Trailer Wiring Harness - 1999-2023 Ford Expedition

Product Description

Brand: Hopkins SKU: 41155

Notes: Plug-In Simple (R) Vehicle To Trailer Wiring Harness; Includes Dust Cover and Grease Packet; With Factory 7

Blade



Compatible With or Fits

PLEASE READ BEFORE MAKING THIS PURCHASE

Vehicle	Sub Model
2016 - 2017 Ford Expedition	EL King Ranch
2016 - 2017 Ford Expedition	EL Limited
2016 - 2017 Ford Expedition	EL Platinum
2016 - 2017 Ford Expedition	EL SSV
2016 - 2017 Ford Expedition	EL XL
2016 - 2017 Ford Expedition	EL XLT
2016 - 2017 Ford Expedition	King Ranch
2016 - 2017 Ford Expedition	Limited
2016 - 2017 Ford Expedition	Max Limited
2016 - 2017 Ford Expedition	Platinum
2016 - 2017 Ford Expedition	ssv
2016 - 2017 Ford Expedition	XL
2016 - 2017 Ford Expedition	XLT
1999 - 2015, 2018 - 2023 Ford Expedition	

Product Specifications

Connector Style: 4 Flat Install Method: Direct-Fit Outer Finish Color: Black

199ford Expedition Trailer Harness Flasher

Didier Musso

199ford Expedition Trailer Harness Flasher:

Thank you for reading **199ford Expedition Trailer Harness Flasher**. As you may know, people have look numerous times for their chosen books like this 199ford Expedition Trailer Harness Flasher, but end up in malicious downloads. Rather than enjoying a good book with a cup of tea in the afternoon, instead they juggled with some infectious bugs inside their desktop computer.

199ford Expedition Trailer Harness Flasher is available in our digital library an online access to it is set as public so you can download it instantly.

Our digital library hosts in multiple countries, allowing you to get the most less latency time to download any of our books like this one.

Kindly say, the 199ford Expedition Trailer Harness Flasher is universally compatible with any devices to read

 $\frac{https://legacy.tortoisemedia.com/files/browse/index.jsp/13\%20Grade\%20Accounting\%20Year\%20End\%20Question\%20Paper.pdf}{}$

Table of Contents 199ford Expedition Trailer Harness Flasher

- 1. Understanding the eBook 199ford Expedition Trailer Harness Flasher
 - The Rise of Digital Reading 199ford Expedition Trailer Harness Flasher
 - o Advantages of eBooks Over Traditional Books
- 2. Identifying 199ford Expedition Trailer Harness Flasher
 - Exploring Different Genres
 - $\circ\,$ Considering Fiction vs. Non-Fiction
 - Determining Your Reading Goals
- 3. Choosing the Right eBook Platform
 - Popular eBook Platforms
 - Features to Look for in an 199ford Expedition Trailer Harness Flasher
 - User-Friendly Interface
- 4. Exploring eBook Recommendations from 199ford Expedition Trailer Harness Flasher

- Personalized Recommendations
- 199ford Expedition Trailer Harness Flasher User Reviews and Ratings
- 199ford Expedition Trailer Harness Flasher and Bestseller Lists
- 5. Accessing 199ford Expedition Trailer Harness Flasher Free and Paid eBooks
 - 199ford Expedition Trailer Harness Flasher Public Domain eBooks
 - 199ford Expedition Trailer Harness Flasher eBook Subscription Services
 - 199ford Expedition Trailer Harness Flasher Budget-Friendly Options
- 6. Navigating 199ford Expedition Trailer Harness Flasher eBook Formats
 - o ePub, PDF, MOBI, and More
 - 199ford Expedition Trailer Harness Flasher Compatibility with Devices
 - 199ford Expedition Trailer Harness Flasher Enhanced eBook Features
- 7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of 199ford Expedition Trailer Harness Flasher
 - Highlighting and Note-Taking 199ford Expedition Trailer Harness Flasher
 - Interactive Elements 199ford Expedition Trailer Harness Flasher
- 8. Staying Engaged with 199ford Expedition Trailer Harness Flasher
 - Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers 199ford Expedition Trailer Harness Flasher
- 9. Balancing eBooks and Physical Books 199ford Expedition Trailer Harness Flasher
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection 199ford Expedition Trailer Harness Flasher
- 10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
- 11. Cultivating a Reading Routine 199ford Expedition Trailer Harness Flasher
 - Setting Reading Goals 199ford Expedition Trailer Harness Flasher
 - Carving Out Dedicated Reading Time
- 12. Sourcing Reliable Information of 199ford Expedition Trailer Harness Flasher

- Fact-Checking eBook Content of 199ford Expedition Trailer Harness Flasher
- 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

199ford Expedition Trailer Harness Flasher Introduction

199 ford Expedition Trailer Harness Flasher 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. 199ford Expedition Trailer Harness Flasher Offers a vast collection of books, some of which are available for free as PDF downloads, particularly older books in the public domain. 199ford Expedition Trailer Harness Flasher: 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 199ford Expedition Trailer Harness Flasher: Has an extensive collection of digital content, including books, articles, videos, and more. It has a massive library of free downloadable books. Free-eBooks 199ford Expedition Trailer Harness Flasher Offers a diverse range of free eBooks across various genres. 199ford Expedition Trailer Harness Flasher Focuses mainly on educational books, textbooks, and business books. It offers free PDF downloads for educational purposes. 199ford Expedition Trailer Harness Flasher Provides a large selection of free eBooks in different genres, which are available for download in various formats, including PDF. Finding specific 199ford Expedition Trailer Harness Flasher, especially related to 199ford Expedition Trailer Harness Flasher, 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 199ford Expedition Trailer Harness Flasher, Sometimes enthusiasts share their designs or concepts in PDF format. Books and Magazines Some 199ford Expedition Trailer Harness Flasher books or magazines might include. Look for these in online stores or libraries. Remember that while 199ford Expedition Trailer Harness Flasher, 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 199ford Expedition Trailer Harness Flasher 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 199ford Expedition Trailer Harness Flasher 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 199ford Expedition Trailer Harness Flasher eBooks, including some popular titles.

FAQs About 199ford Expedition Trailer Harness Flasher 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 web-based 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. 199ford Expedition Trailer Harness Flasher in digital format, so the resources that you find are reliable. There are also many Ebooks of related with 199ford Expedition Trailer Harness Flasher. Where to download 199ford Expedition Trailer Harness Flasher online for free? Are you looking for 199ford Expedition Trailer Harness Flasher PDF? This is definitely going to save you time and cash in something you should think about.

Find 199ford Expedition Trailer Harness Flasher:

2013 grade accounting year end question paper
2013 camry radio wiring diagram
2013 1mao 1h mark scheme
2013 cape literature in english past paper
2013 camry operating guide

2013 ap bio practice test with answers

2013 honda ridgeline manual

2013 gmc sierra parts manual

2013 audi a6 2006 owners manual

2013 cbr 500 manual

2012 vamaha ttr 110 e service manual

2013 cruze service manual oil change

2013 afrikaans exampler grade 9

2013 dodge dart owners manual

2013 calculus ab ap multiple choice answers

199ford Expedition Trailer Harness Flasher:

50 heirloom buttons to make paperback 1 april 1996 amazon de - Jan 30 2023

web apr 1 1996 featured in this beautifully photographed book are dozens of buttons many inspired by vintage and antique designs you ll find techniques for delicate needle lace buttons elegant frog closures victorian crocheted buttons braid buttons and fabric and ribbon buttons

50 heirloom buttons to make nancy nehring marcus tullis - Sep 06 2023

web jan 1 1996 50 heirloom buttons to make nancy nehring marcus tullis on amazon com free shipping on qualifying offers 50 heirloom buttons to make 50 heirloom buttons to make nancy nehring marcus

50 heirloom buttons to make by nancy nehring pdf scribd - Jul 24 2022

web 50 heirloom buttons to make by nancy nehring free download as pdf file pdf or read online for free a gallery of decorative fabric needle lace crochet ribbon and braid closures you can create

50 heirloom buttons to make by nancy nehring open library - Mar 20 2022

web sep 17 2021 50 heirloom buttons to make by nancy nehring 1996 taunton press edition in english

amazon com customer reviews 50 heirloom buttons to make - Sep 25 2022

web find helpful customer reviews and review ratings for 50 heirloom buttons to make at amazon com read honest and unbiased product reviews from our users

50 heirloom buttons to make nancy nehring 9781561581467 - Aug 25 2022

web nancy nehring create from this gallery of decorative fabric needle lace crochet ribbon and braid closures this extensive collection of beautiful buttons and closures can easily be made without special equipment includes delicate needle lace

buttons elegant frog closures victorian crocheted buttons braid fabric ribbon buttons and more patterns 50 heirloom buttons to make ravelry - Feb 28 2023

web create an account advanced search patterns projects designers sources yarns stashes yarn shops brands fiber people groups forum posts topics events patterns 50 heirloom buttons to make 50 heirloom buttons to make by nancy nehring source viewing as a guest user what am i missing overview patterns 4 projects for sale or

50 heirloom buttons to make alibris - May 22 2022

web this extensive collection of beautiful buttons and closures can easily be made by any craftsperson regardless of skill level or experience without special equipment detailed drawings and beautiful full color photos will help them to learn techniques for making the perfect button for any garment in any wardrobe

50 heirloom buttons to make by nancy nehring goodreads - May 02 2023

web jan 1 1996 this extensive collection of beautiful buttons and closures can easily be made without special equipment includes delicate needle lace buttons elegant frog closures victorian crocheted buttons braid fabric ribbon buttons and more genres craftssewingnonfiction 128 pages paperback

50 heirloom buttons to make nancy nehring free download - Jul 04 2023

web 50 heirloom buttons to make by nancy nehring publication date 1996 topics buttons button craft publisher taunton press collection inlibrary printdisabled internetarchivebooks contributor internet archive language english access restricted item true addeddate 2014 03 12 16 14 55 467905 bookplateleaf 0004 boxid ia1146909 city

50 heirloom buttons to make paperback jan 1 1996 amazon ca - Oct 27 2022

web 50 heirloom buttons to make paperback jan 1 1996 create from this gallery of decorative fabric needle lace crochet ribbon and braid closures this extensive collection of beautiful buttons and closures can easily be made without special equipment

50 heirloom buttons to make kindle edition amazon co uk - Apr 01 2023

web 50 heirloom buttons to make kindle edition create from this gallery of decorative fabric needle lace crochet ribbon and braid closures this extensive collection of beautiful buttons and closures can easily be made without special equipment includes delicate needle lace buttons elegant frog closures victorian crocheted buttons braid

50 heirloom buttons to make a gallery of decorative fabric - Nov 27 2022

web find many great new used options and get the best deals for 50 heirloom buttons to make 3a a gallery of decorative fabric 2c needle lace 2c croch by nancy nehring 281996 2c trade paperback 29 at the best online prices at ebay free shipping for many products

50 heirloom buttons to make by nancy nehring librarything - Apr 20 2022

web create from this gallery of decorative fabric needle lace crochet ribbon and braid closures this extensive collection of beautiful buttons and closures can easily be made without special equipment includes delicate needle lace buttons elegant frog closures victorian crocheted buttons braid fabric ribbon buttons and more

50 heirloom buttons to make by nancy nehring abebooks - Jun 22 2022

web 50 heirloom buttons to make by nancy nehring and a great selection of related books art and collectibles available now at abebooks com

50 heirloom buttons to make amazon com tr - Oct 07 2023

web 50 heirloom buttons to make amazon com tr Çerez tercihlerinizi seçin alışveriş deneyiminizi geliştirmek hizmetlerimizi sunmak müşterilerin hizmetlerimizi nasıl kullandığını anlayarak iyileştirmeler yapabilmek ve ilgi alanlarına göre özelleştirilmiş reklamlar da dahil olmak üzere reklamları gösterebilmek için çerezler

50 heirloom buttons to make nancy nehring google books - Jun 03 2023

web buttons can add a distinctive touch to any garment and nancy nehring s book provides a host of beautiful buttons you can easily learn to make whether you sew or not this beautifully

50 heirloom buttons to make taschenbuch 1 april 1996 amazon de - Feb 16 2022

web marcus tullis 50 heirloom buttons to make taschenbuch 1 april 1996 englisch ausgabe von nancy nehring autor marcus tullis fotograf 105 sternebewertungen alle formate und editionen anzeigen kindle 10 78 lies mit kostenfreien app möchten sie ihre elektro und elektronikgeräte kostenlos recyceln mehr erfahren

50 heirloom buttons to make kindle edition amazon com au - Dec 29 2022

web 50 heirloom buttons to make kindle edition create from this gallery of decorative fabric needle lace crochet ribbon and braid closures this extensive collection of beautiful buttons and closures can easily be made without special equipment includes delicate needle lace buttons elegant frog closures victorian crocheted buttons braid

50 heirloom buttons to make kindle edition amazon com - Aug 05 2023

web dec 31 1995 50 heirloom buttons to make kindle edition by nehring nancy marcus tullis download it once and read it on your kindle device pc phones or tablets use features like bookmarks note taking and highlighting while reading 50

fundamentals of applied dynamics solutions manual the mit - Jul 30 2023

web fundamentals of applied dynamics solutions manual by williams jr isbn 9780262039710 copyright 2019 click here to preview tabs

fundamentals of applied dynamics williams solution manual - Feb 10 2022

web jan 19 2023 downloading pdf fundamentals of applied dynamics williams solution manual then you ve come to loyal website we have fundamentals of applied dynamics williams solution manual djvu epub pdf txt doc formats we will be happy

if you come back us again and again

fundamentals of applied dynamics williams solution manual pdf - May 16 2022

web jun 3 2022 if you are searched for the book applied gas dynamics solution manual in pdf form in that case you come on to right website we furnish the utter option of this book in doc txt djvu pdf epub formats instant download solution manual and test bank for students and teachers

fundamentals of applied dynamics solutions manual james h williams - Mar 26 2023

web fundamentals of applied dynamics solutions manualauthor james h williams jr post this book isbn 13 9780471136255 isbn 10 0471136255 publication date 6 9 1997 pages 912

j h williams fundamentals of applied dynamics table of contents - Mar 14 2022

web 1 11 the unification of celestial and terrestrial motion 1 12 variational principles in dynamics 1 13 the internationalism of dynamics 1 14 our niche in the cosmos chapter 2 design modeling and formulation of equations of motion 2 3 direct and indirect approaches for formulation of equations of motion chapter 3 kinematics

fundamentals of applied dynamics mit press - Feb 22 2023

web dec 17 2019 the mit press has been a leader in open access book publishing for over two decades beginning in 1995 with the publication of william mitchell s city of bits which appeared simultaneously in print and in a dynamic open web edition learn more info for column current authors prospective authors instructors column media inquiries fundamentals of applied dynamics solutions manual - Jul 18 2022

web fundamentals of applied dynamics solutions manual the williams jr isbn 9780262039710 credits 2019 click klicken to preview tabs

j h williams fundamentals of applied dynamics preface - Aug 19 2022

web preface by james h williams jr from fundamentals of applied dynamics splash the only copy of the freshly edited version of several chapters of the fundamental dynamics textbook i am writing is thrust overboard into the caribbean sea as the penero nearly capsizes along the archipielago los roques believing that there is a force in the

fundamentals of applied dynamics revised printing solutions manual chegg - Apr 26 2023

web select your edition below by 0 editions author james h williams jr 0 solutions frequently asked questions what are chegg study step by step fundamentals of applied dynamics revised printing solutions manuals why is chegg study better than downloaded fundamentals of applied dynamics revised printing pdf solution manuals

fundamentals of applied dynamics solutions manual google - Aug 31 2023

web fundamentals of applied dynamics solutions manual author williams publisher john wiley sons australia limited 1997 isbn 0471136255 9780471136255 length 912 pages export

formats and editions of fundamentals of applied dynamics solutions - May 28 2023

web formats and editions of fundamentals of applied dynamics solutions manual to accompany worldcat org showing all editions for fundamentals of applied dynamics solutions manual to accompany sort by format all formats book 1 fundamentals of applied dynamics solutions manual - Apr 14 2022

web fundamentals of applied dynamics solutions manual unveiling the power of verbal art an mental sojourn through fundamentals of applied dynamics solutions manual in some sort of inundated with monitors and the cacophony of immediate communication the profound energy and mental resonance of verbal artistry frequently diminish into fundamentals of applied dynamics the mit press ublish - Jan 24 2023

web the text presents engineering mechanics as a unified field emphasizing dynamics but integrating topics from other disciplines including design and the humanities the book begins with a history of mechanics suitable for an undergraduate overview

fundamentals of applied dynamics solutions manual - Nov 21 2022

web get free shipping on fundamentals of applied dynamics solutions manual isbn13 9780471136255 from textbookrush at a great price and get free shipping on orders over 35

fundamentals of applied dynamics williams solution manual issuu - Sep 19 2022

web jan 24 2018 save this book to read fundamentals of applied dynamics williams solution manual pdf ebook at our online library get fundamentals of applied dynamics williams solution manual pdf file for free

fundamentals of applied dynamics james h williams jr - Dec 23 2022

web dec 17 2019 james h williams jr mit press dec 17 2019 technology engineering 884 pages an introductory engineering textbook by an award winning mit professor that covers the history of dynamics and the dynamical analyses of mechanical electrical and electromechanical systems

fundamentals of applied dynamics revised printing - Oct 21 2022

web e book download fundamentals of applied dynamics revised printing epub pdf txt doc mobi author james h williams jr isbn13 978 0470133859 download fundamentals of applied dynamics revised printing fundamentals of applied dynamics is a unique blend of both the modern and the historical emphasizing

fundamentals of applied dynamics solutions manual to accompany - Jun 28 2023

web fundamentals of applied dynamics solutions manual to accompany author james h williams summary the problems and solutions contained herein should be used exclusively in conjunction with fundamentals of applied dynamics full text of solution manual fundamentals of applied - Jan 12 2022

web full text of solution manual fundamentals of applied electromagnetics 6th ed fawwaz t ulaby see other formats here are

instructor's solutions manuals to the scientific textbooks in pdf format they cover solutions to all problems if you need any let me know its title edition and author

fundamentals of applied dynamics by williams james h open - Jun 16 2022

web oct 18 2022 fundamentals of applied dynamics by williams james h 1996 j wiley edition in english ontario cat4 grade 1 practice uniport edu - Mar 29 2022

web 1 ontario cat4 grade 1 practice 180 days of reading for first grade jun 12 2021 encourage first grade students to build their reading comprehension and word study

cat4 test practice year 4 2023 testprep online - Jan 07 2023

web 4 ontario cat4 grade 1 practice 2023 09 23 frequently referenced sections of the latest version of the ifgc they have been strategically designed by industry experts so that

using the cognitive abilities test cat4 in your school - Dec 06 2022

web ontario cat4 grade 1 practice cat4 test 2023 information and sample questions tips cat4 tests practice a parent s guide explaining the cognitive abilities test

ccat test grade 1 practice test questions testprep - Feb 08 2023

web ontario cat4 grade 1 practice student practice book grade 1 may 23 2022 go math combines fresh teaching approaches with never before seen components that offer

2020 p4 english ca1 catholic high pdf sg exam - Jan 27 2022

cat4 practice tests canadian test centre - Sep 15 2023

web cat4 is the fourth edition of the canadian achievement tests cat modelled to fit the canadian curricula

cat4 online curriculum matches canadian test centre - Apr 10 2023

web age cat4 year uk grade us grade indian grade ib programme 6 00 7 11 x 2 1st 1st 1st pyp 6 06 8 11 pre a 3 2nd 2nd 2nd pyp the student s score is within the

practice cat4 tests canada questions 2023 testhq - May 11 2023

web cat4 practice test 2023 cognitive abilities the cognitive abilities exam cat4 is a test that helps students and teachers understand how they learn and how they might improve

ebook ontario cat4 grade 6 practice - Apr 29 2022

web grade 4 new ontario math curriculum 2020 this resource covers all expectations in the grade 4 new ontario math curriculum strand spatial sense e1 geometric and

cat4 test the ultimate guide free practice resources more - Jun 12 2023

web cat4 online curriculum matches these tables compiled by provincial curriculum experts will directly show how cat 4 closely matches curriculums by province alberta

ontario cat4 grade 1 practice pdf lfe - Aug 02 2022

web this ontario cat4 grade 1 practice as one of the most vigorous sellers here will totally be accompanied by the best options to review cogat practice test grade 2 bright

results for ontario grade 4 curriculum tpt - Dec 26 2021

cat4 practice test practice test geeks - Mar 09 2023

web for more information on the cat4 level e continue reading below cat4 level e f basic pack 69 00 cat4 level e f premium pack 89 00 family membership 129 00 get

free ontario cat4 grade 7 practice orientation sutd edu sg - Feb 25 2022

cat4 canadian test centre - Jul 13 2023

web this comprehensive cat4 practice tests cover all the skill batteries and question formats for levels a to g featuring all the cognitive reasoning tests verbal reasoning non verbal

ontario cat4 grade 5 practice download only - May 31 2022

web jan 25 2021 related papers 2020 p4 english ca1 catholic high pdf 2020 p4 english ca1 henry park pdf 2020 p4 english ca1 maha bodhi pdf 2020 p4 english ca2

pdf ontario cat4 grade 1 practice - Nov 24 2021

cat4 test practice grade 8 testprep online - Nov 05 2022

web books once this one merely said the ontario cat4 grade 1 practice is universally compatible bearing in mind any devices to read spectrum critical thinking for math

free ontario cat4 grade 1 practice cyberlab sutd edu sg - Oct 04 2022

web academic vocabulary practice grade k apr 01 2022 the academic vocabulary practice for kindergarten offers teachers 128 pages of practical ways to help students master

ontario cat4 grade 1 practice help environment harvard edu - Jul 01 2022

web and preparation tests free celps practice test links one can use before spending ontario cat4 grade 2 practice free ebooks download free cat online practice tests

ontario cat4 grade 1 practice eagldemo2 eagltechnology com - Sep 03 2022

web 1 ontario cat4 grade 6 practice 180 days of social studies for sixth grade aug 31 2020 180 days of social studies is a fun and effective daily practice workbook designed to

free cat4 practice test for all levels no registration needed - Oct 16 2023

web nov 8 2023 the free cat4 practice test helps you evaluate your current level of preparedness identify areas for improvement and familiarize yourself with the exam

cat4 practice test and sample questions free - Aug 14 2023

web using these resources will help your child be as prepared as possible take the test with confidence and perform at their best this is a complete study guide for the cat4 test