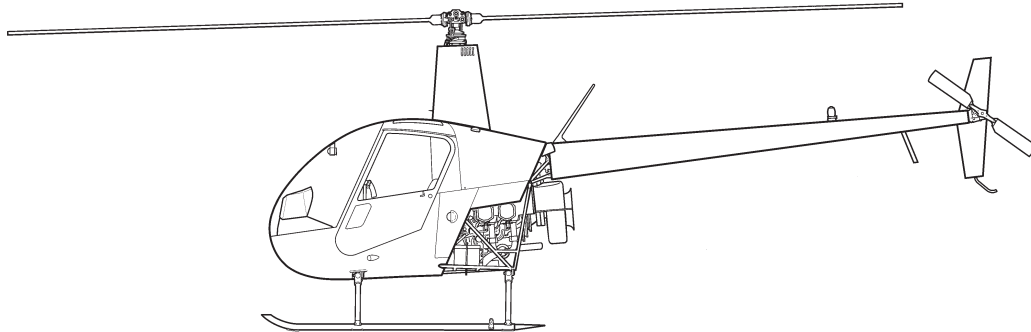


ROBINSON HELICOPTER COMPANY

R22 ILLUSTRATED PARTS CATALOG

Type Certificate Number H10WE



Robinson Helicopter Company
2901 Airport Drive
Torrance, California 90505-6115
UNITED STATES

Phone: (310) 539-0508
Fax: (310) 539-5198
Web: www.robinsonheli.com
Email: customerservice@robinsonheli.com

OFFICE HOURS

Monday through Friday, 7:30 a.m. to 4:30 p.m., Pacific Time.

Lunch hour is 11:30 a.m. to 12:30 p.m.

RHC is closed during holidays listed on following page.

TECHNICAL SUPPORT

Email: techsupport@robinsonheli.com

SPARES ORDERS

Email: cs1@robinsonheli.com

For spares orders after working hours, use e-mail, fax number, or leave voice-mail message with Customer Service.

CORRESPONDENCE REGARDING ORDERS

All correspondence regarding orders must reference the name of the Service Center, customer purchase order number, order date, name and signature of the authorized person placing the order. All personnel placing orders on behalf of a dealer or service center must have written authorization on file at RHC.

2011 COMPANY CLOSURES

JANUARY 2011						
Su	M	T	W	Th	F	Sa
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MAY 2011						
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AUGUST 2011						
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NOVEMBER 2011						
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DECEMBER 2011						
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18	19	20	21	22	23	24
25	26	27	28	29	30	31

Please be aware of the following 2011 company closures when placing orders:

30 May 2011

04 July 2011

*01-05 August 2011**

05 September 2011

24-25 November 2011

*26-30 December 2011**

02 January 2012

* Technical Support will be available during regular business hours. Customer Service will be available to process AOG (Aircraft On Ground) spares orders only.

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CATALOG FEATURES

INTRODUCTION

The catalog features:

1. A table of contents located in the front of the catalog.
2. Alphabetical and numerical indexes located in the back of the catalog.

PART DESIGNATION

Robinson parts are designated with a part number prefix "A", "B", "C", or "D" followed by three digits and a dash number, such as A101-1. Robinson special tools are designated with a part number prefix "MT". For standard hardware items such as bolts, nuts, screws, etc., "AN", "MS", and "NAS" part numbers are used. When a rivet length is not specified, length must be determined by installer.

In some instances, vendor part numbers are also used.

SYMBOLS

"A/R"	As Required
"Incl"	Included, abbreviated
"LH" or "RH"	Left Hand or Right Hand
"Ref"	Reference, abbreviated
"RHC"	Robinson Helicopter Company

USABLE ON CODE

"S"	Standard	"B2"	Beta II
"H"	HP	"M"	Mariner
"A"	Alpha	"M2"	Mariner II
"B"	Beta		

See Right Side
Center Column of
Text Pages:

PARTS AVAIL	USABLE ON CODE	QTY PER ASSY
----------------	----------------------	--------------------

ORDERING AND SHIPPING

All orders must include instructions for shipping. All parts or components shipped to RHC must include a signed Component Return/Authorization Form. Return shipments must be paid for by the dealer or distributor. NOTE: Handling fees will be applied to all orders received which are under \$1,000.00. Orders shipped on an A.O.G. basis (24 hours domestic, 48 hours foreign) will be assessed additional charges.

WARRANTY

RHC will apply a 1-year or 1000-hour limited warranty to all parts and components purchased from RHC.

RETURNS

No part may be returned to RHC for credit if the part shows any indication whatsoever of use or damage, or if the cost of the individual part was less than \$25 (U.S.). Parts returned within 30 days of purchase will be assessed a 20% restocking fee. No part may be returned after 30 days without prior RHC approval. Any part approved for return after 30 days will be assessed a 50% restocking fee.

REVISIONS

Before using this catalog, be sure it includes all current revised pages. A list of revised pages is located in the revision log in back of the catalog. If a new parts catalog is purchased, be sure to complete and mail the revision service application found in front of catalog. This will ensure that you will receive all current revisions as they are published for a one-year period.

RHC reserves the right to cancel, add, or change the parts and assemblies described in this catalog without notice.

PART INTERCHANGEABILITY

The following parts are interchangeable. Unless noted otherwise, whenever one part is referred to in this catalog, its substitute part is also permitted.

<u>PART:</u>	<u>INTERCHANGEABLE WITH:</u>
AN340 nut	MS35649 nut per NASM35649 except AN340B8 nut
AN345 nut	MS35650 nut per NASM35650
AN364 nut	MS21083 nut per NASM21083
AN507 screw	MS24693 screw per NASM24693
AN509 screw	MS24694 screw per NASM24694
AN515 screw	MS35206 screw per NASM35206
AN515C screw	MS51957 screw
AN515UB screw	B567-__ screw
AN525 & AN526 screw	MS27039C screw per NASM27039
AN814 & MS24391 plug	AS5169 plug
AN815 & MS24392 union	AS5174 union
AN819 & MS20819 sleeve	AS5176 sleeve
AN822 & MS20822 elbow	AS5195 elbow
AN823 & MS20823 elbow	AS5196 elbow
AN825 & MS20825 tee	AS5197 tee
AN826 & MS20826 tee	AS5198 tee
AN894 & MS24398 bushing	AS5173 bushing
AN900 gasket	MS35769 gasket per AS35769
AN924 nut & MS24400 nut	AS5178 nut
AN931 grommet	MS35489 grommet
AN935 lockwasher	B332-__ lockwasher
AN936 lockwasher	MS35335 lockwasher
AN960-4L washer	NAS1149FN416P washer
AN960-4 washer	NAS1149FN432P washer
AN960-6L washer	NAS1149FN616P washer
AN960-6 washer	NAS1149FN632P washer
AN960-8L washer	NAS1149FN816P washer
AN960-8 washer	NAS1149FN832P washer
AN960-10L washer	NAS1149F0332P washer
AN960-10 washer	NAS1149F0363P washer
AN960-416L washer	NAS1149F0432P washer
AN960-416 washer	NAS1149F0463P washer
AN960-516L washer	NAS1149F0532P washer
AN960-516 washer	NAS1149F0563P washer
AN960-616L washer	NAS1149F0632P washer
AN960-616 washer	NAS1149F0663P washer
AN960-816L washer	NAS1149F0816P washer
AN960-816 washer	NAS1149F0832P washer
AN960-1016L washer	NAS1149F1032P washer
AN960-1016 washer	NAS1149F1063P washer
AN960PD8L washer	NAS1149DN816P washer
AN960PD416L washer	NAS1149D0416J washer
AN960PD516L washer	NAS1149D0516J washer
AN960PD616L washer	NAS1149D0616J washer
AVDEL 1693 rivet	AVDEL 1691 rivet
MS20604ML4W1 rivet	MS20604M4W1 rivet per NASM20604
MS21919DG__ clamp	MS21919WDG__ clamp or AS21919 clamp
NAS1291 nut	MS21042L__ nut per NASM21042
NAS1303 thru NAS1320 bolt	NAS6603 thru NAS6620 bolt*
NAS487 instrument nut	MS33737 Instrument nut per NASM33737
NAS679A__ nut	NAS1291-__ nut or MS21042L__ nut per NASM21042
NAS679C__ M nut	NAS1291C__ M nut
NAS696 nutplate	MS21071 nutplate per NASM21071
NAS698 nutplate	MS21073 nutplate per NASM21073

*The following bolts must be NAS1300 series only: NAS1304-17, -28, -35, -37, & -38, and NAS1305-35.

TECHNICAL PUBLICATIONS SUBSCRIPTION SERVICE FORM

RHC recommends the purchaser of new Maintenance Manuals or Illustrated Parts Catalogs order an appropriate technical publication subscription. Subscription owners immediately receive future effective pages of selected publications for a one-year period. To maintain this service, subscriptions must be renewed annually.

To view the revision status for RHC publications or to view pricing on complete books or sets, please visit the company website: www.robinsonheli.com/pubupdts.htm.

The following class subscriptions are an update service only.

R22 STANDARD, HP, MARINER, MARINER II, ALPHA, BETA, BETA II	R44 ASTRO, CLIPPER, CLIPPER I, RAVEN, IFR, ENG, POLICE (O-540)	R44 RAVEN II, CLIPPER II, IFR, ENG, POLICE (IO-540)
CLASS A (R7046): US \$10.00	CLASS Q (R7284): US \$10.00	CLASS V (R8191): US \$10.00
R22 Pilot's Operating Handbook	R44 Pilot's Operating Handbook	R44 II Pilot's Operating Handbook
R22 Safety Notices	R44 Safety Notices	R44 Safety Notices
CLASS B (R7047): US \$20.00	CLASS R (R7285): US \$20.00	CLASS W (R8192): US \$20.00
R22 Pilot's Operating Handbook	R44 Pilot's Operating Handbook	R44 II Pilot's Operating Handbook
R22 Safety Notices	R44 Safety Notices	R44 Safety Notices
R22 Service Bulletins	R44 Service Bulletins	R44 Service Bulletins
R22 Service Letters	R44 Service Letters	R44 Service Letters
CLASS C (R7048): US \$30.00	CLASS S (R7286): US \$30.00	CLASS X (R8193): US \$30.00
R22 Maintenance Manual	R44 Maintenance Manual	R44 Maintenance Manual
R22 Illustrated Parts Catalog	R44 Illustrated Parts Catalog	R44 Illustrated Parts Catalog
R22 Price List	R44 Price List	R44 Price List
R22 Pilot's Operating Handbook	R44 Pilot's Operating Handbook	R44 II Pilot's Operating Handbook
R22 Safety Notices	R44 Safety Notices	R44 Safety Notices
R22 Service Bulletins	R44 Service Bulletins	R44 Service Bulletins
R22 Service Letters	R44 Service Letters	R44 Service Letters
If you are a Robinson helicopter owner, please provide aircraft model and serial number:	Please send a check payable in US dollars or money order to:	Robinson Helicopter Company Attention: Subscriptions 2901 Airport Drive Torrance, CA 90505-6115 UNITED STATES

Please print your name, complete address, and
phone number in the space below and return
this form with your check or money order.

Class Subscription	Qty.	Total
____ CLASS A (R7046)	____ US \$10.00	____
____ CLASS B (R7047)	____ US \$20.00	____
____ CLASS C (R7048)	____ US \$30.00	____
____ CLASS Q (R7284)	____ US \$10.00	____
____ CLASS R (R7285)	____ US \$20.00	____
____ CLASS S (R7286)	____ US \$30.00	____
____ CLASS V (R8191)	____ US \$10.00	____
____ CLASS W (R8192)	____ US \$20.00	____
____ CLASS X (R8193)	____ US \$30.00	____

ORDER TOTAL _____

TECHNICAL PUBLICATIONS

Please direct recommended changes to RHC Technical Publications via the email address listed below, by phone, or by submitting a duplicate of this completed form by fax or mail. Please include or have available the information detailed by this form.

Recommended changes may include but are not limited to: general comments, corrections, omitted information, or clarification of instructions. Useful commentary will be incorporated into future revisions.

Please send recommendations to:

Email: techpubs@robinsonheli.com

Phone: (310) 539-0508

Fax: (310) 539-5198

Robinson Helicopter Company

Attention: Technical Publications

2901 Airport Drive

Torrance, CA 90505-6115

UNITED STATES

Date _____

Name _____

Company

Helicopter Model

Serial Number

Phone

Email

Publication

Chapter

Section

Page

Revision

COMMENTS

[illegible]

COMPONENT RETURN/AUTHORIZATION

A completed and signed copy of this form must accompany ALL parts or components returned to RHC.

☐ **A.O.G.** I accept the expediting charge (\$50 USD, \$60 Foreign), to ensure work is commenced within (1) work day.

SUBMITTED BY:

Company Name: _____ Contact Name: _____

Phone No.: _____ Fax No.: _____ Email: _____

COMPONENT DESCRIPTION:

ROTORCRAFT DATA: ____ R22 ____ R44 ____ R66

Component or Part No.: _____ Registered Owner: _____

Serial No.: _____ Registration No.: _____

Total Time: _____ Serial No.: _____

Time Since Overhaul: _____ Total Time: _____

Accumulated Cycles: _____ Time Since Overhaul: _____

(R66 Turbine component only)

REASON FOR RETURN: _____

WORK REQUESTED:

____ None (See warranty claim section)

____ Overhaul in accordance with RHC price list

____ Repair estimate only

____ Repair as necessary, cost not to exceed: \$ _____

____ Core credit. Core charged on RHC invoice no.: _____

____ Restock (RHC authorization required). RHC invoice no.: _____

WARRANTY CLAIM:

____ Rotorcraft listed above is under warranty

____ Component purchased within one (1) year on RHC invoice no.: _____

DISPOSITION REQUESTED:

____ Perform work requested or replace under warranty

____ Issue credit (RHC authorization required). Replacement part purchased on RHC invoice no.: _____

SHIPPING INFORMATION:

Address: _____ Carrier: _____

____ URGENT - SHIP NEXT DAY AIR

____ URGENT - SHIP 2ND DAY AIR

I certify that the above component and rotorcraft data is correct in accordance with 14 CFR § 91.417 and hereby authorize the above work to be completed including procurement and installation of necessary materials. RHC employees may disassemble or operate the component at my risk for the purpose of estimating, testing, adjusting, inspection, or delivery. RHC is not responsible for loss or damage to the component in case of theft, fire, accident, or any other causes beyond the control of RHC. A mechanic's lien on the component to secure the amount of repairs and storage charges is hereby granted. Any component left at RHC beyond six months will be considered abandoned and will be disposed of. I agree to pay the full amount in cash upon delivery of the component. RHC will retain all scrapped or replaced parts. The above cost estimate may not be exceeded without my approval.

PRINT NAME: _____

DATE: _____

SIGNATURE: _____

RSF 205 REV H

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**ROBINSON HELICOPTER COMPANY, INC.
LIMITED AIRCRAFT WARRANTY**

Effective R22 S/N 3318 & on; R44 S/N 1202 & on

Robinson Helicopter Company, Inc. (hereafter referred to as RHC) warrants each new helicopter to be free from defects in material and workmanship appearing within two years from the date of delivery from the RHC factory or during the first one thousand (1000) hours of operation, whichever event occurs first; provided, the aircraft has been subjected to normal use and service. This Warranty is limited to repair or replacement on an exchange basis, as selected by RHC, of any part, which upon examination by RHC is deemed to have been defective when the aircraft left the factory. A new warranty period is not established for parts replaced under the terms of this Warranty. Such replacement parts are warranted only for the remainder of the original warranty period. This Warranty shall not apply to any helicopter or part which has been repaired or altered outside the factory, and which, in RHC's judgment, has affected the performance or reliability of the helicopter or part. This Warranty shall not apply to any helicopter or part which has been subject to corrosion, misuse, negligence or accident, nor to any parts normally replaced during routine maintenance, such as, air cleaners, skid shoes, rod end or spherical bearings, light bulbs, etc. This Warranty shall not apply to any helicopter which has been crated for shipping unless such crating is performed by RHC. RHC is not responsible for the cost of shipping parts under the terms of this Warranty. However, RHC will credit the RHC Dealership, which sold and delivered the new helicopter to its original owner, with an allowance for labor performed by that Dealership for removing and reinstalling the defective part. No credit will be issued for trouble-shooting.

RHC makes no Warranty with respect to batteries, instruments, avionics or other trade accessories since they are usually warranted separately by their respective manufacturers. New aircraft are equipped with new engines which have a separate Lycoming limited warranty.

ADDITIONAL WARRANTY FOR MAIN & TAIL GEARBOXES

In addition to the warranty specified above, an extended pro-rated warranty shall apply to the main and tail gearboxes for the first 2200 hours of service or three years from the date of manufacture, whichever event occurs first. During this period, if a gearbox must be overhauled due to failure of a part which was defective when it left the factory, RHC will pro-rate the cost of the overhaul by dividing the hours in service by 2200 or the months in service by thirty-six (36), whichever fraction is greater.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IS GIVEN AND ACCEPTED IN LIEU OF ANY AND ALL OTHER WARRANTIES AND REPRESENTATIONS, EXPRESS, IMPLIED, OR STATUTORY, WHETHER WRITTEN OR ORAL, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR TRADE USAGE, THE REMEDIES OF THE BUYER SHALL BE LIMITED TO THOSE PROVIDED HEREIN. IN NO EVENT WILL THE MANUFACTURER BE LIABLE FOR LOSSES RESULTING FROM LOSS OF USE OF THE HELICOPTER, COLLATERAL, CONSEQUENTIAL OR SPECIAL DAMAGES, OR ANY OTHER COSTS.

Warranty adjustments with respect to any helicopter or parts manufactured by RHC will be made only upon compliance with the following procedure:

- (1) The defective part or assembly, together with a written Warranty Claim, must be returned to RHC not later than thirty (30) days after discovery of the defect nor more than thirty (30) days after expiration of the Warranty period.*
- (2) RHC will, after inspection, determine whether the material or part was defective when it left the factory and will respond accordingly. Final determination of a Warranty adjustment rests with RHC.*

**ROBINSON HELICOPTER COMPANY, INC.
2901 Airport Drive
Torrance, California 90505-6115 U.S.A.**

Effective 1 February 2003

**ROBINSON HELICOPTER COMPANY, INC.
LIMITED PARTS WARRANTY**

Robinson Helicopter Company, Inc. (hereafter referred to as RHC) warrants each new helicopter part to be free from defects in material and workmanship appearing within one year from the date of delivery from the RHC factory or during the first one thousand (1000) hours of operation, whichever event occurs first; provided, the part has been subjected to normal use and service. This Warranty is limited to repair or replacement on an exchange basis, as selected by RHC, of any part, which upon examination by RHC is deemed to have been defective when the part left the factory. A new warranty period is not established for parts replaced under the terms of this Warranty. Such replacement parts are warranted only for the remainder of the original warranty period. RHC is not responsible for the cost of removing, shipping, or reinstallation of parts under the terms of this Warranty. This Warranty shall not apply to any part which has been repaired or altered outside the factory, and which, in RHC's judgment, has affected the performance or reliability of the part. This Warranty shall not apply to any part which has been subject to corrosion, misuse, negligence or accident, nor to any parts normally replaced during routine maintenance, such as, air cleaners, skid shoes, rod end or spherical bearings, light bulbs, etc.

RHC makes no Warranty with respect to batteries, instruments, avionics or other trade accessories since they are usually warranted separately by their respective manufacturers.

ADDITIONAL WARRANTY FOR MAIN & TAIL GEARBOXES

In addition to the warranty specified above, an extended pro-rated warranty shall apply to the main and tail gearboxes for the first 2200 hours of service or three years from the date of manufacture, whichever event occurs first. During this period, if a gearbox must be overhauled due to failure of a part which was defective when it left the factory, RHC will pro-rate the cost of the overhaul by dividing the hours in service by 2200 or the months in service by thirty-six (36), whichever fraction is greater.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IS GIVEN AND ACCEPTED IN LIEU OF ANY AND ALL OTHER WARRANTIES AND REPRESENTATIONS, EXPRESS, IMPLIED, OR STATUTORY, WHETHER WRITTEN OR ORAL, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR TRADE USAGE, THE REMEDIES OF THE BUYER SHALL BE LIMITED TO THOSE PROVIDED HEREIN. IN NO EVENT WILL THE MANUFACTURER BE LIABLE FOR LOSSES RESULTING FROM LOSS OF USE OF THE HELICOPTER, COLLATERAL, CONSEQUENTIAL OR SPECIAL DAMAGES, OR ANY OTHER COSTS.

Warranty adjustments with respect to any helicopter or parts manufactured by RHC will be made only upon compliance with the following procedure:

- (1) The defective part or assembly, together with a written Warranty Claim, must be returned to RHC not later than thirty (30) days after discovery of the defect nor more than thirty (30) days after expiration of the Warranty period.*
- (2) RHC will, after inspection, determine whether the material or part was defective when it left the factory and will respond accordingly. Final determination of a Warranty adjustment rests with RHC.*

Effective 1 June 2006

ROBINSON HELICOPTER COMPANY, INC.
2901 Airport Drive
Torrance, California 90505-6115 U.S.A.

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