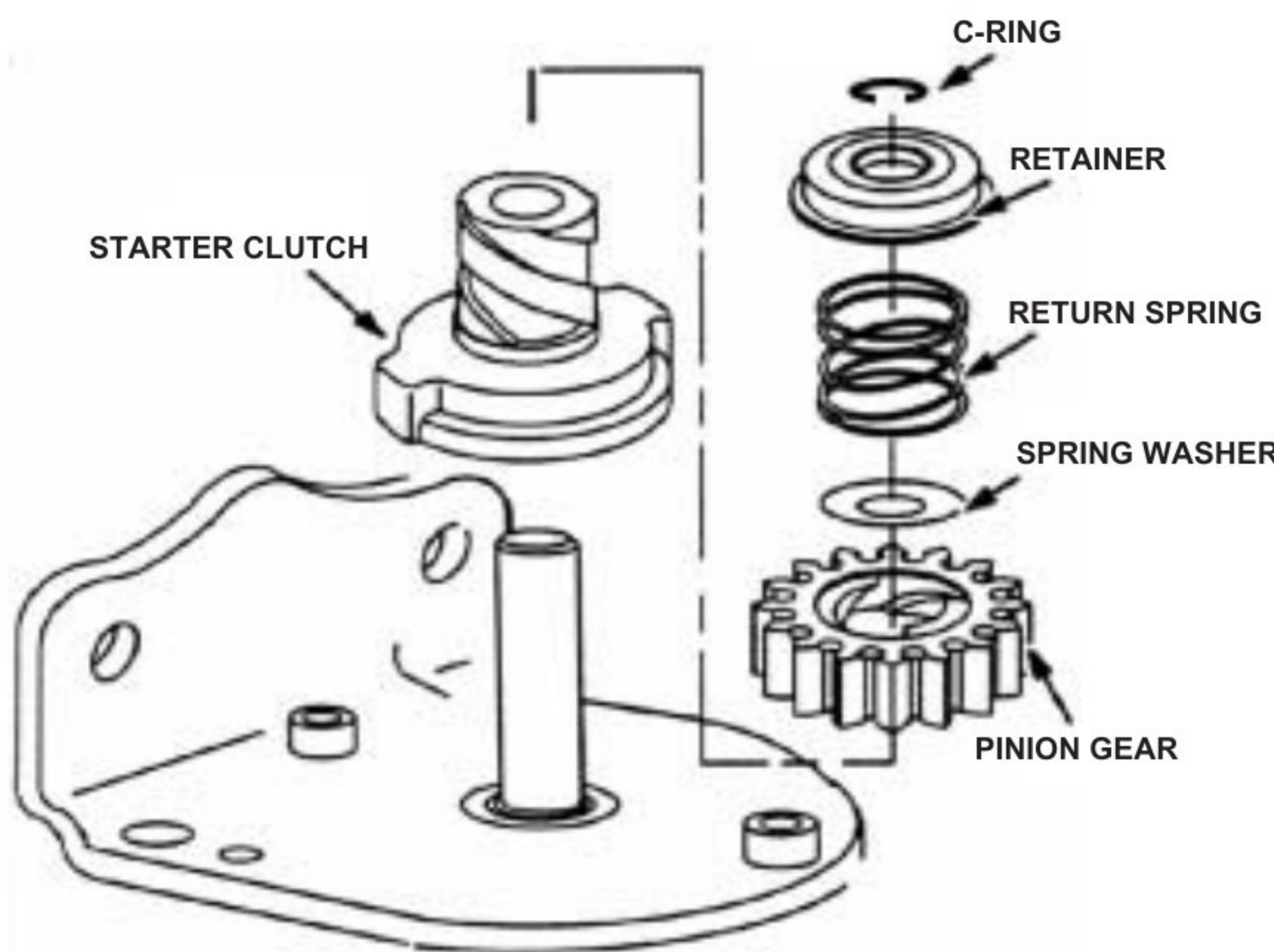




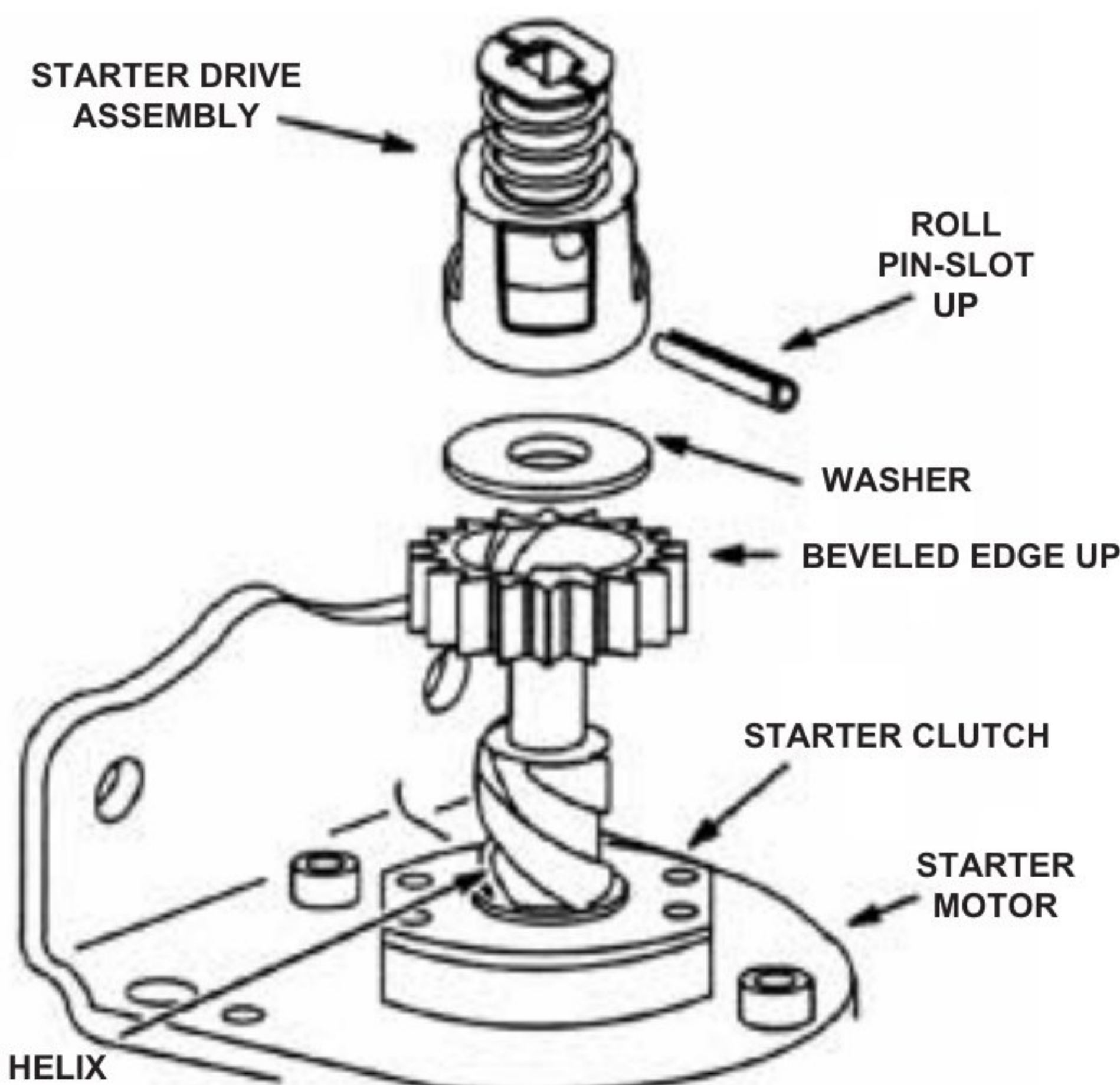
Electric Starter Quick Reference Guide for engines built after 1976.

Please Note: When Possible Always Use Micro Fiche To Look Up Any Briggs & Stratton Parts

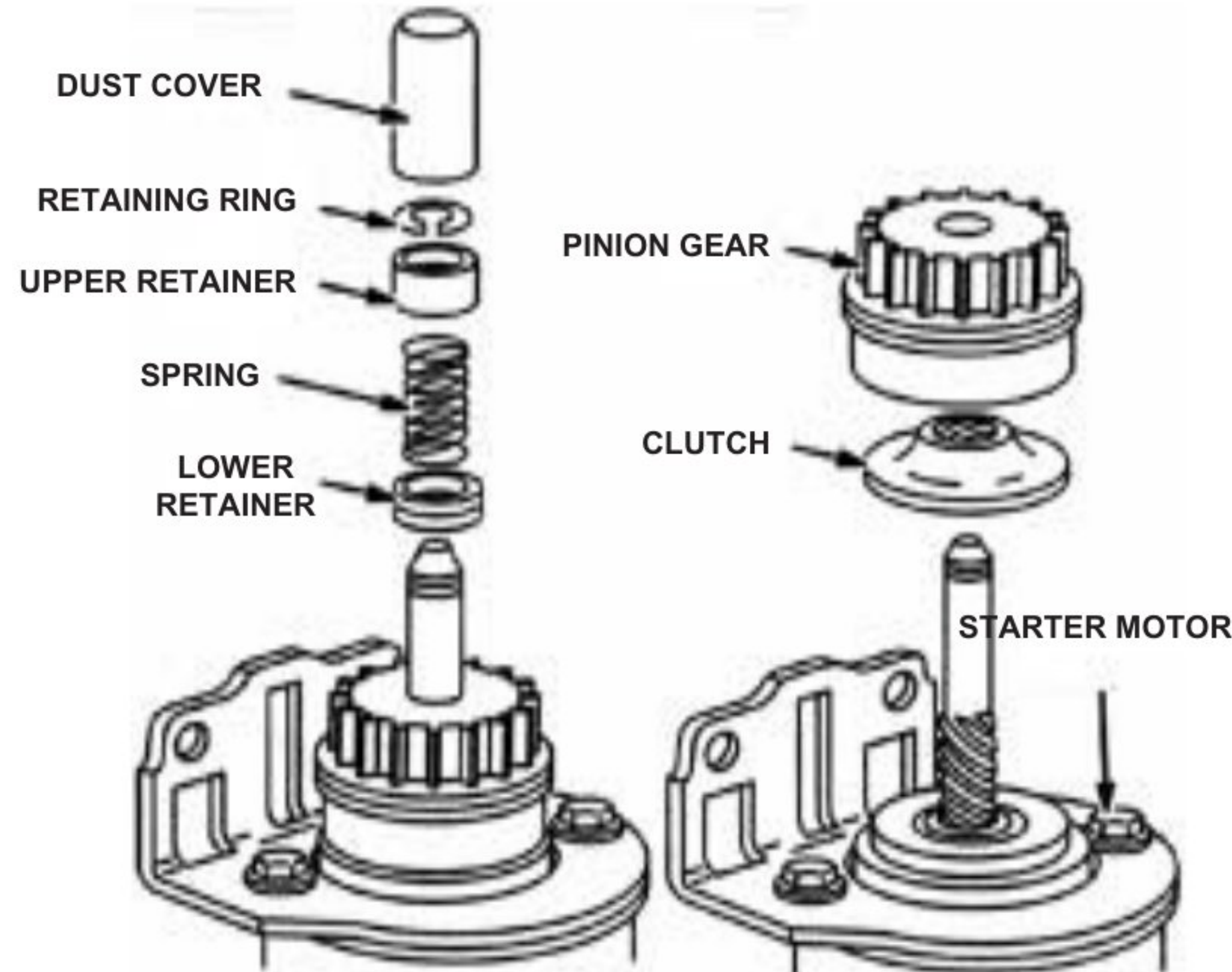
Engine Model	Starter Assembly#	Starter Gear Only#	Drive Assy. # (Bendix)
Single Cylinder Engines			
190400-196499	497595	693059	497606 (C Ring Type)
190700-195799			495878 (Roll Pin Type)
252700-252799			
253700-253799			
198700-198799	693054	693059	497606 (C Ring Type)
19E400-19E499			495878 (Roll Pin Type)
19F400-19F499			
19G400-19G499			
19K400-19K499			
280700-289799	497595 (Plastic Ring Gear)	693058 (Plastic Ring Gear)	497606 (C Ring Type)
28A700-28W799	693054 (Alum. Ring Gear)	693059 (Alum. Ring Gear)	495878 (Roll Pin Type)
	693551 (Steel Ring Gear)	693699 (Steel Ring Gear)	693713 (Steel Ring Gear)
	497401 (Plastic Ring Gear / Starter Housing is Over 4" in Length)		
	499521 (Alum. Ring Gear / Starter Housing is Over 4" in Length)		
Single Cylinder Intek Engines			
310700-310799	497595 (Plastic Ring Gear)	693058 (Plastic Ring Gear)	497606 (C Ring Type)
311700-311799	693054 (Alum. Ring Gear)	693059 (Alum. Ring Gear)	
312700-312799	693551 (Steel Ring Gear)	693699 (Steel Ring Gear)	693713 (Steel Ring Gear)
Opposed Twin Cylinder Engines			
400400-422499	497596	693059	497606 (C Ring Type)
400700-422799			495878 (Roll Pin Type)
40A700-42A799			
460700-460799			
V-Twin Vanguard Engines			
303400-303499	499521	693059	497606 (C Ring Type)
354400-354499	691564 (Steel Pinion Gear)	N/A (Steel Pinion Gear)	496881 (Steel Pinion Gear)
350700-350799			
380400-380499			
380700-380799			
303700-303799	499521	693059	497606 (C Ring Type)
304400-304499	691564 (Steel Pinion Gear)	N/A (Steel Pinion Gear)	496881 (Steel Pinion Gear)
350400-350499			
351400-351499			
351700-351799			
381400-381499	691564 (Steel Pinion Gear)	N/A (Steel Pinion Gear)	496881 (Steel Pinion Gear)
381700-381799			
V-Twin Intek Engines			
405700-405799	691262	693058	497606
406700-406799			
407700-407799	445700-445799		



M0300025 C-Ring Type



Roll Pin Type



Steel Ring Gear

ELECTRIC STARTER KITS QUICK REFERENCE

Engine Model	Starter Assembly #	Starter Gear Only #	Drive Assy. # (Bendix)
Single Cylinder Engines			
190400-194499	497595 (Plastic Ring Gear)	693058 (Plastic Ring Gear)	497606 (C Ring Type)
190700-195799	693054 (Alum. Ring Gear)	693059 (Alum. Ring Gear)	495878 (Roll Pin Type)
252700-252799	693551 (Steel Ring Gear)	693713 (Steel Ring Gear)	693699 (Steel Ring Gear)
253700-253799	497401 (Plastic Ring Gear/ Starter Housing is over 4" in Length)		
194700-198799	499521 (Alum. Ring Gear/ Starter Housing is over 4" in Length))		
195400-195799	693552 (Steel Ring Gear/ Starter Housing is over 4" in Length))		
19E400-19E499			
19F400-19F499			
19G400-19G499			
19K400-19K499			
280700-289799			
28A700-28W799			
Single Cylinder Intek Engines			
310700-310799	497595 (Plastic Ring Gear)	693058 (Plastic Ring Gear)	497606 (C Ring Type)
311700-311799	693054 (Alum. Ring Gear)	693059 (Alum. Ring Gear)	
312700-312799	693551 (Steel Ring Gear)	693713 (Steel Ring Gear)	693699 (Steel Ring Gear)
Opposed Twin Cylinder Engines			
400400-422499	497596 (3 5/8" Housing)	693059	497606 (C Ring Type)
400700-422799	498148 (4 3/8" Housing)		495878 (Roll Pin Type)
42A700-42E799			496181 (Steel Pinion Gear)
406700-461799			
V-Twin Vanguard Engines			
303400-303499	499521	693059	497606 (C Ring Type)
354400-354499	691564 (Steel Pinion Gear)	N/A (Steel Pinion Gear)	496881 (Steel Pinion Gear)
350700-350799			
380400-381499			
380700-381799			
303700-303799	499521	693059	497606 (C Ring Type)
304400-304499	691564 (Steel Pinion Gear)	N/A (Steel Pinion Gear)	496881 (Steel Pinion Gear)
350400-350499			
351400-351499			
351700-351799			
V-Twin Intek Engines			
405700-405799	691262	693058	497606
406700-406799			
407700-407799			
445700-445799			

SERVICE

BRIGGS & STRATTON

BULLETIN

TO ALL AUTHORIZED SERVICE ACCOUNTS

No. 674

DATE 10/98

SUBJECT Electric Starter/Pinion Gear

FILE IN Bulletin
Binder

(Replaces Service Bulletins No. 670 dated 3/2/98 and 4/98)

ENGINE Model Series 161400 thru 461700 (with aluminum or plastic flywheel ring gears)

All starter motors on subject Model Series have previously been serviced with one pinion gear, P/N 280104. Starter motors previously serviced by pinion gear 280104 now require one of two pinion gears, depending on flywheel ring gear material.

To service starter motors on engines equipped with **PLASTIC** ring gears, use pinion gear 693058 (bulk pack P/N 4152 - 5 pieces), **Fig. 1**.

To service starter motors on engines equipped with **ALUMINUM** ring gears, continue to use pinion gear 280104, 280104S or 693059 (bulk pack P/N 4155 or 4114 - 5 pieces), **Fig. 2**.

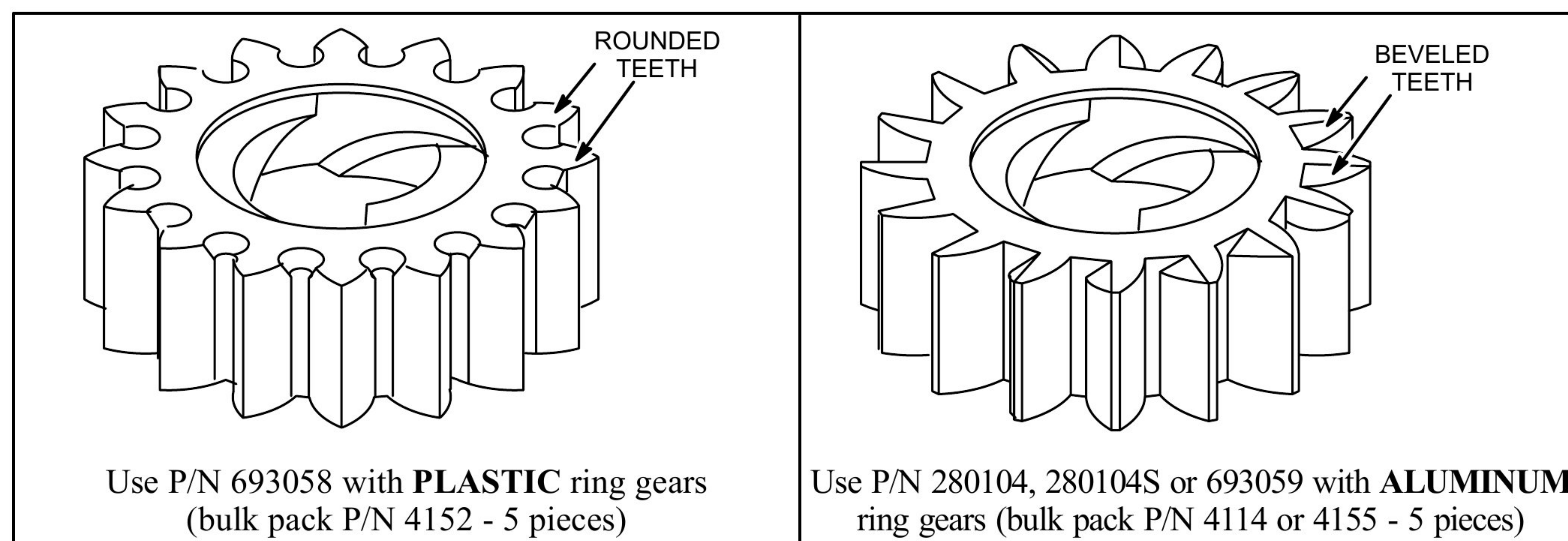
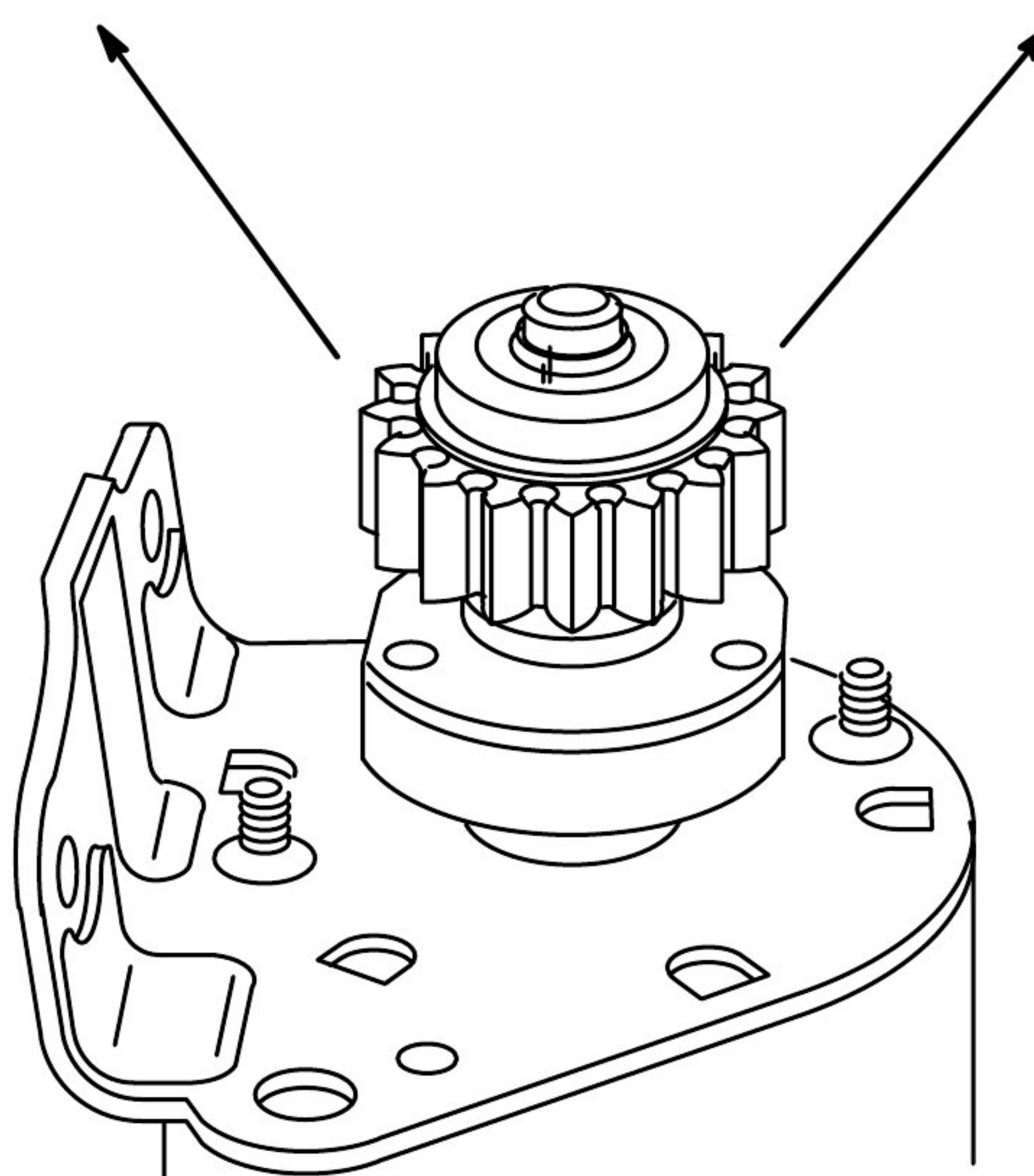


Fig. 1

Fig. 2



BRIGGS & STRATTON CORPORATION
Distribution Sales & Service Division

TO ALL AUTHORIZED SERVICE ACCOUNTS

SUBJECT Touch-N-Mow® Starting System

MODEL 120000 Quantum® & Intek™ Vertical Shaft

No. 700

DATE 2/03

FILE IN Bulletin
Binder/
Repair
Manual

Replaces No. 693
Dated 4/01

The purpose of this bulletin is to alert Service Dealers of IMPORTANT safeguards, diagnostics, and overall service procedures unique to the Touch-N-Mow® starting system, as featured in the 2001 Briggs & Stratton Update Seminar.

IT IS IMPORTANT FOR SERVICE DEALERS TO READ AND UNDERSTAND THIS SERVICE BULLETIN.



Touch-N-Mow® Starting System: If these instructions are not followed, traumatic amputation or severe laceration can result.

- ALWAYS disconnect spark plug, de-energize starter, lock and remove safety key BEFORE performing ANY service to the engine or mower.
- DO NOT attempt any maintenance or repairs to the Touch-N-Mow® starter.
- NEVER assume starter is de-energized, even if key is in LOCK AND REMOVE position and/or removed from engine.
- BEFORE removing grass or other debris from under mower deck; BEFORE changing oil, air filter or spark plug; BEFORE removing blade for servicing; BEFORE performing any other service to engine or mower; BEFORE transporting mower – ALWAYS DE-ENERGIZE TOUCH-N-MOW® STARTER.
- ALWAYS lock and remove safety key and store in safe place until next use. The safety key is designed and intended to be removed from engine when not in use. Removing key will prevent unsupervised or unexpected starting of mower by children or unsuspecting adults. The safety key must be in locked position before it can be removed.

TROUBLESHOOTING TIPS

Before servicing starter, verify if a problem exists with Touch-N-Mow® starter. Equipment controls, cable travel, or a general engine starting problem may be perceived as a starter problem.

1. Check control cable travel (Fig. 1). If **not** within specifications, cable may need to be replaced. There are no adjustments for cable travel. The control cable is supplied and warranted by the equipment manufacturer. Safety key must be in the RUN position when measuring cable travel. Note position of control handle.
2. If cable travel **is** within specifications, attempt to start engine using the rewind starter. Note the safety key must be in the RUN position, and the starter control button must be depressed while pulling bail, or blade control handle, when using rewind starter.
3. If engine fails to start using rewind starter, trouble-shoot fuel, air intake, and ignition systems, etc. to determine reason for starting problem. Specifically, check ignition ground wire routing to stop terminal, mounted on Touch-N-Mow® starter. If stop wire is pinched between starter housing and cylinder the engine will not start. **Never start engine with ground wire removed from stop terminal.** This will damage the starter.
4. If engine starts with rewind starter, allow engine to warm up before releasing bail. A loud ratcheting/winding sound **should** be heard during shut down. This is normal and confirms the power-spring of the Touch-N-Mow® starter is being energized.
5. If a loud ratcheting/winding sound **is not** heard during bail release, and cable travel **is** within specification, the problem is in the Touch-N-Mow® starter. The entire starter will need to be replaced. There are no parts serviceable on the Touch-N-Mow®.
WARNING: See "REMOVING STARTER" before attempting service.
6. If a loud ratcheting/winding sound **is** heard during bail release, attempt to re-start engine using Touch-N-Mow® starter.
7. If the Touch-N-Mow® starter **does** crank the engine, the problem **is not** with the Touch-N-Mow® starter.
8. If the Touch-N-Mow® starter **does not** crank the engine, and cable travel **is** within specification, the problem **is** in the Touch-N-Mow® starter. The entire starter will need to be replaced. There are no parts serviceable on the Touch-N-Mow®. **WARNING: See "REMOVING STARTER" before attempting service.**

REMOVING STARTER

BEFORE removing the Touch-N-Mow® starter, ensure the starter is not energized by manually de-energizing it. (Fig. 2)

1. To manually de-energize the starter, disconnect spark plug wire, turn safety key to the RUN position, and manually actuate the starter control by pulling the actuating arm. (See Fig. 2)

⚠ WARNING: Engine will crank over and blade will rotate when manually de-energizing starter.

2. Disconnect ignition stop wire, remove equipment control cable, and remove starter from engine.

Note: A Tamper-proof T-30 Torxt driver (B&S P/N 19518) or equivalent is required for removal.

3. When replacing starter, verify the stop switch wire is properly routed and grounded. **Failure to properly attach stop switch wire to stop terminal on starter will result in damage to the starter.** If wire is pinched or grounded, engine will fail to start.

WARRANTY

The Touch-N-Mow® starter has no serviceable components. If failure occurs the entire unit must be replaced. All Touch-N-Mow® starters replaced under warranty must be authorized by your Central Sales & Service Distributor. All warranted starters are required to be returned to the factory, with an original, printout, or photocopy of the warranty claim. See Briggs & Stratton Warranty Policies & Procedures (MS-2860) for return address information.

DANGER: Do not return starter in an energized state.

Normal wear and tear – The Touch-N-Mow® starter contains various metallic wear components. It is **not** unusual for small amounts of metal filings/powder to accumulate on mower deck over time. This is normal wear and tear, and does not indicate a problem with the starter, nor will it be considered a warranty defect.

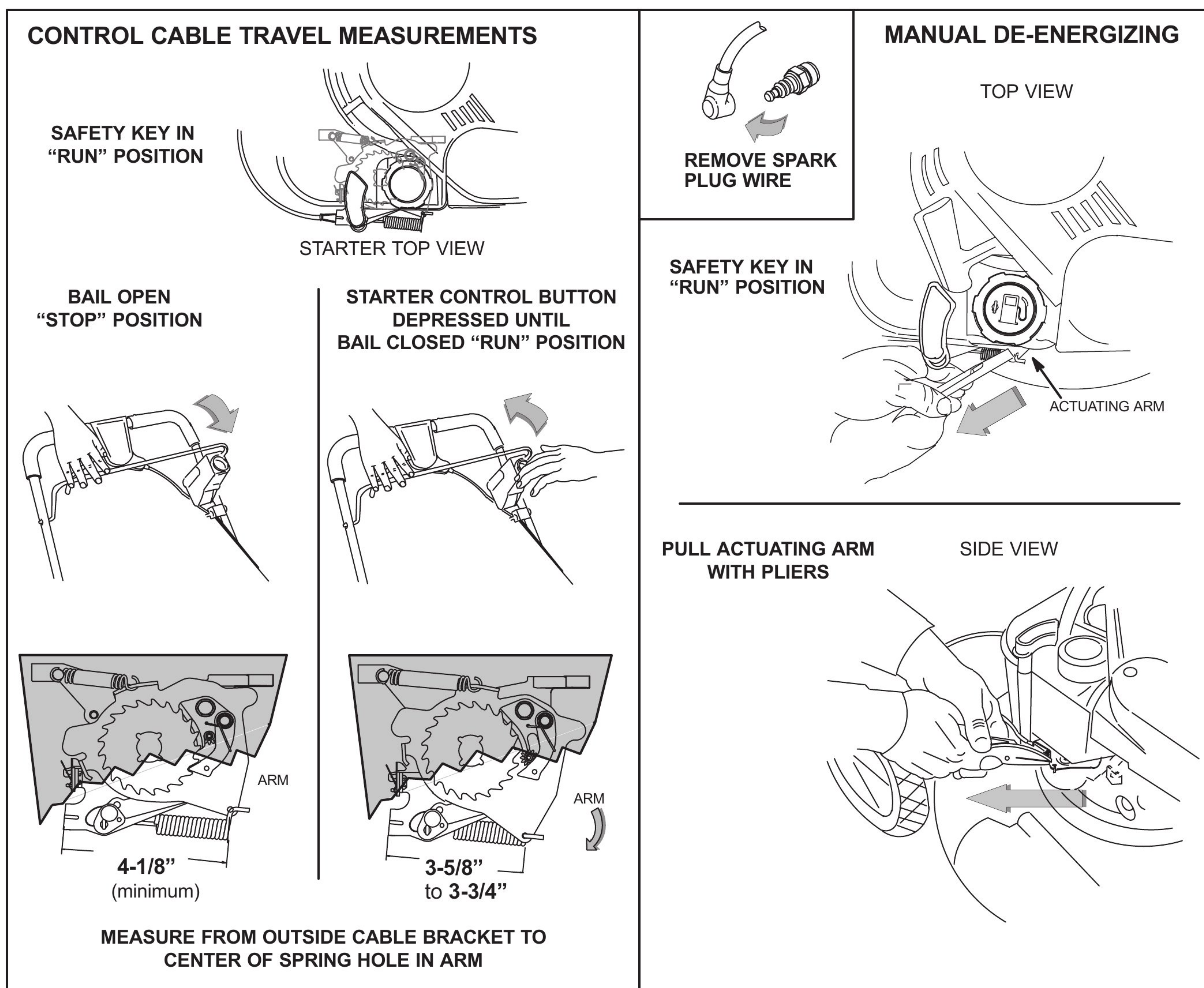


Fig. 1

Fig. 2

BRIGGS & STRATTON CORPORATION

Distribution Sales & Customer Support Division

SERVICE

BRIGGS & STRATTON

BULLETIN

TO ALL AUTHORIZED SERVICE ACCOUNTS

No. 664

DATE 1/29/97

SUBJECT 12 Volt Starter Motors (P/N 497595 & 497596)

FILE IN Bulletin Binder

Replaces Bulletins 608 and 621

Briggs & Stratton has recently audited numerous warranty claims related to 12 volt electric **starter motor replacements**. Of those claims that we requested parts returns, we determined that in almost all cases the failures were related to **starter drive problems** - primarily sticking and/or damaged pinion gears. Should you encounter a problem with the starter drive, **DO NOT replace complete starter motor**. Repair or replace the starter drive (P/N 497606) as described below.

STICKING PINION GEAR, Fig. 1.

1. Apply a lithium base lubricant (B&S P/N 100061 or equivalent) *sparingly* around the base of the helix.
 2. Rotate the pinion gear up and down the helix several times.
- Note - **DO NOT** use mineral spirit based lubricants to lubricate helix.

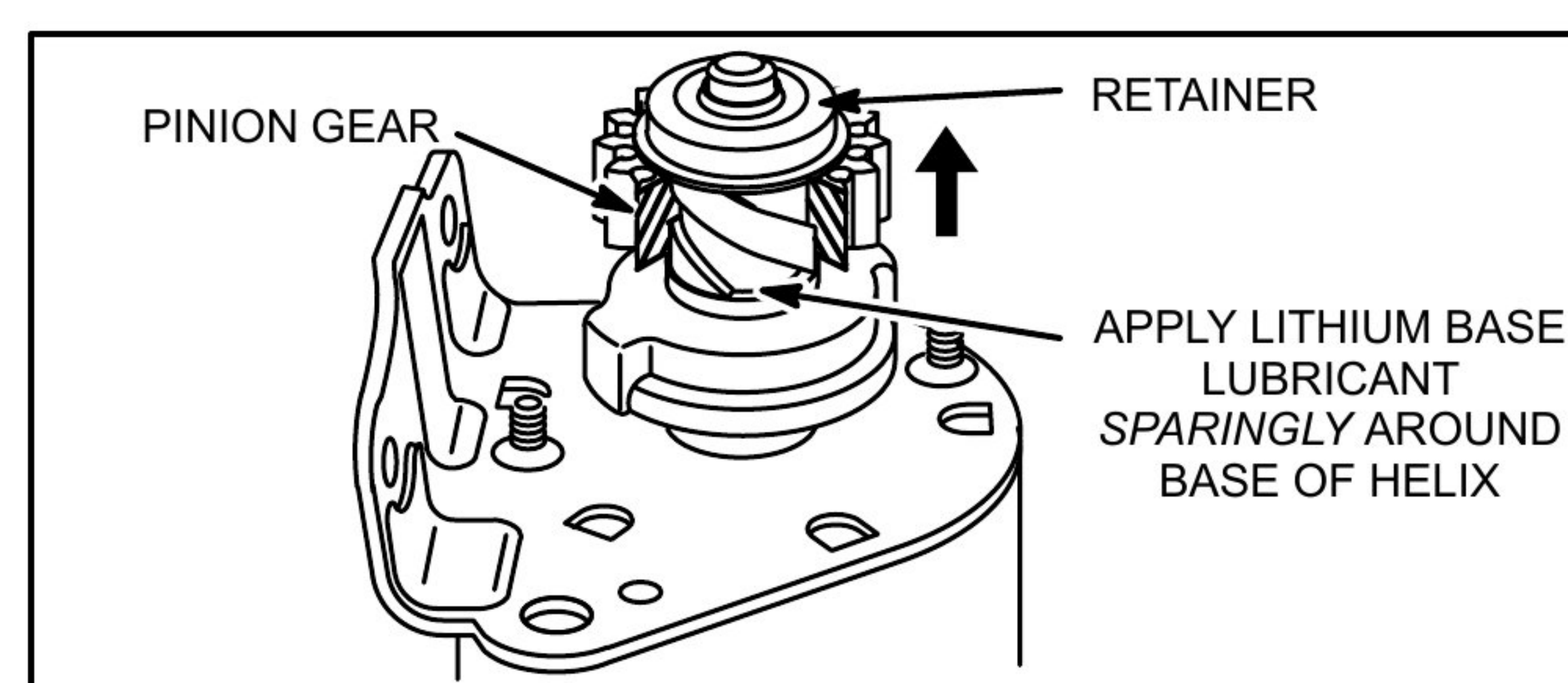


Fig. 1

DAMAGED DRIVE OR PINION GEAR, Figs. 2 & 3.

To remove starter drive assembly using Tool #19436,

1. Place counterbore side of tool over retainer and align drive pins with open end of C-ring.

Important - if retainer has a notch as shown, **DO NOT** align drive pins with notch. If necessary, rotate notch away from open end of C-ring.

2. Place palm of hand over tool and push down evenly on tool to compress spring washer.
3. While applying pressure, turn knurled knob clockwise until C-ring pops off. Discard C-ring.

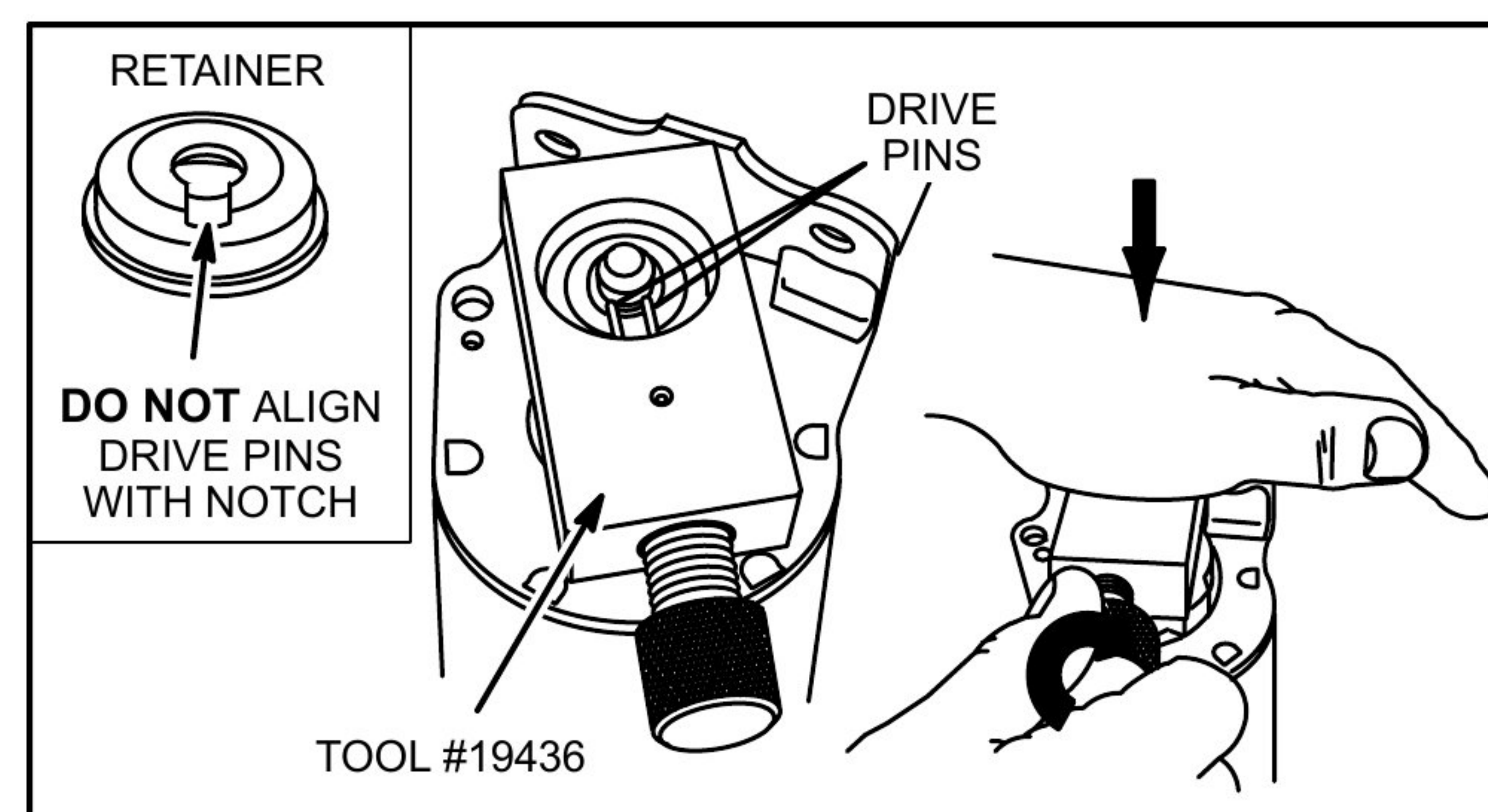


Fig. 2

To install replacement starter drive assembly using Tool #19435,

1. Assemble new starter clutch to starter shaft and rotate clutch until it drops into place.
2. Apply a lithium base lubricant (B&S P/N 100061 or equivalent) *sparingly* around base of helix, then install starter gear with beveled side of teeth up. Then install return spring making sure spring is in recess of starter gear.

Note - **DO NOT** use mineral spirit based lubricants to lubricate helix.

3. Install spring washer with concave side up. Install retainer.
4. Place C-ring over chamfered end of shaft. Align one of the slots of C-ring installer with open end of C-ring.
5. Press or drive C-ring on until it snaps into groove in shaft.

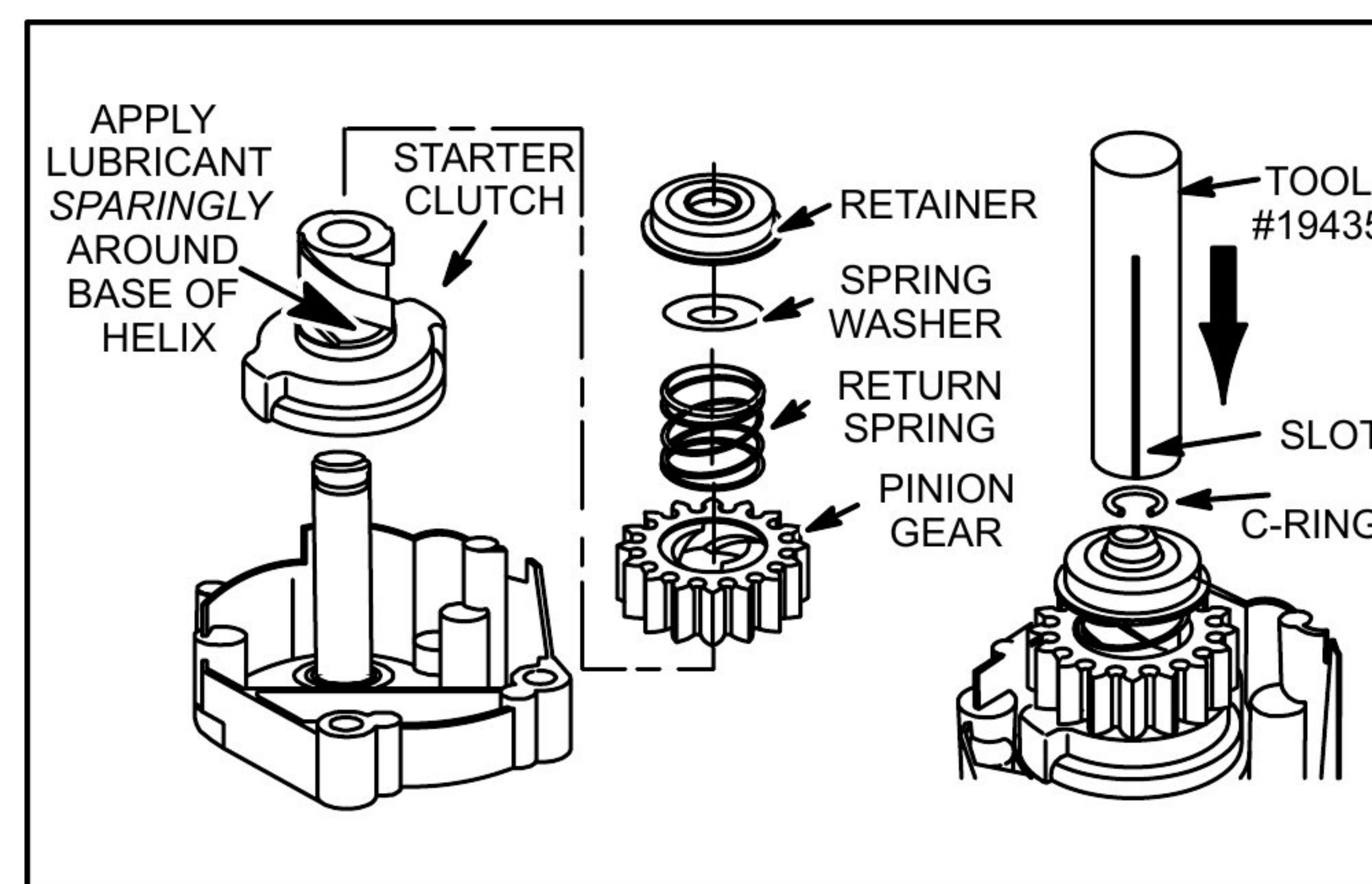


Fig. 3

BRIGGS & STRATTON CORPORATION
Distribution Sales & Service Division