

SHOP MANUAL

2003

RALLY™ 200



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2003 Shop Manual

RALLY™ 200

BOMBARDIER
RECREATIONAL PRODUCTS



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SAFETY NOTICE

This manual has been prepared as a guide to correctly service and repair 2003 ATVs.

This edition was primarily published to be used by ATV mechanical technicians who are already familiar with all service procedures relating to Bombardier made vehicles. Mechanical technicians should attend continuous training courses given by Bombardier Training Department.

Please note that the instructions will apply only if proper hand tools and special service tools are used.

This *Shop Manual* uses technical terms which may be slightly different from the ones used in *Parts Catalog*.

It is understood that this manual may be translated into another language. In the event of any discrepancy, the english version shall prevail.

The content depicts parts and/or procedures applicable to the particular product at time of writing. *Service* and *Warranty Bulletins* may be published to update the content of this manual. Make sure to read and understand these. It does not include dealer modifications, whether authorized or not by Bombardier, after manufacturing the product.

In addition, the sole purpose of the illustrations throughout the manual, is to assist identification of the general configuration of the parts. They are not to be interpreted as technical drawings or exact replicas of the parts.

The use of Bombardier parts is most strongly recommended when considering replacement of any component. Dealer and/or distributor assistance should be sought in case of doubt.

The engines and the corresponding components identified in this document should not be utilized on product(s) other than those mentioned in this document.

This manual emphasizes particular information denoted by the wording and symbols:

WARNING

Identifies an instruction which, if not followed, could cause serious personal injury including possibility of death.

CAUTION: Denotes an instruction which, if not followed, could severely damage vehicle components.

NOTE: Indicates supplementary information needed to fully complete an instruction.

Although the mere reading of such information does not eliminate the hazard, your understanding of the information will promote its correct use. Always use common shop safety practice.

This information relates to the preparation and use of Bombardier ATV and has been utilized safely and effectively by Bombardier Inc. However, Bombardier Inc. disclaims liability for all damages and/or injuries resulting from the improper use of the contents. We strongly recommend that any services be carried out and/or verified by a highly skilled professional mechanic. It is understood that certain modifications may render use of the vehicle illegal under existing federal, provincial and state regulations.

INTRODUCTION

INTRODUCTION

This *Shop Manual* covers the following Bombardier made 2003 ATV:

Models

- Rally™ 200 (red) 7550
- Rally™ 200 (green) 7551
- Rally™ 200 (yellow)..... 7552
- Rally™ 200 (red international)..... 7591
- Rally™ 200 (green international)..... 7592
- Rally™ 200 (yellow international) 7593

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ENGINE SERIAL NUMBER LOCATION



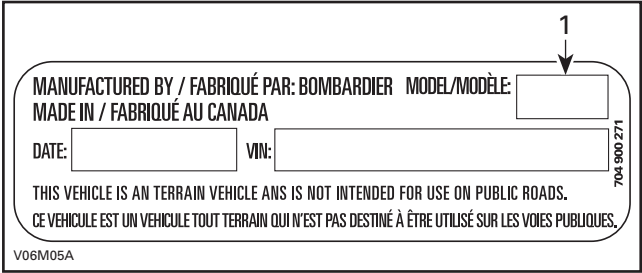
E.I.N. (ENGINE IDENTIFICATION NUMBER)

VEHICLE SERIAL NUMBER LOCATION

ARRANGEMENT OF THE MANUAL

- The manual is divided into 12 major sections:
- 01 SERVICE TOOLS AND SERVICE PRODUCTS
 - 02 MAINTENANCE
 - 03 ENGINE
 - 04 FUEL SYSTEM
 - 05 ELECTRICAL
 - 06 DRIVE TRAIN
 - 07 STEERING/CONTROL SYSTEMS
 - 08 SUSPENSION
 - 09 BRAKES
 - 10 BODY/FRAME
 - 11 TECHNICAL DATA
 - 12 WIRING DIAGRAM

Each section is divided in various subsections, and again, each subsection has one or more division.



TYPICAL — VEHICLE SERIAL NUMBER LABEL

1. Model number



1. V.I.N. (Vehicle Identification Number)

LIST OF ABBREVIATIONS USED IN THIS MANUAL

A	ampere
amp	ampere
A•h	ampere-hour
AC	alternate current
BDC	bottom dead center
BTDC	before top dead center
°C	degree Celsius
CDI	Capacitor discharge ignition
cm	centimeter
cm ²	square centimeter
cm ³	cubic centimeter
CVT	Continuously variable transmission
DC	direct current
°F	degree Fahrenheit
fl. oz	fluid ounce
ft	foot
GRD	ground
hal.	halogen
I.D.	inside diameter
IDI	induction discharge ignition
imp. oz	imperial ounce
in	inch
in ²	square inch
in ³	cubic inch
k	kilo (thousand)
kg	kilogram
km/h	kilometer per hour
kPa	kilo pascal
l	liter
lb/in ²	pound per square inch

LH	left hand
lb	pound
lbf	pound (force)
m	meter
MAG	magneto
Max.	maximum
Min.	minimum
ml	milliliter
mm	millimeter
MPH	mile per hour
N	newton
N.A.	not applicable
no.	number
00.0	continuity
0.L	overload (open circuit)
O.D.	outside diameter
OHC	Over head camshaft
OPT	optional
oz	ounce
P/N	part number
PSI	pound per square inch
PTO	power take off
RPM	revolution per minute
Sp. Gr.	specific gravity
TDC	top dead center
U.S. oz	ounce (United States)
USFD	U.S. Forest Service
V	volt
Vac	volt (alternative current)

INTRODUCTION

This *Shop Manual* uses technical terms which may be slightly different from the ones in the parts catalog.

TYPICAL PAGE

— Page heading indicates section and subsection detailed.

Section 03 ENGINE

Subsection 04 (REMOVAL AND INSTALLATION)

REMOVAL AND INSTALLATION

- Subsection title indicates beginning of the subsection.

- Exploded view assists you in identifying parts and related positions.

Tightening torque — nearby fastener. In this case, nut must be torqued to 10 N•m or 89 lbf•in.

CAUTION: Pay attention to torque specifications. Some of these are in lbf•in instead of lbf•ft. Use appropriate torque wrench.

Illustration-
number for
publishing
process.

- Drop represents a liquid product to be applied to a surface.

VMR2001-037_03-04A.FM

Document
number for
publishing
process.

Bold face number indicates special procedure concerning this part.

Page numbering system:
03: ENGINE section
04: REMOVAL AND INSTALLATION
 subsection
 1: First page of this subsection

TYPICAL PAGE

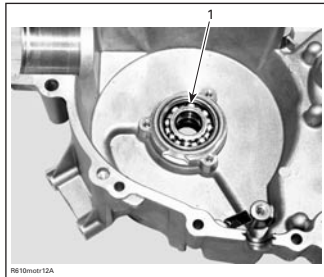
Title indicates main procedure to be carried-out.

Section 03 ENGINE
Subsection 06 (MAGNETO SYSTEM)

BEARING

Inspection
Ball bearing no. 10 must rotate freely. Otherwise, replace it.

Removal
– Heat up the magneto housing cover to about 100°C (212°F) for an easy ball bearing removal.



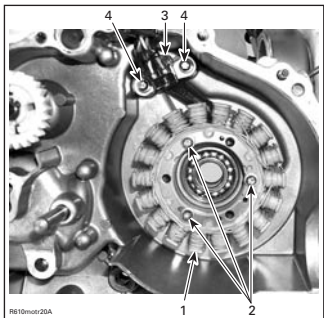
1. Ball bearing

Call-outs for above illustration.

Installation
For installation also heat the magneto housing up to about 100°C (212°F) to put ball bearing in place.
Place new ball bearing in freezer for 10 minutes approximately.
Reinstall other removed parts in the reverse order.

STATOR AND TRIGGER COIL

Removal
Remove.
– magneto housing cover no. 7
– screw no. 11 and 12
– stator with trigger coil no. 13.



1. Stator
2. Stator screws
3. Trigger coil
4. Trigger coil screws

Inspection
Check stator and trigger coil condition. If damaged replace the faulty part.
For electrical inspection, refer to CHARGING SYSTEM for the stator and IGNITION SYSTEM for the trigger coil.

Bold face number following part name refers to exploded view at beginning of subsection.

Reference to look up a certain section and subsection. In this case it concerns IGNITION SYSTEM.

INTRODUCTION

GENERAL INFORMATION

The information and component/system descriptions contained in this manual are correct at time of publication. Bombardier Inc. however, maintains a policy of continuous improvement of its products without imposing upon itself any obligation to install them on products previously manufactured.

Due to late changes, it may have some differences between the manufactured product and the description and/or specifications in this document.

Bombardier Inc. reserves the right at any time to discontinue or change specifications, designs, features, models or equipment without incurring obligation.

ILLUSTRATIONS AND PROCEDURES

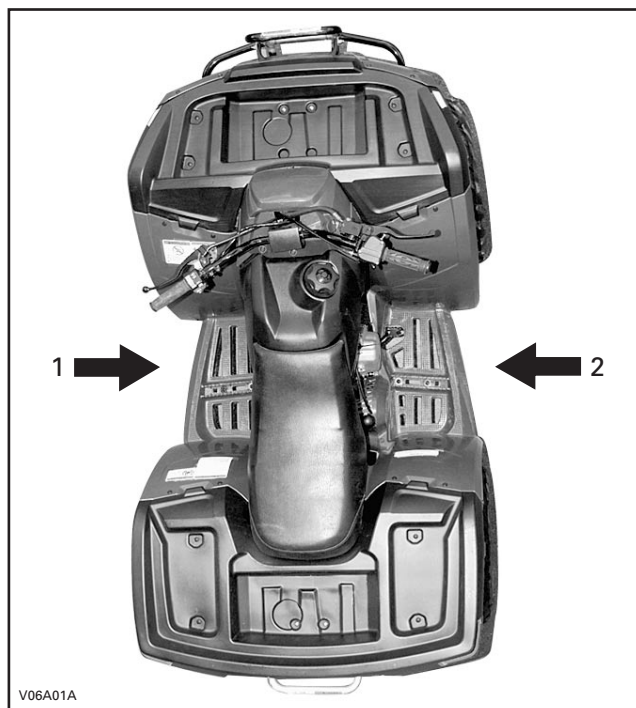
Illustrations and photos show the typical construction of the different assemblies and, in all cases, may not reproduce the full detail or exact shape of the parts shown, however, they represent parts which have the same or a similar function.

CAUTION: Most components of those vehicles are built with parts dimensioned in the metric system. Most fasteners are metric and must not be replaced by customary fasteners or vice-versa. Mismatched or incorrect fasteners could cause damage to the vehicle or possible personal injury.

As many of the procedures in this manual are interrelated, we suggest, that before undertaking any task, you read and thoroughly understand the entire section or subsection in which the procedure is contained.

A number of procedures throughout the book require the use of special tools. Before commencing any procedure, be sure that you have on hand all the tools required, or approved equivalents.

The use of RIGHT and LEFT indications in the text, always refers to driving position (when sitting on vehicle).



1. Left
2. Right

SELF-LOCKING FASTENERS PROCEDURE

The following describes the most common application procedures when working with self-locking fasteners.

Use a metal brush or a screwtap to clean the hole properly then use a solvent (Methyl-Chloride), let act during 30 minutes and wipe off. The solvent utilization is to ensure the adhesive works properly.

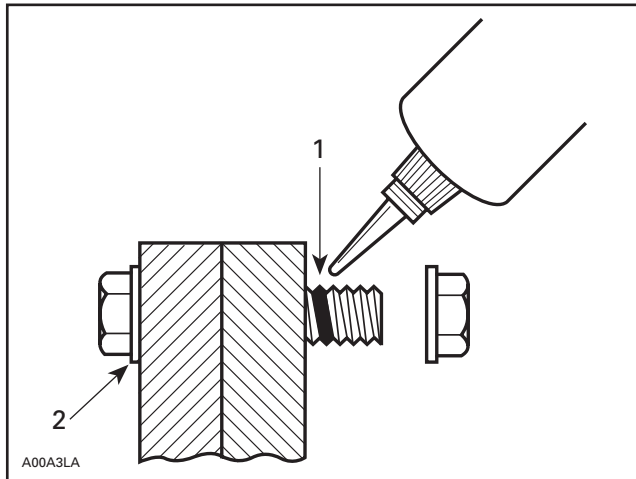
LOCTITE APPLICATION PROCEDURE

The following describes the most common application procedures when working with Loctite products.

NOTE: Always use proper strength Loctite product as recommended in this *Shop Manual*.

Threadlocker

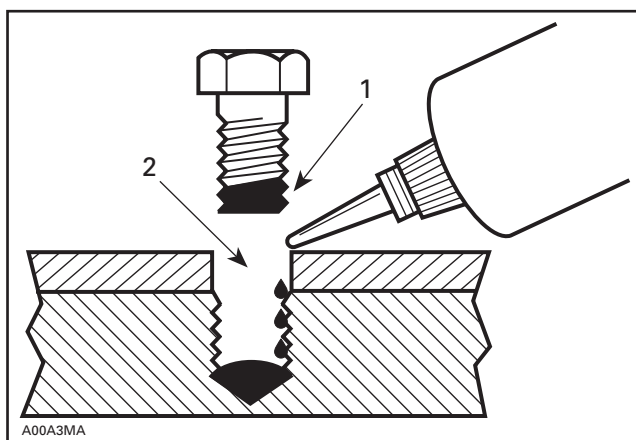
Uncovered Holes (bolts and nuts)



1. Apply here
2. Do not apply

1. Clean threads (bolt and nut) with solvent.
2. Apply Loctite Primer N (P/N 293 800 041) on threads and allow to dry.
3. Choose proper strength Loctite threadlocker.
4. Fit bolt in the hole.
5. Apply a few drops of threadlocker at proposed tightened nut engagement area.
6. Position nut and tighten as required.

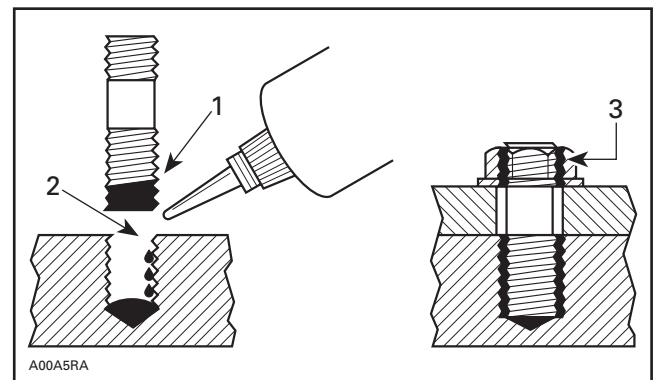
Blind Holes



1. On threads
2. On threads and at the bottom of hole

1. Clean threads (bolt and hole) with solvent.
2. Apply Loctite Primer N (P/N 293 800 041) on threads (bolt and nut) and allow to dry for 30 seconds.
3. Choose proper strength Loctite threadlocker.
4. Apply several drops along the threaded hole and at the bottom of the hole.
5. Apply several drops on bolt threads.
6. Tighten as required.

Stud in Blind Holes

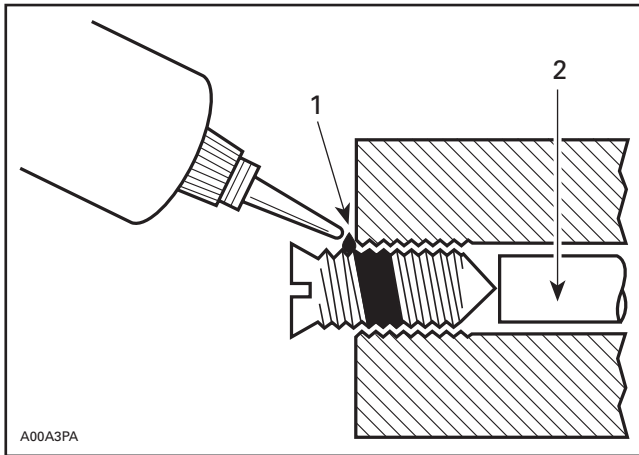


1. On threads
2. On threads and in the hole
3. Onto nut threads

1. Clean threads (stud and hole) with solvent.
2. Apply Loctite Primer N (P/N 293 800 041) on threads and allow to dry.
3. Put several drops of proper strength Loctite threadlocker on female threads and in hole.
4. Apply several drops of proper strength Loctite on stud threads.
5. Install stud.
6. Install cover, etc.
7. Apply drops of proper strength Loctite on uncovered threads.
8. Tighten nuts as required.

INTRODUCTION

Adjusting Screw



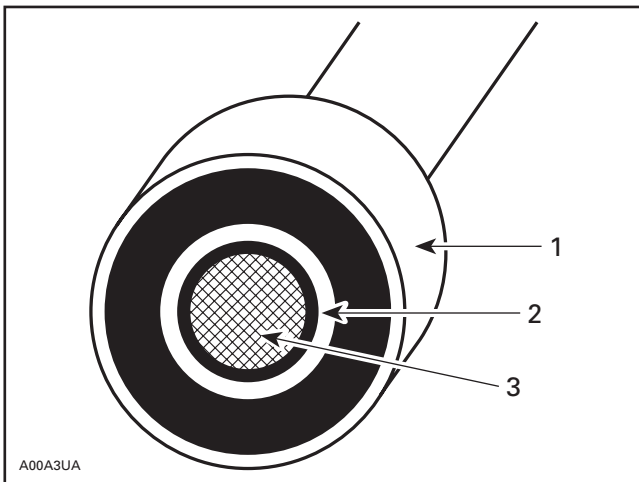
1. Apply here
2. Plunger

1. Adjust screw to proper setting.
2. Apply drops of proper strength Loctite thread-locker on screw/body contact surfaces.
3. Avoid touching metal with tip of flask.

NOTE: If it is difficult to readjust, heat screw with a soldering iron (232°C (450°F)).

Mounting on Shaft

Mounting with a Press



1. Bearing
2. Proper strength Loctite
3. Shaft

Standard

1. Clean shaft external part and element internal part.
2. Apply a strip of proper strength Loctite on shaft circumference at insert or engagement point.

NOTE: Retaining compound is always forced out when applied on shaft.

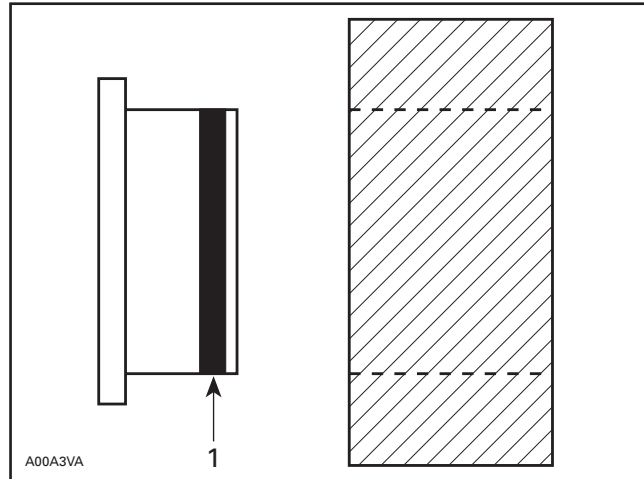
3. DO NOT use anti-seize Loctite or any similar product.
4. No curing period is required.

Mounting in Tandem

1. Apply retaining compound on internal element bore.
2. Continue to assemble as shown above.

Case-In Components

Metallic Gaskets



1. Proper strength Loctite

1. Clean inner housing diameter and outer gasket diameter.
2. Spray housing and gasket with Loctite Primer N (P/N 293 800 041).
3. Apply a strip of proper strength Loctite on leading edge of outer metallic gasket diameter.

NOTE: Any Loctite product can be used here. A low strength liquid is recommended as normal strength and gap are required.

4. Install according to standard procedure.
5. Wipe off surplus.
6. Allow it to cure for 30 minutes.

NOTE: Normally used on worn-out housings to prevent leaking or sliding.

It is generally not necessary to remove gasket compound applied on outer gasket diameter.

TIGHTENING TORQUES

Tighten fasteners to torque mentioned in exploded views and text. When they are not specified refer to following table. The table also gives the metric conversion.

⚠ WARNING

Torque wrench tightening specifications must strictly be adhered to.

Locking devices (ex.: locking tabs, elastic stop nuts, self-locking fasteners, etc.) must be installed or replaced with new ones where specified. If the efficiency of a locking device is impaired, it must be renewed.

In order to avoid a poor assembling, tighten screws and bolts in accordance with the following procedure:

1. Manually screw all screws, bolts and/or nuts.
2. Apply the half of the recommended torque value.

NOTE: When possible, always apply torque on nut.

3. Torque at the recommended torque value.

NOTE: Always torque screws, bolts and/or nuts in a criss-cross sequence.

SCREW OR BOLT THREAD	DRIVING TORQUE*	
	N•m	lbf•in
M4	2	18
M5	4	35
M6	10	89

SCREW OR BOLT THREAD	DRIVING TORQUE*	
	N•m	lbf•ft
M8	23	17
M10	48	35
M12	80	59
M14	135	100

* TIGHTENING TORQUES FOR 8.8 GRADE BOLTS AND NUTS

We would be pleased if you could communicate to Bombardier any suggestions you may have concerning our publications.

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