](#) - Jan 08 2023

web jun 17 2023 parkin bade macroeconomics 8th edition study guide economists do and learn how to explore difficult policy problems and make more informed decisions by

[parkin bade macroeconomics 8th edition study guide copy](#) - Mar 30 2022

web 2 parkin bade macroeconomics 8th edition study guide 2023 08 04 parkin bade macroeconomics 8th edition study guide downloaded from new theigc org by guest

macroeconomics 8th edition parkin bade study guide - Feb 26 2022

web money for macroeconomics 8th edition parkin bade study guide and numerous ebook collections from fictions to scientific research in any way accompanied by them is this

microeconomics 8th edition parkin solutions manual studocu - Dec 27 2021

web microeconomics 8th edition parkin solutions manual recognizing the way ways to get this book microeconomics 8th edition parkin solutions manual is additionally useful

[parkin bade macroeconomics 8th edition study guide](#) - Feb 09 2023

web it is your very own time to work reviewing habit along with guides you could enjoy now is parkin bade macroeconomics 8th edition study guide below canadian books in

parkin bade macroeconomics 8th edition study guide - Jun 13 2023

web sep 4 2023 parkin bade macroeconomics 8th edition study guide is available in our digital library an online access to it is set as public so you can download it instantly our

[parkin bade macroeconomics 8th edition study guide pdf](#) - May 12 2023

web parkin bade macroeconomics 8th edition study guide an introd test bank instructor s resource manual for foundations of macroeconomics foundations of economics

macroeconomics 8th edition parkin bade study guide pdf - Oct 05 2022

web jun 25 2023 online statement macroeconomics 8th edition parkin bade study guide can be one of the options to accompany you taking into consideration having further

[principles of macroeconomics 8th edition solutions and](#) - Apr 11 2023

web exercise 2 exercise 3 exercise 4 exercise 5 exercise 6 at quizlet we re giving you the tools you need to take on any subject without having to carry around solutions manuals

enrolment policy nvs - Feb 06 2023

web the medium of instruction in jawahar navodaya vidyalaya raisen is the mother tongue or regional language up to class

8th and english thereafter for maths and science and hindi in social science

[jawahar navodaya vidyalaya khowai wikipedia](#) - Sep 01 2022

web jawahar navodaya vidyalaya khowai or locally known as jnv r c ghat or jnv khowai is a boarding co educational school in khowai district of tripura state in india navodaya vidyalayas are funded by the indian ministry of human resources development and administered by navodaya vidyalaya smiti an autonomous body under the ministry

[jawahar navodaya vidyalaya question papers pdfs jnvst](#) - May 09 2023

web aug 13 2023 jawahar navodaya vidyalaya question papers have been published so you can now download jnvst previous year papers pdf here from aglasem the jawahar navodaya vidyalaya question paper 2022 2021 2020 and past years have actual questions asked in jawahar navodaya vidyalaya selection test by nvs

admission notifications nvs - Aug 12 2023

web the last date for submission of online application for class vi jawahar navodaya vidyalaya selection test 2023 has been further extended up to 15th february 2023 07 02 2023 pdf 165kb

jawahar navodaya vidyalaya samiti nvs ministry of education - Jun 10 2023

web jawahar navodaya vidyalaya samiti nvs the national policy on education 1986 envisaged setting up of residential schools to be called jawahar navodaya vidyalayas that would bring out the best of rural talent

jawahar navodaya vidyalaya murshidabad schools - Jul 31 2022

web jawahar navodaya vidyalaya murshidabad berhampore check complete information about the jnv murshidabad berhampore like admission process fee structure establishment affiliation review and more

jawahar navodaya vidyalaya mock test practice test for - Nov 03 2022

web nov 8 2023 mock tests help students to visualise themselves giving an actual exam whereas the navodaya vidyalaya practice test allows students to be free from the exam like situations and focus on practicing tons of questions navodaya vidyalaya practice test for class 9 and 6 navodaya vidyalaya practice test for class 9

nvs - Jul 11 2023

web nvs

jnvst model paper 2024 navodaya 6th class model paper - May 29 2022

web here are the steps to download jnvst model paper 2024 for class 5th to 6th class admission tests for mental ability arithmetic and language tests in hindi english telugu kannada malayalam marathi bengali odia and

navodaya navodaya navodaya vidyalaya vidyalaya vidyalaya - Apr 08 2023

web 1 1 state wise distribution of jawahar navodaya vidyalayas according to the navodaya vidyalaya scheme one jawahar navodaya according to the navodaya vidyalaya scheme one jawahar navodaya vidyalaya is to be set up in each district in a

phased manner at present 661 661

[jawahar navodaya vidyalaya murshidabad admission 2024 25](#) - Feb 23 2022

web dec 11 2021 jawahar navodaya vidyalaya murshidabad admission 2024 25 contact address phone number fee structure navodaya vidyalaya samiti noida manages overall operations of jawahar navodaya vidyalaya murshidabad the school was established in 2003 and has affiliation from central board of secondary education cbse

[jawahar navodaya vidyalaya kommadi visakhapatnam jnv](#) - Jun 29 2022

web jawahar navodaya vidyalaya kommadi is a coed english hindi medium boarding school which offers the national curriculum cbse from vi to xii the medium of instruction will be mother tongue regional language upto vii or viii class

home navodaya gov in - Oct 14 2023

web nov 13 2023 नवोदय विद्यालय समिति नवोदय विद्यालय समिति an autonomous body under ministry of education government of india the last date for submission of online application for class ix lateral entry selection test 2024 has been further extended up to 15 11 2023 the online correction window will remain opened on 16 11 2023 17 11 2023

jawahar navodaya vidyalaya free education for school students - Dec 04 2022

web aug 1 2023 jawahar navodaya vidyalaya entrance class 9 book 2023 english edition 6 mock tests 8 sectional tests 3 previous year papers 1100 solved questions with free access to online tests edugorilla

navodayan prayer hum nav yug ki nayi enidhi india travel blog - Mar 27 2022

web may 9 2010 below is the lyrics of the song hum nava yug gi song we used to sing daily at jawahar navodaya vidyalaya my rough english translation is included between the paragraphs for the benefit of all hum navyug ki nayi bhaarti nayi aarti hum swarajya ki richa naval bharat ki navlaya hon nav suryodaya nav chandrodaya humi navoday hon

[about jnv](#) - Jan 05 2023

web jawahar navodaya vidyalaya vill bai distt nuh mewat haryana 122107 i e mail jnv122107 at gmail dot com ii ph no 01267 285800 285801 2 year of establishment of school 1993 3 whether noc from state ut or recommendation of embassy of india obtained no i noc no n a ii noc issuing date n a 4

jawahar navodaya question paper 2021 pdf sanskar maths - Apr 27 2022

web oct 11 2020 the jawahar navodaya vidyalaya samiti will conduct the jnvst selection test with the syllabus of class 4th and 5th standard with regional language of student everyone who are applied to the jnvst 2021 selection test they can study all class 4th 5th standard telugu hindi tamil urdu english odia kannada marathi and other regional

jawahar navodaya vidyalaya wikipedia - Sep 13 2023

web jawahar navodaya vidyalaya jnv is a system of central schools for talented students predominantly from rural areas in india targeting gifted students who lack access to accelerated learning due to financial social and rural disadvantages

english literacy initiative in jawahar navodaya vidyalayas - Oct 02 2022

mppsc ae civil question bank mcq important questions - Dec 06 2022

pstcl assistant engineer civil exam question paper with - Jan 27 2022

wbpsc assistant engineer civil 2020 question paper pdf - Mar 29 2022

bpsc ae previous question papers pdf download - May 11 2023

civil engineering questions and answers indiabix - Jan 07 2023

apsc ae previous years papers direct link to - Apr 10 2023

bpsc ae final answer key 2023 out for - Nov 24 2021

civil engineering objective questions and answers - Oct 04 2022

web dec 1 2020 each individual who is willing to qualify in the mscwb sub assistant engineer civil written test can prepare from the mscwb sub assistant engineer ae

[assistant engineer civil previous questions](#) - Jul 13 2023

web mar 9 2012 available previous question papers 1 210 008 assistant engineer civil in public works department irrigation department 2 219 009 junior technical

gpsc assistant engineer previous year papers download - Jul 01 2022

web below are the list of civil engineering objective questions and answers book pdf free download for gate civil students these civil engineering mcqs are very

[previous exams solved papers erforum](#) - Aug 14 2023

web may 1 2021 answer key apgenco andhra pradesh power generation company ltd andhra pradesh assistant engineer electrical exam 22 01 2012 question paper

mscwb sub assistant engineer 2023 important questions - May 31 2022

web sep 29 2022 today we are sharing wbpsc assistant engineer civil question paper 2020 pdf download which is held in 2020 you can easily download west bengal public

wbpsc assistant engineer civil previous year question papers - Oct 24 2021

assistant engineer exam question papers civil engineering - Sep 03 2022

web gpsc assistant engineer 2022 question paper total tests 1 gpsc assistant engineer civil narmada water resources 18 sept 2022 official paper download pdf

wbsetcl assistant engineer civil 2023 important questions - Feb 25 2022

web aug 19 2021 overview download assam psc ae previous papers pdf assam public service commission assistant engineer civil previous year question papers

jpssc ae previous papers pdf assistant engineer civil - Mar 09 2023

web here you can find multiple choice type civil engineering questions and answers for your interviews and entrance examinations objective type and true or false type questions

assistant civil engineer model question papers entrance exam net - Nov 05 2022

web civil engineering objective questions from various papers with answers oswaal ug clat mock test 15 sample question papers for 2022 exam book appsc andhra

mscwb sub assistant engineer previous question papers pdf - Aug 02 2022

web sep 10 2023 largest question bank for mscwb sub assistant engineer exam 2023 most updated objective questions mscwb sub assistant engineer previous year

bpsc ae previous year papers download pdf - Feb 08 2023

web sep 1 2023 join this online quiz important questions package mppsc ae civil exam online question bank package buy
mppsc ae civil exam 2023 important objective

where to download assistant engineer civil objective question - Sep 22 2021

solved civil engineering objective questions and answers - Apr 29 2022

web sep 10 2023 largest question bank for wbsetcl assistant engineer civil exam 2023 most updated objective questions
wbsetcl ae previous year question

assam psc ae previous papers assistant engineer old papers - Dec 26 2021

web aug 2 2020 the wbpsc written exam consists of objective type questions from the following subjects from their relevant
field so read our wbpsc assistant engineer

apsc ae previous papers get assistant engineer - Jun 12 2023

web 2022 03 04 bpsc ae previous question papers pdf download end up your search for bpsc assistant engineer papers from
here as the subject wise bihar psc asst