








For your safety and to avoid Electrical Shock, read all safety notes and precautions detailed throughout your Operator's Manual.

METAL THICKNESS

WELD PROCESS	WIRE TYPE/ ELECTRODE TYPE	WIRE DIA./ ELECTRODE DIA. (in.)	24 ga .014 in C/O (C)	22 ga .018 in C/O (C)	20 ga .024 in C/O (C)	18 ga .030 in C/O (C)	16 ga .036 in C/O (C)	14 ga .045 in C/O (C)	12 ga .060 in C/O (C)	1/8" (16 ga) .125 in C/O (C)	3/16" .187 in C/O (C)	1/4" .250 in C/O (C)
DC+ 	Steel MIG SUPERARC® L-56® (DC+) 75% Ar / 25% CO ₂	0.025	C/3	C/3	D/4	E/5	F/6	G/7	I/9	-	-	-
		0.030 ⁽¹⁾	-	B/3	C/3	D/4	E/5	F/6	G/8	H/8	J/9 ^(1,2)	-
	Steel MIG SUPERARC® L-56® (DC+) 100% CO ₂	0.025	D/4	E/4	E/4.5	F/5	G/6	H/7	I/9	J/9 ^(1,2)	-	-
		0.030 ⁽¹⁾	-	-	D/3.5	D/5	E/5.5	F/6	G/7	H/8	J/9 ^(1,2)	-
DC- 	Steel Self Shielded NR®-311-MP (DC-) No Gas	0.030 ⁽¹⁾	-	-	-	B/2.5	B/3	D/4	E/5	G/6 ^(1,2)	H/6 ^(1,2)	J/7 ^(1,2)
		0.035	-	-	-	B/2	B/2	C/2	D/3	F/6	G/7 ^(1,2)	I/8 ^(1,2)
DC+ 	Aluminum ER4043 (DC+) 100% Argon	0.035	-	-	-	B/2	C/2.5	E/3	G/4.5	I/6	J/10	-
DC+ 	Steel E6011 / E6013 (DC+)	3/32	-	-	-	E	E	F	G	H	-	-
	Steel E7014 / E7018 (DC+)	3/32	-	-	-	-	G	G	H	I	J	-
DC- 	Steel & Stainless Steel (DC-) 100% Argon	1/16	B-C	B-C	B-D	C-D	D-E	E-F	-	-	-	-
		3/32	-	-	-	C-D	D-E	E-F	F-G	H-I	-	-

(1) Connect to 25 amp circuit. (2) Multiple Pass Required. (3) Use .035 groove in drive roll for .030 wire.

Refer to manual for Current and Voltage values.

Visit www.lincolnelectric.com for additional product information.

Mig Mag Welding Guide

Thirumalaisamy P.
Velavancorresponding



Mig Mag Welding Guide:

Mig Welding Guide K Weman,G Lindén,2006-04-30 MIG metal inert gas welding also known as gas metal arc welding GMAW is a key joining technology in manufacturing MIG welding guide provides a comprehensive practical and accessible guide to this widely used process Part one discusses the range of technologies used in MIG welding including power sources shielding gases and consumables Fluxed cored arc welding pulsed MIG welding and MIG brazing are also explored Part two reviews quality and safety issues such as improving productivity in MIG MAG welding assessing weld quality health and safety and methods for reducing costs The final part of the book takes a practical look at the applications of MIG welding with chapters dedicated to the welding of steel and aluminium the use of robotics in MIG welding and the application of MIG welding in the automotive industry MIG welding guide is essential reading for welding and production engineers designers and all those involved in manufacturing Provides extensive coverage on gas metal arc welding a key process in industrial manufacturing User friendly in its language and layout Looks at the practical applications of MIG welding

MIG/MAG Welding Guide for Gas Metal Arc Welding (GMAW). ,1995 MIG/Mag Welding Guide ,1997 *The Repair of Vehicle Bodies, 6th ed* Andrew Livesey,A Robinson,2013-02-11 This book covers the principles and techniques that will help you develop the skills needed to carry out effective vehicle body repair and re finishing This edition has been updated to deal with changes in technology and best practice and meets the current Automotive Skills standards It also covers the topics studied at NVQ levels 2 and 3 and contains handy revision notes making it an ideal text for students on the following courses Automotive Skills Council Vehicle Body and Paint Operations requirements IMI Body Repair and Refinishing Technical Certificates VRQs National Vocational Qualifications NVQs City Guilds Vehicle Body Repair Competence courses NVQ and Progression Awards of both City Guilds and the Institute of the Motor Industry at levels 2 and 3 Professionals and hobbyists will continue to find this an essential manual for the workshop when repairing the latest models or classic cars Other books by Andrew Livesey Basic Motorsport Engineering 9780750689090 Advanced Motorsport Engineering 9780750689083

The Repair of Vehicle Bodies Alan Robinson,Andrew Livesey,2013 This book covers the principles and techniques that will help you develop the skills needed to carry out effective vehicle body repair and re finishing This edition has been updated to deal with changes in technology and best practice and meets the current Automotive Skills standards It also covers the topics studied at NVQ levels 2 and 3 and contains handy revision notes making it an ideal text for students on the following courses Automotive Skills Council Vehicle Body and Paint Operations requirements IMI Body Repair and Refinishing Technical Certificates VRQs National Vocational Qualifications NVQs City Guilds Vehicle Body Repair Competence courses NVQ and Progression Awards of both City Guilds and the Institute of the Motor Industry at levels 2 and 3 Professionals and hobbyists will continue to find this an essential manual for the workshop when repairing the latest models or classic cars Other books by Andrew Livesey Basic Motorsport Engineering 9780750689090 Advanced Motorsport

Engineering 9780750689083 *The Repair of Vehicle Bodies* Andrew Livesey, Alan Robinson, 2006-08-11 The most comprehensive construction repair and finishing of vehicle bodies text Fully covers the underpinning knowledge needed for the Automotive Skills Council vehicle body and paint operations requirements City and Guilds 3980 Vehicle Body Repair Competence courses and the NVQ and the Progression Awards of both City and Guilds and the Institute of the Motor Industry at levels 2 and 3 Essential reading for all those involved in the trade and insurance assessment as well as for professional vehicle restorers and DIY enthusiasts working on the restoration or adaptation of classic and modern cars

The Basic Guide to MIG and TIG Welding Gianni Elia, 2021-06-21 It is always striking to see a near perfect TIG weld on a finished product A near perfect TIG weld looks like a stack of dimes The evenness and accuracy of the weld bead is an indicator of the skill level of the welder Nevertheless a near perfect MIG weld on a consumer product such as a truck frame shows the efficiency and strength which can be achieved with MIG welding MIG and TIG welding are two of the most common types of welding across many industries in this guide we will be taking through Simple step by step beginners guide to MIG vs TIG let get started way to your engineering work MIG Welding Aluminum Handbook for Beginners Raymond Travis, 2020-11-21 If you d like to MIG weld aluminum with your wire feed welder this step by step tutorial will show you how If you haven t yet mastered MIG welding mild steel then you probably need to do that before you start aluminum welding with the GMAW MIG process When MIG welding aluminum you use the same gun angle and gas flow rate 20 30 CFH However that s pretty much where the similarities end Fitter Trade VOLUME-II Solved Papers YCT Expert Team , 2023 24 ITI Fitter Trade VOLUME II Solved Papers *A Management and Engineer's Guide to MIG Welding Quality, Costs, and Training* Edward F. Craig, 1996 MIG and flux cored weld results achieved with the world s most utilized welding equipment are frequently influenced by weld sales advice This 600 plus page book has been called the MIG bible by some readers It s the most comprehensive book ever written on managing the MIG process The book covers all aspects of controlling both the MIG and flux cored process A MANAGER OR ENGINEER DOES NOT REQUIRE THE ABILITY TO WELD HOWEVER THEY SHOULD HAVE THE FUNDAMENTAL PROCESS KNOWLEDGE OF WHAT MAKES A GOOD MIG OR FLUX CORED WELD WHEN A MANAGER OR ENGINEER UNDERSTANDS HOW SALES INFLUENCE AND HYPE EFFECTS THE WELD SHOP THEY ARE WELL ON THEIR WAY TO WELD PROCESS MANAGEMENT In the MIG Management book you will find Extensive data on MIG gas selection without sales input Over 100 pages on the problems with the pulsed process How to establish effective weld process controls for robot cells How to use special techniques to increase robot weld speeds How to optimize manual and robot weld deposition rates How to control sheet metal welds in automotive plants How to best utilize MIG and flux cored for pipe welds All this along with a unique simple method for controlling weld costs These are just a few of the important topics Without question this is the most practical and comprehensive book you will ever find on managing the MIG process Official Reference Book and Buyers' Guide , 1988 **Advances in Manufacturing II** Bartosz Gapiński, Marek

Szostak,Vitalii Ivanov,2019-05-02 This book covers a variety of topics related to machine manufacturing and concerning machine design product assembly technological aspects of production mechatronics and production maintenance Based on papers presented at the 6th International Scientific Technical Conference MANUFACTURING 2019 held in Poznan Poland on May 19 22 2019 the different chapters reports on cutting edge issues in constructing machine parts mechatronic solutions and modern drives They include new ideas and technologies for machine cutting and precise processing Chipless technologies such as founding plastic forming non metal construction materials and composites and additive techniques alike are also analyzed and thoroughly discussed All in all the book reports on significant scientific contributions in modern manufacturing offering a timely guide for researchers and professionals developing and or using mechanical engineering technologies that have become indispensable for modern manufacturing Innovative Technologies for Joining Advanced Materials XI Nicușor-Alin SÎRBU,2021-06-23 Selected peer reviewed full text papers from the 11th International Conference Innovative Technology for Joining Advanced Materials TIMA 20 Selected peer reviewed papers from the 11th International Conference Innovative Technology for Joining Advanced Materials TIMA 20 November 26 27 2020 Timisoara Romania *Innovative Technologies for Joining Advanced Materials* Alin Constantin Murariu,2014-09-12 Selected peer reviewed papers from the 7th International Conference on Innovative Technologies for Joining Advanced Materials TIMA 14 June 19 20 2014 Timisoara Romania **Machinery Buyers' Guide** ,1995 **Welder's Handbook** Richard Finch,2007-02-21 A newly updated state of the art guide to MIG and TIG arc welding technology Written by a noted authority in the field this revised edition of HP s bestselling automotive book for over 20 years is a detailed instructional manual on the theory technique equipment and proper procedures of metal inert gas MIG and tungsten inert gas TIG welding Guide to Worldwide Maritime Training ,1993 Welding and Metal Fabrication ,1987 **Basic TIG & MIG Welding** ,1971 **Iron and Steel Engineer** ,1997 Contains the proceedings of the Association

When people should go to the books stores, search creation by shop, shelf by shelf, it is really problematic. This is why we present the book compilations in this website. It will no question ease you to see guide **Mig Mag Welding Guide** as you such as.

By searching the title, publisher, or authors of guide you in reality want, you can discover them rapidly. In the house, workplace, or perhaps in your method can be every best place within net connections. If you aspiration to download and install the Mig Mag Welding Guide, it is unconditionally simple then, since currently we extend the colleague to buy and create bargains to download and install Mig Mag Welding Guide suitably simple!

<https://new.webyeshiva.org/book/Resources/HomePages/Nature%20Trail%20Games%20Kids.pdf>

Table of Contents Mig Mag Welding Guide

1. Understanding the eBook Mig Mag Welding Guide
 - The Rise of Digital Reading Mig Mag Welding Guide
 - Advantages of eBooks Over Traditional Books
2. Identifying Mig Mag Welding 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 Mig Mag Welding Guide
 - User-Friendly Interface
4. Exploring eBook Recommendations from Mig Mag Welding Guide
 - Personalized Recommendations
 - Mig Mag Welding Guide User Reviews and Ratings
 - Mig Mag Welding Guide and Bestseller Lists

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

Mig Mag Welding Guide Introduction

Mig Mag Welding 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. Mig Mag Welding Guide Offers a vast collection of books, some of which are available for free as PDF downloads, particularly older books in the public domain. Mig Mag Welding 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 Mig Mag Welding 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 Mig Mag Welding Guide Offers a diverse range of free eBooks across various genres. Mig Mag Welding Guide Focuses mainly on educational books, textbooks, and business books. It offers free PDF downloads for educational purposes. Mig Mag Welding Guide Provides a large selection of free eBooks in different genres, which are available for download in various formats, including PDF. Finding specific Mig Mag Welding Guide, especially related to Mig Mag Welding 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 Mig Mag Welding Guide, Sometimes enthusiasts share their designs or concepts in PDF format. Books and Magazines Some Mig Mag Welding Guide books or magazines might include. Look for these in online stores or libraries. Remember that while Mig Mag Welding 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 Mig Mag Welding 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 Mig Mag Welding 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 Mig Mag Welding Guide eBooks, including some popular titles.

FAQs About Mig Mag Welding Guide Books

1. Where can I buy Mig Mag Welding Guide 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 Mig Mag Welding Guide 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 Mig Mag Welding Guide 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 Mig Mag Welding Guide 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 Mig Mag Welding Guide 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 Mig Mag Welding Guide :

[nature trail games kids](#)

[good food 101 hot and spicy dishes](#)

broncher for mangosuthu universt of technology

[mini cooper s 2009 repair manual](#)

70 wonderful word family poems

boeing 777 pilot manual

[mig 29 manual](#)

[quizlet anatomy and physiology chapter 1](#)

novel terjemahan erotis

[ecological survey of kenya narok distric](#)

[practice 8 2 special right triangles answers](#)

1992 toyota paseo service manual

~~manual boat lift winch~~

quizlet american government chapter 5

~~non sequiturs beastly things~~

Mig Mag Welding Guide :

The 7 Secrets of World Class Athletes by Yellin, Steven Great book about controlling your brain thought process to become a great athlete in any sport including golf. The only issue I had with the book is it ... The 7 Secrets of World Class Athletes by Steven Yellin ... This is a brilliant book. It ties together much of what I've surmised about superior performance and what contributes to it. In addition, the book also sheds ... The 7 Secrets of World Class Athletes The 7 Secrets of World Class Athletes takes you into the minds of super-star athletes when they are on top of their game. The fascinating concept is that ... The 7 Secrets of World Class Athletes The 7 Secrets of World Class Athletes takes you into the minds of super-star athletes when they are on top of their game. The fascinating concept is that. The 7 Secrets of World Class Athletes - Yellin, Steven The 7 Secrets of World Class Athletes takes you into the minds of super-star athletes when they are on top of their game. The fascinating concept is that ... The 7 Secrets of World Class Athletes The 7 Secrets of World Class Athletes takes you into the minds of super-star athletes when they are on top of their game. The fascinating concept is that ... The 7 Secrets of World Class Athletes, Biancalana, Budd Author:Biancalana, Buddy. The 7 Secrets of World Class Athletes. Book Binding:Paperback /

softback. Book Condition:GOOD. Year Published:0630. The 7 secrets of world class athletes : Yellin, Steven, author Apr 14, 2021 — 192 pages ; 21 cm. First secret: The fluid motion factor -- Second secret: Sports as a series of gaps -- Third secret: The quality of the ... The 7 Secrets of World Class Athletes Synopsis: The 7 Secrets of World Class Athletes takes you into the minds of super-star athletes when they are on top of their game. The fascinating concept is ... The 7 Secrets of World Class Athletes by Buddy Biancalana The 7 Secrets of World Class Athletes by Buddy Biancalana: New ; Item Number. 363415436080 ; Publication Date. 2010-06-30 ; Pages. 198 ; Accurate description. 4.9. Slow Fire: The Beginner's Guide to Barbecue BBQ, brings decades of expertise as a barbecue master, providing indispensable wisdom alongside 68 of the best recipes he has encountered in his long and wide- ... Slow Fire: The Beginner's Guide to Barbecue Great barbecue is as simple as meat, fire, smoke, and time. This ode to authentic meaty goodness gives barbecue beginners an essential guide to the tools, ... Slow Fire: The Beginner's Guide to Barbecue by Ray Lampe Great barbecue is as simple as meat, fire, smoke, and time. This ode to authentic meaty goodness gives barbecue beginners an essential guide to the tools, ... Slow Fire: The Beginner's Guide to... book by Ray Lampe Great barbecue is as simple as meat, fire, smoke, and time. This ode to authentic meaty goodness gives barbecue beginners an essential guide to the tools, ... s Guide to Lip-Smacking Barbecue by Lampe, Ray Dr Bbq ... Slow Fire: The Beginner's Guide to Lip-Smacking Barbecue by Lampe, Ray Dr Bbq ; Item Number. 195497999679 ; Binding. Hardcover ; Weight. 1 lbs ; Accurate ... The Beginner's Guide to Lip-Smacking Barbecue by Lampe, Ray ... Slow Fire: The Beginner's Guide to Lip-Smacking Barbecue by Lampe, Ray Dr Bbq ; Binding. Hardcover ; Weight. 1 lbs ; Product Group. Book ; Accurate description. 4.9. Slow Fire The Beginners Guide to Lip Smacking Barbecue Apr 11, 2012 — Slow Fire The Beginners Guide to Lip Smacking Barbecue by Ray Lampe available in Hardcover on Powells.com, also read synopsis and reviews. Slow Fire: The Beginner's Guide to Lip-Smacking Barbecue [O ... Slow Fire: The Beginner's Guide to Lip-Smacking Barbecue [O#COOKBOOKS] ... NOTE: This is an e-book. After making a payment, please provide your email address in ... The Beginner's Guide to Lip-Smacking Barbecue (Hardcover) Great barbecue is as simple as meat, fire, smoke, and time. This ode to authentic meaty goodness gives barbecue beginners an essential guide to the tools, ... Slow Fire: The Beginner's Guide to Barbecue - Catalog Slow Fire: The Beginner's Guide to Barbecue (eBook) ; Author. Ray Lampe ; Published. Chronicle Books LLC, 2012. ; Status. Available Online. Acuson 128XP Ultrasound System - Service manual. ... The purpose of this manual is to familiarize service personnel with the system's basic operation for maintenance and troubleshooting. Service personnel are ... Service Manual This manual should be used only when servicing the Acuson Aspen ultrasound system. For service information about the Acuson. Model 128 use service manual pin ... Support & Documentation - Siemens Healthineers USA Access online services and customer resources, find education and training, technical documentation, and learn about our eCommerce solutions. Siemens SONOLINE G50 Service Manual View and Download Siemens SONOLINE G50 service manual online. Ultrasound Systems. SONOLINE G50 medical equipment pdf manual

download. Siemens Acuson Aspen Service Manual | PDF Ultrasound · Ultrasound Systems · Siemens - Acuson Aspen · Documents; Service Manual. Siemens Acuson Aspen Service Manual. Loading Document... Siemens - Acuson ... Siemens SONOLINE Antares Service Manual ZH May 20, 2020 — Siemens SONOLINE Antares Service Manual ZH ; Addeddate: 2020-05-20 06:06:29 ; Classification: Medical Imaging;Ultrasound;Siemens Ultrasound; ... Siemens ACUSON Freestyle User Manual View and Download Siemens ACUSON Freestyle user manual online. Diagnostic Ultrasound System. ACUSON Freestyle medical equipment pdf manual download. ACUSON P300™ Ultrasound System the Siemens service team for peace of mind. Complete patient care solution ... Advanced measurements and reporting can be found in the operations manual. B ... Siemens x300 Service Manual | PDF SIEMENS X300 SERVICE MANUAL · 1. Reinstall/reload SW. If message still appears, then. 2. Measure testpoints for missing 12V. · I've the test point values below. Service Manual Inquiry - Siemens Acuson X300 Jan 16, 2019 — Hello good morning everyone. Can anyone share me a service manual for Acuson X300 ultrasound machine? I will be using this for unit ...