

SAFETY NOTICE

This manual has been prepared as a guide to correctly service and repair 2015 Ski-Doo® snowmobiles described in the list in the *INTRODUCTION*.

This edition was primarily published to be used by technicians who are already familiar with service procedures relating to Bombardier Recreational Products Inc. (BRP) products. Mechanical technicians should attend continuous training courses given by BRPTI.

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

The content of this manual depicts parts and/or procedures applicable to a particular product at time of writing. Service and Warranty Bulletins may be published to update the content of this manual. Dealer modifications that were carried out after manufacturing of the product, whether or not authorized by BRP, are not included.

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 BRP 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.

It is understood that certain modifications may render use of the vehicle illegal under existing federal, provincial and state regulations.

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

WARNING

Indicates a potential hazard that, if not avoided, could result in serious injury or death.

 **CAUTION** Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE 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 provided will promote its correct use. Always use common shop safety practice.

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

BRP disclaims liability for all damages and/or injuries resulting from the improper use of the contents.

Unless otherwise indicated, engine must be OFF and tether cord removed prior to perform any services.

We strongly recommend that any services be carried out and/or verified by a highly skilled professional mechanic.

INTRODUCTION

INTRODUCTION

This Shop Manual covers the following BRP made 2015 snowmobiles:

CHASSIS	ENGINE
REV-XM	800R E-TEC

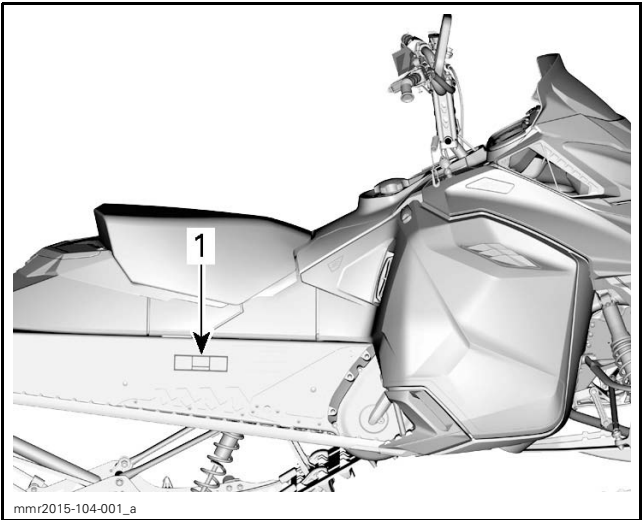
The information and component/system descriptions contained in this manual are correct at time of writing. BRP however, maintains a policy of continuous improvement of its products without imposing upon itself any obligation to install them on products previously manufactured.

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

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

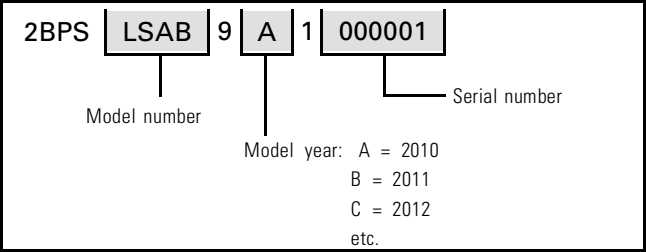
VEHICLE INFORMATION

VEHICLE IDENTIFICATION NUMBER (VIN)

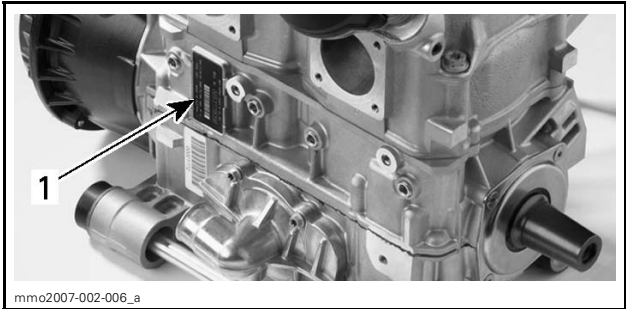


TYPICAL
1. Vehicle identification number

Identification Number Description



ENGINE SERIAL NUMBER



TYPICAL
1. Engine serial number

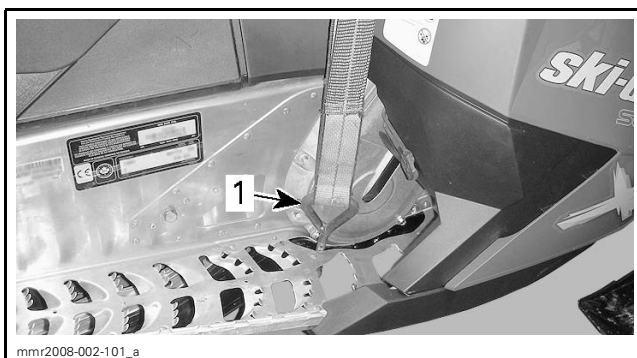
SNOWMOBILE LIFTING

To lift the snowmobile securely, it is important to use the reinforced footrest holes.



1. Reinforced holes in footrest

Install lifting tool hooks in holes as shown.



1. Hook of lifting tool

NOTICE Do not use footrest opening or steering column to lift the snowmobile. Frame or steering system could be seriously damaged.

ENGINE EMISSIONS INFORMATION

Manufacturer's Responsibility

Manufacturers of engines must determine the exhaust emission levels for each engine horsepower family and certify these engines with the United States of America *ENVIRONMENTAL PROTECTION AGENCY (EPA)*. An emissions control information label, showing emission levels and engine specifications, must be placed on each vehicle at the time of manufacture.

Dealer Responsibility

When servicing any snowmobile that carries an emissions control information label, adjustments must be kept within published factory specifications.

Replacement or repair of any emission related component must be executed in a manner that maintains emission levels within the prescribed certification standards.

Dealers are not to modify the engine in any manner that would alter the engine power or allow emission levels to exceed their predetermined factory specifications.

Exceptions include manufacturer's prescribed changes, such as altitude adjustments for example.

Owner Responsibility

The owner/operator is required to have engine maintenance performed to maintain emission levels within prescribed certification standards.

The owner/operator is not to, and should not allow anyone else to modify the engine in any manner that would alter the engine power or allow emissions levels to exceed their predetermined factory specifications.

EPA Emission Regulations

Snowmobiles manufactured by BRP are certified to the EPA standards as conforming to the requirements of the regulations for the control of air pollution emitted from new snowmobiles engines. This certification is contingent on certain adjustments being set to factory standards. For this reason, the factory procedure for servicing the product must be strictly followed and, whenever practicable, returned to the original intent of the design.

The responsibilities listed above are general and in no way a complete listing of the rules and regulations pertaining to the EPA requirements on exhaust emissions for snowmobiles products. For more detailed information on this subject, you may contact the following locations:

FOR ALL COURIER SERVICES:

U.S. Environmental Protection Agency
Office of Transportation and Air Quality
1310 L Street NW
Washington D.C. 20005

REGULAR US POSTAL MAIL:

1200 Pennsylvania Ave. NW
Mail Code 6403J
Washington D.C. 20460

INTERNET: <http://www.epa.gov/otaq/>

E-MAIL: otaqpublicweb@epa.gov

MANUAL INFORMATION

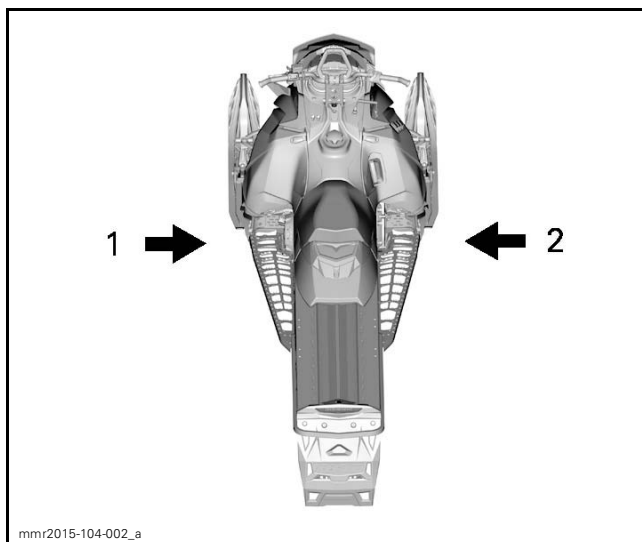
MANUAL PROCEDURES

Many of the procedures in this manual are inter-related. Before undertaking any task, you should 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 starting any procedure, be sure that you have on hand all required tools, or their approved equivalents.

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

INTRODUCTION



TYPICAL

- 1. Left
- 2. Right

This manual uses technical terms which may be different from the ones of the *PARTS CATALOGS*.

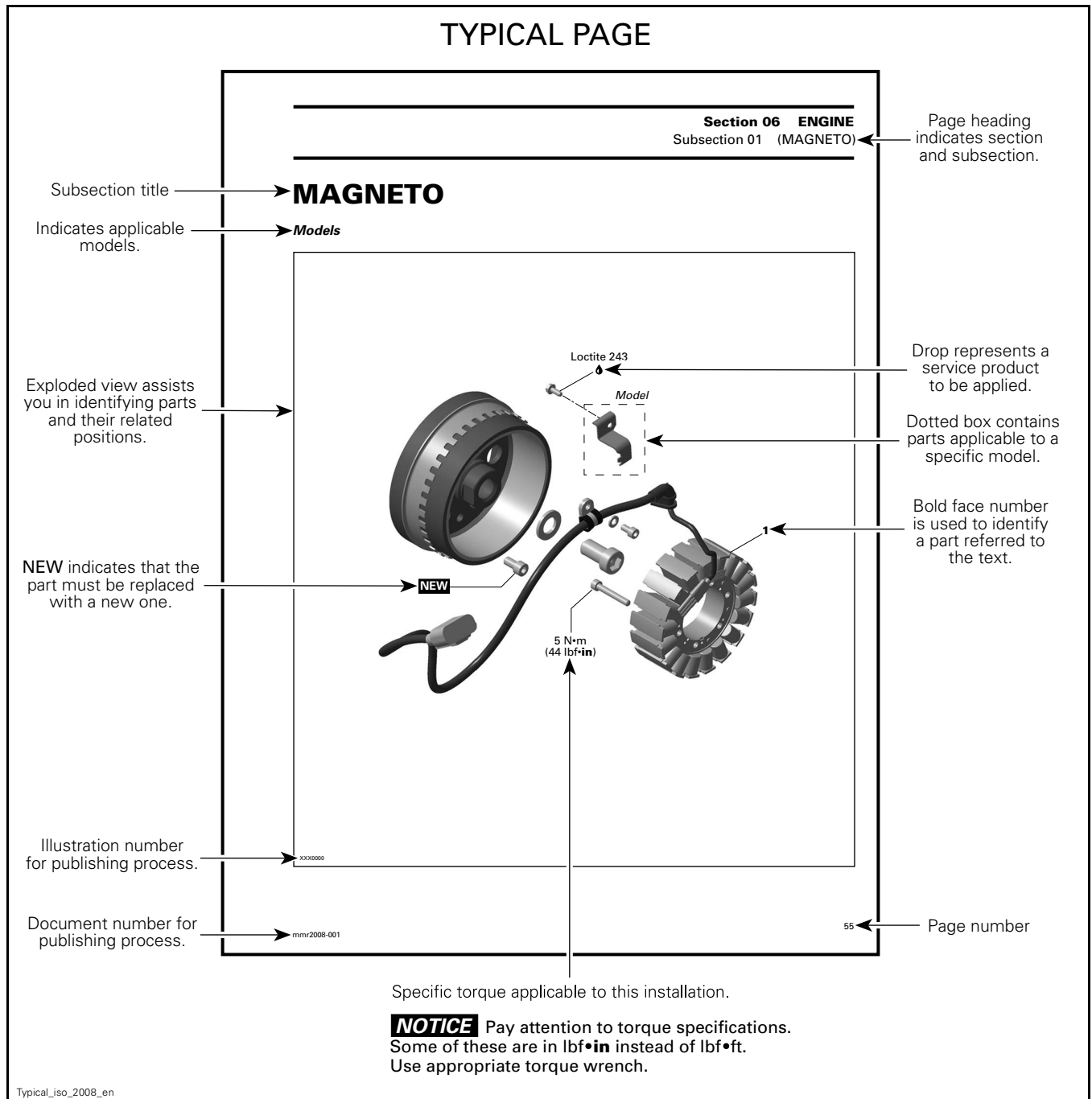
When ordering parts always refer to the specific model *PARTS CATALOGS*.

MANUAL LAYOUT

This manual is divided into many major sections as can be seen in the main table of contents at the beginning of the manual.

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

Illustrations and photos show the typical construction of various assemblies and, in all cases, may not reproduce the full detail or exact shape of the parts used in a particular model vehicle. However, they represent parts which have the same or a similar function.



TYPICAL PAGE

Title in bold indicates category of information to be carried out.

Reference to a specific section or subsection.

Indicates component
procedures apply to.

Indicates specific procedure to be carried out.

► GENERAL

NOTE: The following procedures can be done without removing the engine.

During assembly/installation, use the torque values and service products as in the exploded views.

Clean threads before applying a threadlocker. Refer to **SELF-LOCKING FASTENERS** and **LOCTITE APPLICATION** sections at the beginning of this manual for complete procedure.

⚠ WARNING

Torque wrench tightening specifications must be strictly adhered to.
Locking devices (e.g.: locking tabs, elastic stop nuts, self-locking fasteners, etc.) must be replaced with new ones.

PROCEDURES

► MAGNETO FLYWHEEL

Magneto Flywheel Cleaning

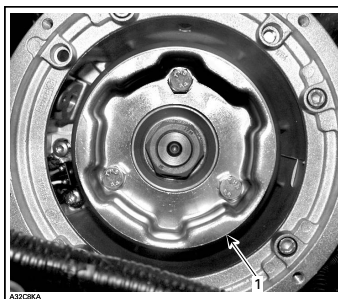
Clean all metal components in a non-ferrous metal cleaner.

CAUTION: Clean magneto flywheel using only a clean cloth.

► Magneto Flywheel Removal

- Remove muffler, refer to the *EXHAUST SYSTEM* section.
- Remove acoustic panel.
- Remove rewind starter.
- Remove starting pulley **no. 2**.

mmr2008-001



TYPICAL ←

1. *Starting pull*

NOTE: To remove starting pulley bolts, hold magneto flywheel with a socket as shown.



TYPICAL

Models

Remove the connecting flange retaining the rewind starter to the engine housing.

"TYPICAL"
indicates a general
view which may
not represent exact
details.

Call-outs pertaining
to above illustration.

Illustration always follows text to which it applies.

Italic bold face type-setting indicates a procedure applicable to a specific model(s).

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

TIGHTENING TORQUE

Tighten fasteners to the torque specified in the exploded view(s) and/or in the written procedure. When a torque is not specified, refer to the following table.

WARNING

Torque wrench tightening specifications must be strictly adhered to.
Locking devices when removed (e.g.: locking tabs, elastic stop nuts, self-locking fasteners, cotter pins, etc.) must be replaced.









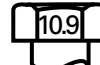


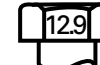













In order to avoid a poor assembly, tighten screws, bolts, or nuts in accordance with the following procedure:

1. Manually screw all screws, bolts and/or nuts.
2. Apply half the recommended torque value.
3. Tighten fastener to the recommended torque value.

NOTICE Be sure to use the recommended tightening torque for the specified fastener used.

NOTE: When possible, always apply torque on the nut.

NOTE: Always torque screws, bolts and/or nuts using a crisscross pattern when multiple fasteners are used to secure a part (eg. a cylinder head). Some parts must be torqued according to a specific sequence and torque pattern as detailed in the installation procedure.

Property class and head markings	<p>4.8</p>   	<p>8.8 9.8</p>    	<p>10.9</p>  	<p>12.9</p>    
Property class and nut markings	<p>5</p>   	<p>8</p>   	<p>10</p>   	<p>12</p>   

A00A8BS

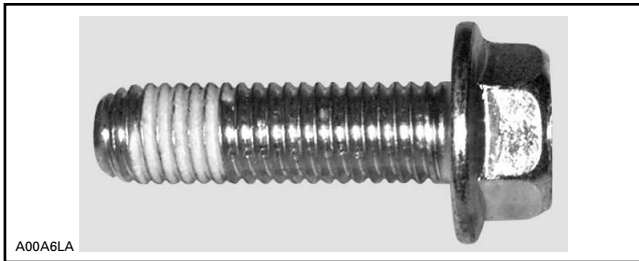
FASTENER SIZE	FASTENER GRADE/TORQUE			
	5.8 Grade	8.8 Grade	10.9 Grade	12.9 Grade
M4	1.5 – 2 N•m (13 – 18 lbf•in)	2.5 – 3 N•m (22 – 27 lbf•in)	3.5 – 4 N•m (31 – 35 lbf•ft)	4 – 5 N•m (35 – 44 lbf•ft)
M5	3 – 3.5 N•m (27 – 31 lbf•ft)	4.5 – 5.5 N•m (40 – 47 lbf•ft)	7 – 8.5 N•m (62 – 75 lbf•ft)	8 – 10 N•m (71 – 89 lbf•ft)
M6	6.5 – 8.5 N•m (58 – 75 lbf•ft)	8 – 12 N•m (71 – 106 lbf•ft)	10.5 – 15 N•m (93 – 133 lbf•in)	16 N•m (142 lbf•in)
M8	15 N•m (133 lbf•in)	25 N•m (18 lbf•ft)	32 N•m (24 lbf•ft)	40 N•m (30 lbf•ft)
M10	29 N•m (21 lbf•ft)	48 N•m (35 lbf•ft)	61 N•m (45 lbf•ft)	73 N•m (54 lbf•ft)
M12	52 N•m (38 lbf•ft)	85 N•m (63 lbf•ft)	105 N•m (77 lbf•ft)	128 N•m (94 lbf•ft)
M14	85 N•m (63 lbf•ft)	135 N•m (100 lbf•ft)	170 N•m (125 lbf•ft)	200 N•m (148 lbf•ft)

INTRODUCTION

FASTENER INFORMATION

NOTICE Most components in the 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.

SELF-LOCKING FASTENERS PROCEDURE



TYPICAL — SELF-LOCKING FASTENER

The following describes common procedures used when working with self-locking fasteners.

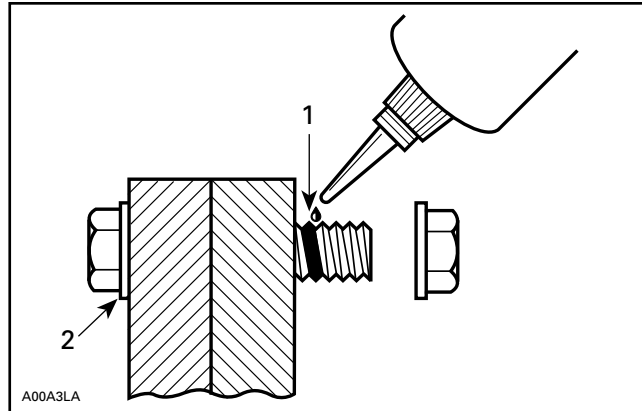
Use a metal brush or a tap to properly clean a threaded hole, then use a solvent. Allow the solvent time to act, approximately 30 minutes, then wipe off. Solvent utilization is to ensure proper adhesion of the product used for locking the fastener.

LOCTITE® APPLICATION PROCEDURE

The following describes common procedures used when working with Loctite products.

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

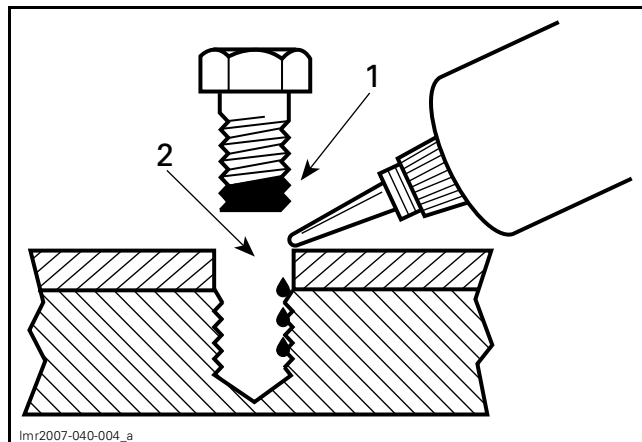
Threadlocker Application for Uncovered Holes (Bolts and Nuts)



1. Apply here
2. Do not apply

1. Clean threads (bolt and nut) with solvent.
2. Apply LOCTITE 7649 (PRIMER) (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.

Threadlocker Application for Blind Holes

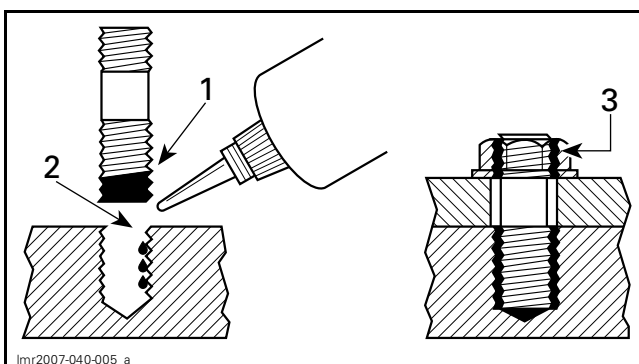


1. On fastener threads
2. On threads and at the bottom of hole

1. Clean threads (bolt and hole) with solvent.
2. Apply LOCTITE 7649 (PRIMER) (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.

Threadlocker Application for Stud Installation in Blind Holes



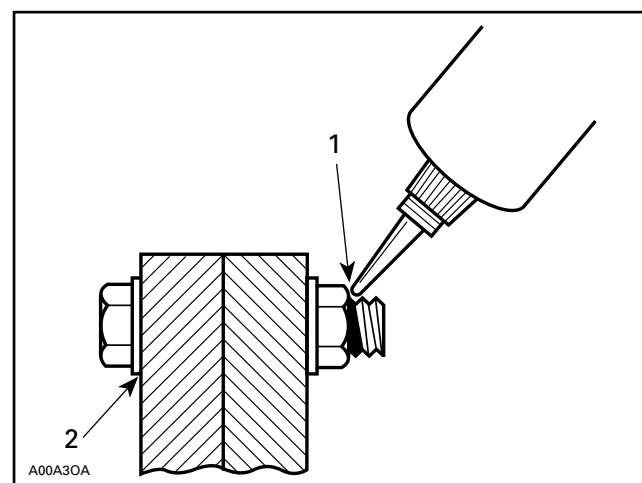
1. On stud threads
2. On threads and in the hole
3. On retaining nut threads

1. Clean threads (stud and hole) with solvent.
2. Apply LOCTITE 7649 (PRIMER) (P/N 293 800 041) on threads and allow to dry.
3. Put 2 or 3 drops of proper strength Loctite threadlocker on female threads and in hole.

NOTE: To avoid a hydro lock situation, do not apply too much Loctite.

4. Apply several drops of proper strength Loctite on stud threads.
5. Install stud.
6. Install cover, part, etc.
7. Apply a few drops of proper strength Loctite on uncovered stud threads.
8. Install and tighten retaining nut(s) as required.

Threadlocker Application for Pre-Assembled Parts

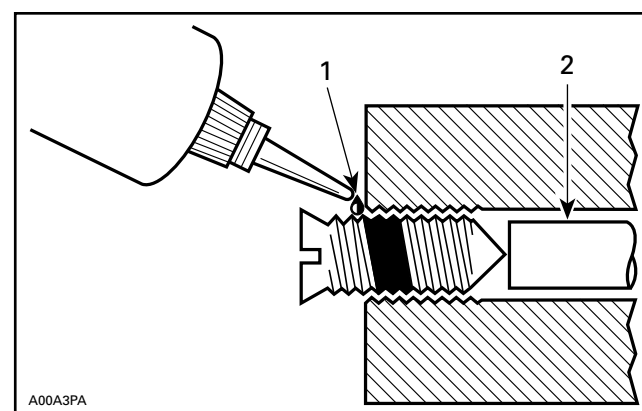


1. Apply here
2. Do not apply

1. Clean bolts and nuts with solvent.
2. Assemble components.
3. Tighten nuts.
4. Apply a few drops of proper strength Loctite on bolt/nut contact surfaces.
5. Avoid touching metal with tip of flask.

NOTE: For preventive maintenance on existing equipment, retighten nuts and apply proper strength Loctite on bolt/nut contact surfaces.

Threadlocker Application for an Adjustment Screw



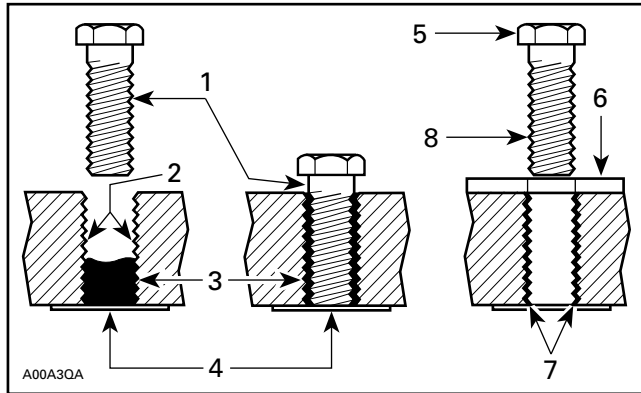
1. Apply here
2. Plunger

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

INTRODUCTION

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

Application for Stripped Thread Repair



1. Release agent
2. Stripped threads
3. Form-A-Thread
4. Tapes
5. Cleaned bolt
6. Plate
7. New threads
8. Threadlocker

Standard Thread Repair

Follow instructions on Loctite FORM-A-THREAD 81668 package.

If a plate is used to align bolt:

1. Apply release agent on mating surfaces.
2. Put waxed paper or similar film on the surfaces.
3. Twist bolt when inserting it to improve thread conformation.

NOTE: NOT intended for engine stud repairs.

Repair of Small Holes/Fine Threads

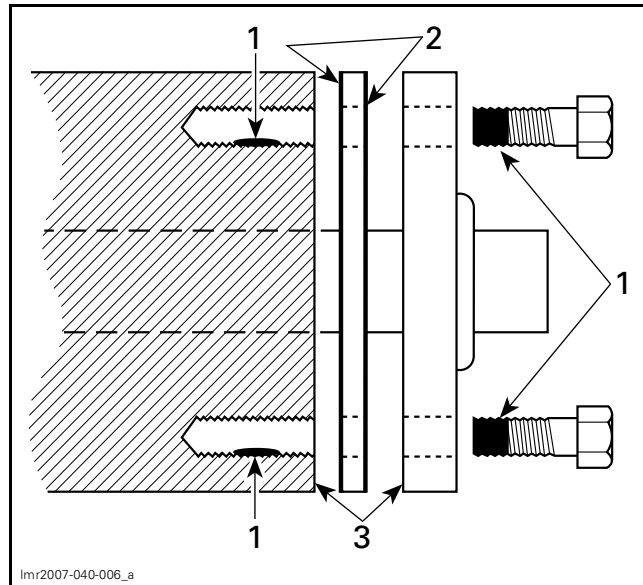
Option 1: Enlarge damaged hole, then follow *STANDARD THREAD REPAIR* procedure.

Option 2: Apply FORM-A-THREAD on the screw and insert in damaged hole.

Permanent Stud Installation (Light Duty)

1. Use a stud of the desired thread length.
2. DO NOT apply release agent on stud.
3. Follow Standard Thread Repair procedure.
4. Allow 30 minutes for Loctite FORM-A-THREAD to cure.
5. Complete part assembly.

Gasket Compound Application



1. Proper strength Loctite
2. Loctite Primer N (P/N 293 800 041) and Gasket Eliminator 518 (P/N 293 800 038) on both sides of gasket
3. Loctite Primer N only

1. Remove old gasket and other contaminants using LOCTITE CHISEL (GASKET REMOVER) (P/N 413 708 500). Use a mechanical means only if necessary.

NOTE: Avoid grinding.

2. Clean both mating surfaces with solvent.
3. Spray Loctite Primer N on both mating surfaces and on both sides of gasket and allow to dry 1 or 2 minutes.
4. Apply LOCTITE 518 (P/N 293 800 038) on both sides of gasket, using a clean applicator.
5. Place gasket on mating surfaces and assemble parts immediately.

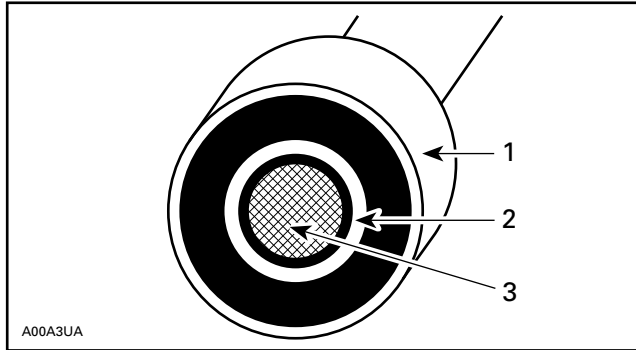
NOTE: If the cover is bolted to blind holes, apply proper strength Loctite in the hole and on threads. Tighten fastener.

If holes are sunken, apply proper strength Loctite on bolt threads.

6. Tighten as usual.

Threadlocker Application for Mounting on a Shaft

Mounting with a Press



1. Bearing
2. Proper strength Loctite
3. Shaft

1. Clean shaft external contact surface.
2. Clean internal contact surface of part to be installed on shaft.
3. Apply a strip of proper strength Loctite on circumference of shaft contact surface at insertion or engagement point.

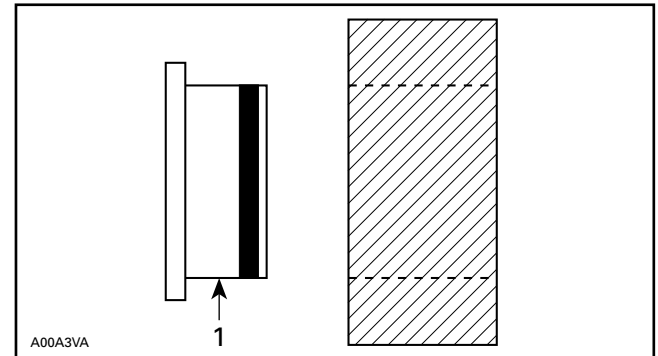
NOTE: Retaining compound is always forced out when applied on shaft.

4. DO NOT use antiseize Loctite or any similar product.
5. No curing period is required.

Mounting in Tandem

1. Apply retaining compound on internal contact surface (bore) of parts to be installed.
2. Continue parts assembly as per previous illustration.

Threadlocker Application for 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 7649 (PRIMER) (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 excess product.
6. Allow 30 minutes for product to cure.

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

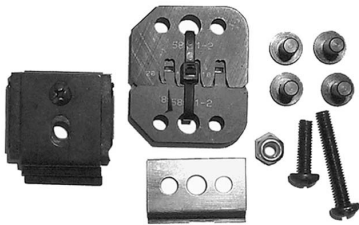
It is generally not necessary to remove gasket compound applied on outer gasket diameter.

12 V BATTERY SUPPLY CABLE
(P/N 529 035 997)



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AMP DIE
(P/N 529 035 908)



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BALL JOINT EXTRACTOR
(P/N 529 035 827)



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BALL JOINT INSTALLER
(P/N 529 035 975)



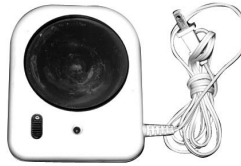
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BALL JOINT REMOVER SUPPORT
(P/N 529 036 121)



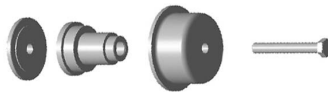
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BEARING HEATER
(P/N 529 035 969)



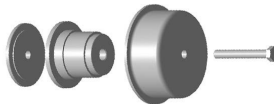
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BEARING PULLER/PUSHER
(P/N 529 036 111)



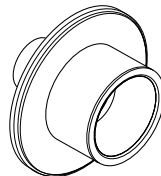
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BEARING PULLER/PUSHER
(P/N 529 036 112)



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BUSHING PULLER/INSTALLER
(P/N 529 031 200)



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BUSHING REMOVER/INSTALLER
(P/N 529 035 931)



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CALIPER PULLER
(P/N 529 036 145)



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CERAMIC SEAL INSTALLER
(P/N 529 036 014)



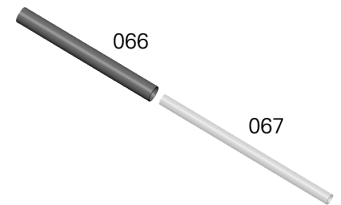
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CONSOLE NUT WRENCH
(P/N 529 036 183)



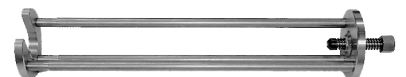
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COUNTERSHAFT BEARING
INSTALLER
(P/N 529 036 066)



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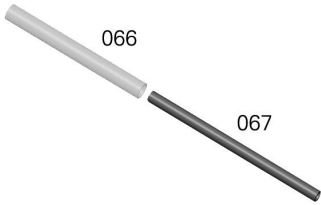
COUNTERSHAFT BEARING
REMOVER
(P/N 529 036 065)



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SERVICE TOOLS INDEX

COUNTERSHAFT SUPPORT
(P/N 529 036 067)



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CRANKSHAFT BEARING PULLER
(P/N 529 036 004)



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CRANKSHAFT PROTECTOR (MAG)
(P/N 420 876 557)



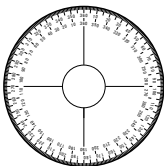
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CRIMPING TOOL (KOSTAL)
(P/N 529 035 909)



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DEGREE WHEEL
(P/N 529 035 607)



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DIAL INDICATOR ADAPTER
(P/N 529 036 132)




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DISTANCE GAUGE
(P/N 529 036 060)




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DRIVE PULLEY HOLDER
(P/N 529 035 674)




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DRIVE PULLEY PULLER
(P/N 529 000 064)



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DRIVEN PULLEY SPRING COMPRESSOR
(P/N 529 036 182)



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ENGINE LIFTING HOOK
(P/N 529 035 829)



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ENGINE LIFTING TOOL
(P/N 529 036 131)



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EXTRACTOR ADAPTOR
(P/N 529 036 136)




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FLUKE 115 MULTIMETER
(P/N 529 035 868)



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FUEL HOSE ADAPTER
(P/N 529 036 023)



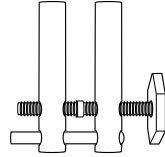
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FUEL PUMP NUT TOOL
(P/N 529 036 214)



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LARGE HOSE PINCHER
(P/N 529 032 500)



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MPI-2 DIAGNOSTIC CABLE
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HANDLE
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LEAK TEST KIT
(P/N 529 033 100)



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MPI-2 INTERFACE CARD
(P/N 529 036 018)



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IGNITION TIMING TOOL
(P/N 529 036 129)



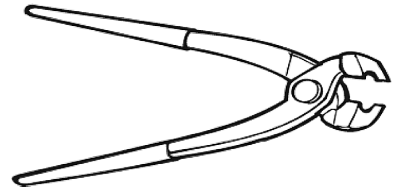
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MAGNETO PULLER RING
(P/N 420 876 081)



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(P/N 295 000 070)



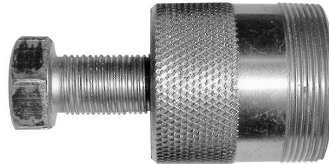
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INJECTOR RETAINER PLATE
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MAGNETO PULLER
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INTAKE PLUG
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MANIFOLD PLUG 63 MM (2-1/2")
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PISTON CIRCLIP INSTALLER 21MM
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POWER INTERFACE
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PRESSURE GAUGE
(P/N 529 035 709)



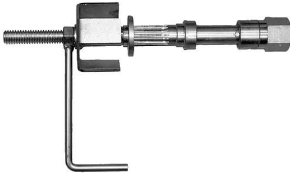
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PROTECTIVE CAP
(P/N 529 036 150)



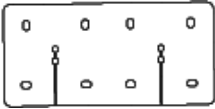
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PULLEY SPRING COMPRESSOR
TOOL
(P/N 529 036 012)



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RUBBER PAD PROTECTOR
(P/N 529 023 400)



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SHOCK ABSORBER SUPPORTS
(P/N 529 036 186)



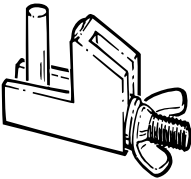
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SLIDER SHOE FORK
(P/N 529 005 500)



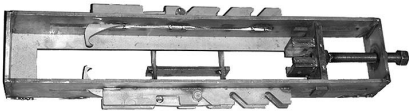
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(P/N 295 000 076)




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SPRING COMPRESSOR
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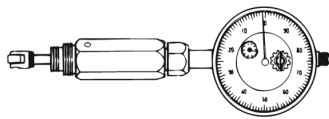
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TDC DIAL INDICATOR
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