



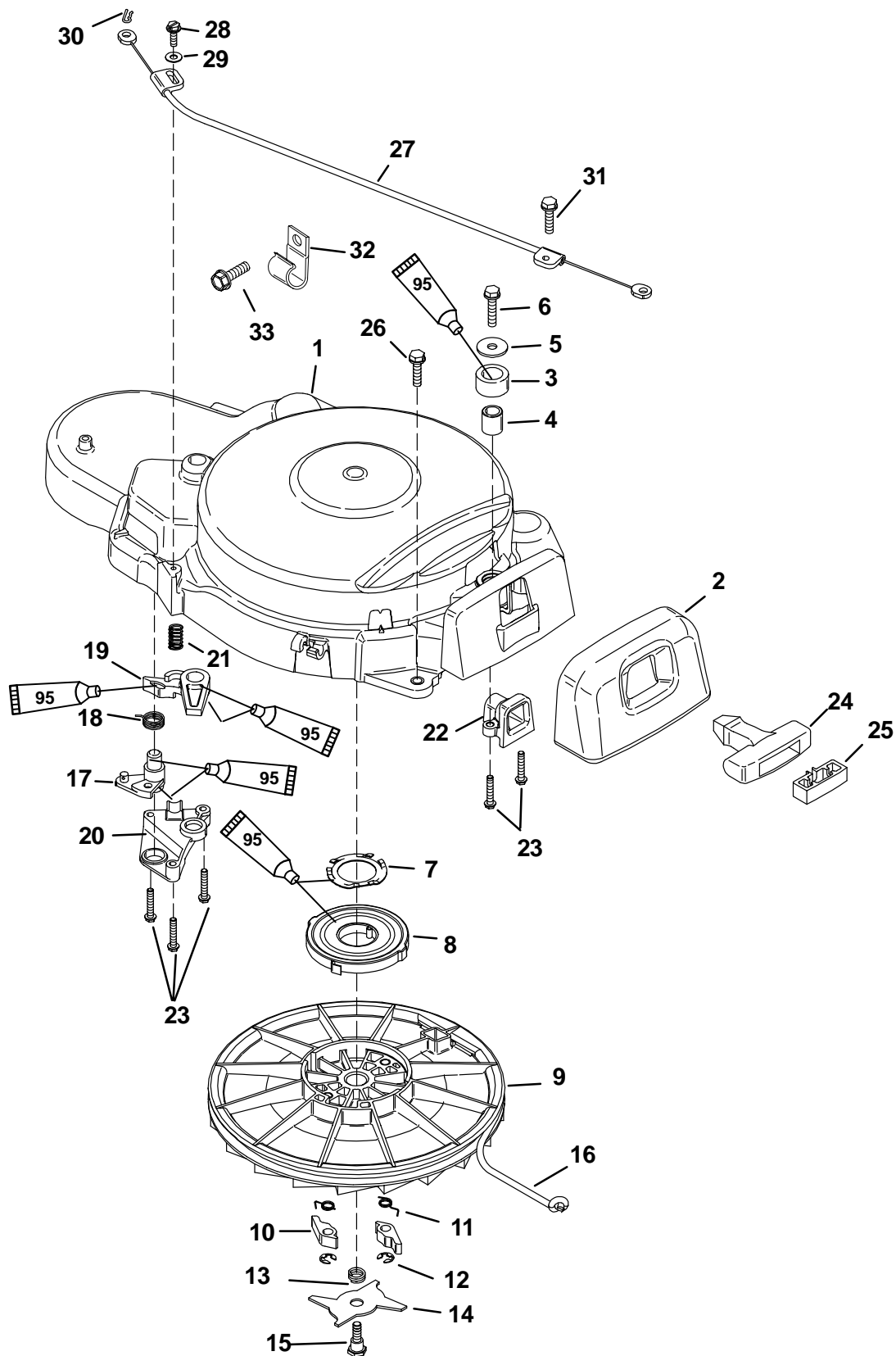
MANUAL STARTER

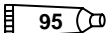
Table of Contents

Manual Starter	8-2	Rewind Starter Reassembly	8-9
Manual Starter Removal	8-4	Adjusting Rewind Spring Tension	8-11
Manual Starter Disassembly	8-5	Manual Starter Installation	8-16
Cleaning and Inspection	8-8	Interlock Cable Adjustment	8-17



MANUAL STARTER



 95 2-4-C Marine Lubricant with Teflon

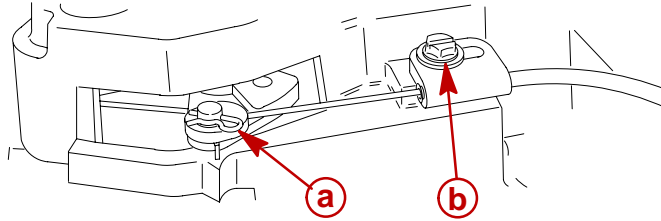
**MANUAL STARTER**

REF. NO.	QTY.	DESCRIPTION	TORQUE		
			lb. in.	lb. ft.	N-m
-	1	RECOIL STARTER ASSEMBLY			
1	1	RECOIL HOUSING			
2	1	SEAL			
3	1	ROLLER			
4	1	BUSHING			
5	1	WASHER			
6	1	SCREW (M6 x 30)	70		8.0
7	1	LOCKWASHER			
8	1	SPRING			
9	1	STARTER SHEAVE			
10	2	CAM			
11	2	SPRING			
12	2	RETAINING RING			
13	1	SPRING			
14	1	CAM			
15	1	SCREW (1/4-20)	135		15.3 5
16	1	STARTER CORD			
17	1	CAM			
18	1	SPRING			
19	1	INTERLOCK LEVER			
20	1	RETAINER			
21	1	SPRING			
22	1	BUSHING			
23	5	SCREW (10-16 x 1)		Drive Tight	
24	1	HANDLE			
25	1	RETAINER			
26	4	SCREW (M6 x 25)	60		7.0
27	1	INTERLOCK CABLE			
28	1	SCREW (10-16 x .625)		Drive Tight	
29	1	WASHER			
30	1	COTTER PIN			
31	1	SCREW (M5 x 16)	33.6		4
32	1	J-CLIP			
33	1	SCREW (M6 x 16)			



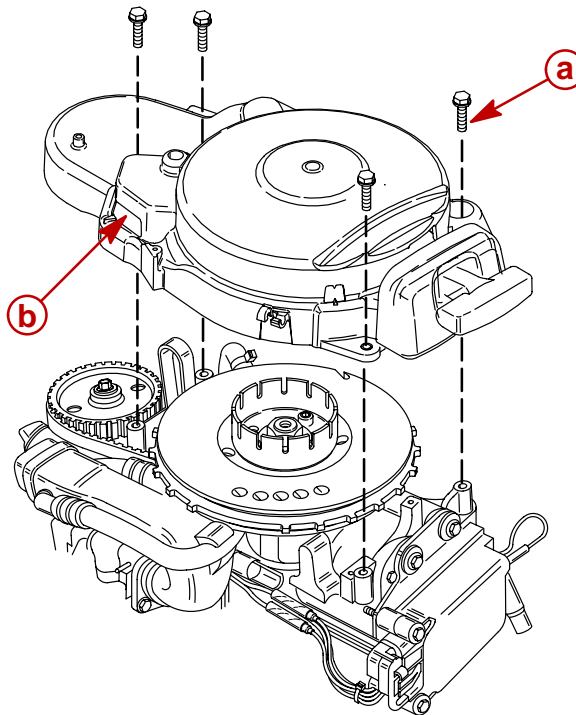
Manual Starter Removal

1. Remove the adjustment screw from the rewind housing. Remove the retaining clip from the start interlock. Remove the interlock cable.



- a** - Retaining Clip
- b** - Adjustment Screw

2. Remove screws and manual starter.



- a** - Screws (4) - M6x25
- b** - Manual Starter

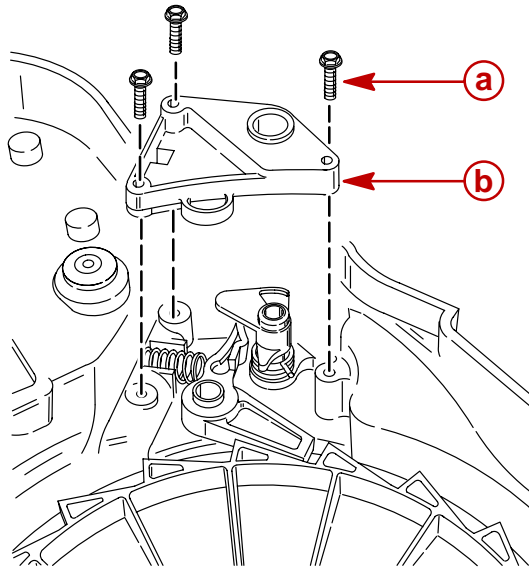


Manual Starter Disassembly

⚠ WARNING

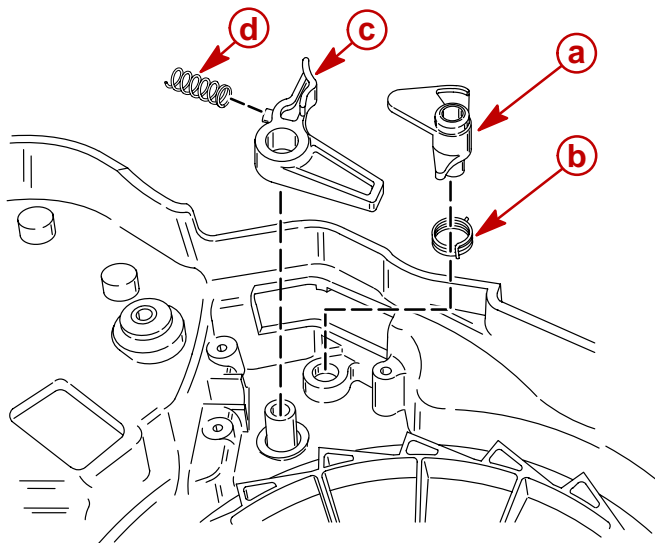
When disassembling and reassembling rewind starter, **SAFETY GLASSES** must be worn in case rewind spring uncoils out of the housing.

1. Remove cam retainer.



- a** - Screws (3) - 10-16x.625 (1/4 in. Hex)
- b** - Cam Retainer

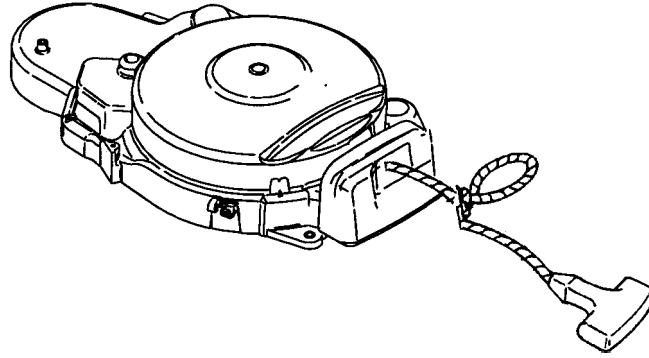
2. Remove cam, interlock lever, and springs.



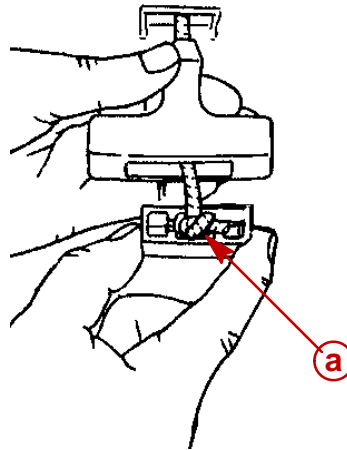
- a** - Cam
- b** - Spring (Cam)
- c** - Interlock Lever
- d** - Spring (Interlock Lever)



3. Pull starter rope handle out from rewind starter about 1 ft. (30.5cm) and tie a overhand knot at this point to prevent rope from being pulled back into rewind starter.

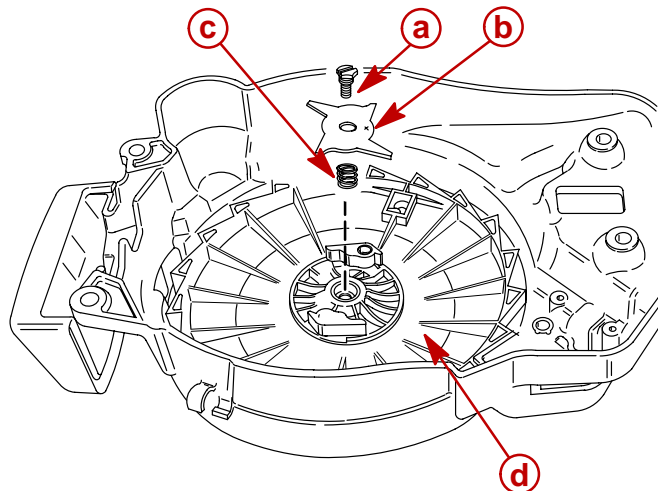


4. Untie the knot in the starter rope handle. Untie knot in starter rope (from previous step). Release starter rope to allow rewind spring to unwind.



a - Knot

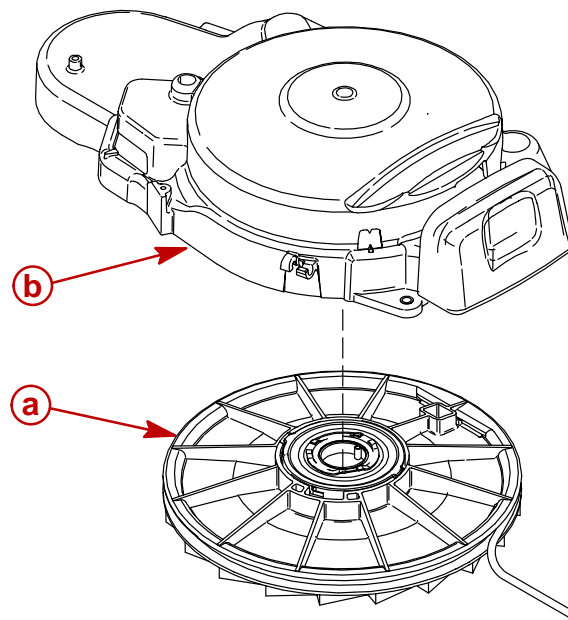
5. Remove cam.



a - Screw
b - Cam
c - Spring
d - Starter Sheave



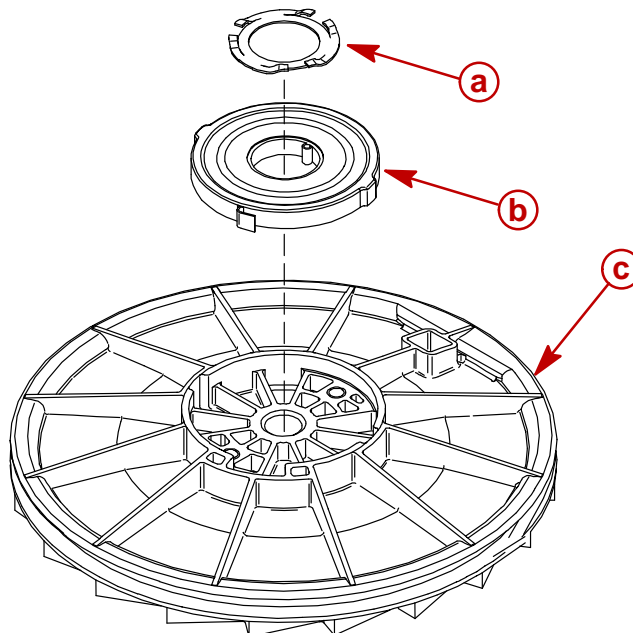
6. Remove starter sheave assembly from recoil housing.



- a** - Starter Sheave Assembly
- b** - Recoil Housing

7. Remove rope from starter sheave assembly.

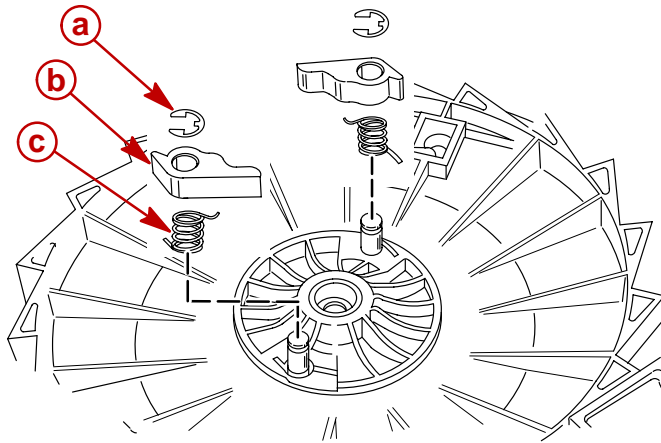
8. Remove springwasher and spring assembly from starter sheave.



- a** - Springwasher
- b** - Spring Assembly
- c** - Starter Sheave



9. Remove retaining rings, pawls, and springs from starter sheave.



- a** - Retaining Rings (2)
- b** - Pawls (2)
- c** - Springs (2)

Cleaning and Inspection

1. Clean components in solvent and dry with compressed air.
2. Inspect rewind spring for kinks, burrs, corrosion or breakage.
3. Inspect starter sheave, rope guide and starter housing for nicks, grooves, cracks, wear or distortion, especially area of rope travel.
4. Inspect bushing, starter drive pawl and spring for wear or damage.
5. Inspect starter rope for wear.
6. Replace components as necessary.

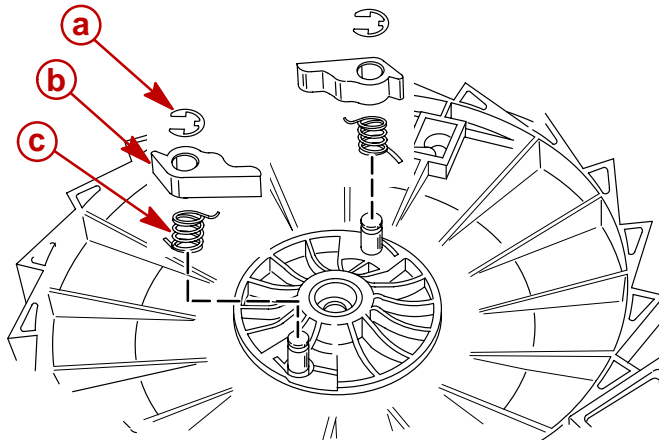


Rewind Starter Reassembly

⚠ WARNING

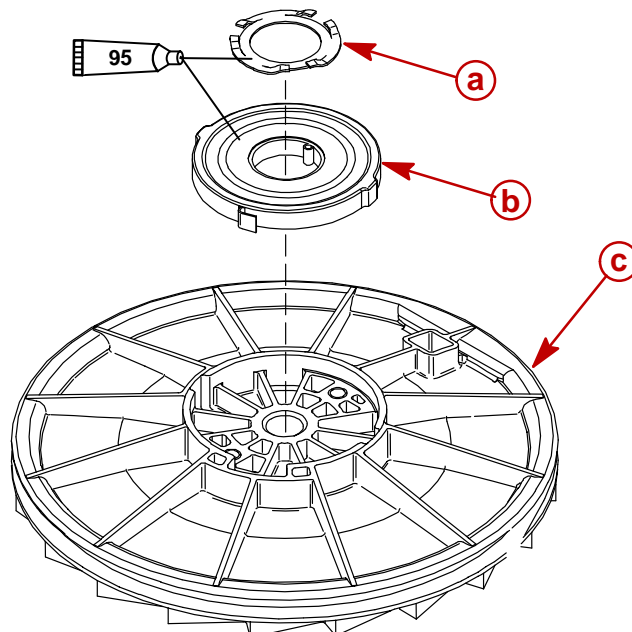
When reassembling rewind starter, **SAFETY GLASSES** must be worn in case rewind spring uncoils out of the housing.

1. Install springs, pawls, and retaining rings onto starter sheave.



- a** - Springs (2)
- b** - Pawls (2)
- c** - Retaining Rings (2)

2. Install spring assembly and springwasher into starter sheave.



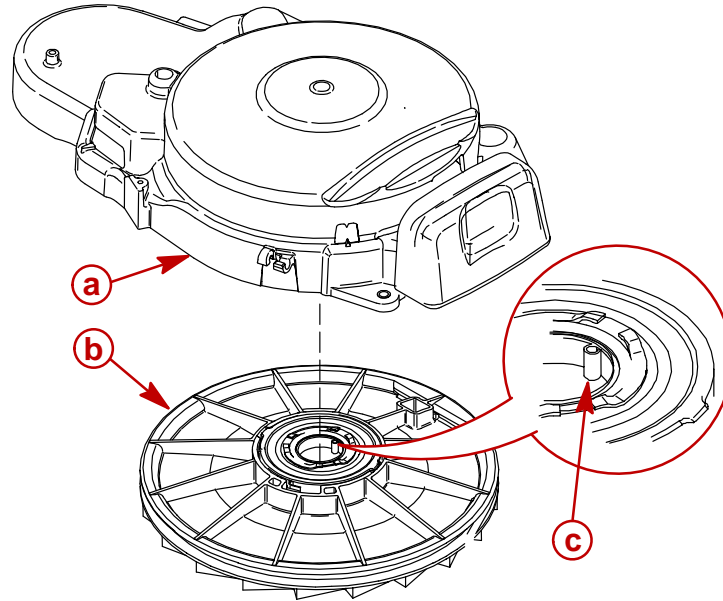
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- a** - Spring Assembly
- b** - Springwasher
- c** - Starter Sheave



3. Install starter sheave assembly into recoil housing.

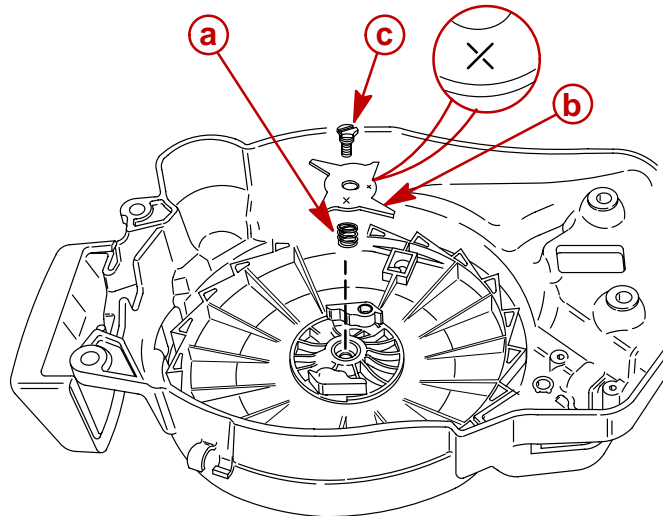
NOTE: Looped end of spring must engage "V" notch in hub of starter housing.



- a** - Recoil Housing
- b** - Starter Sheave Assembly
- c** - Looped End of Spring

4. Secure cam and starter sheave assembly to recoil housing.

NOTE: Cam should have "x" facing up.



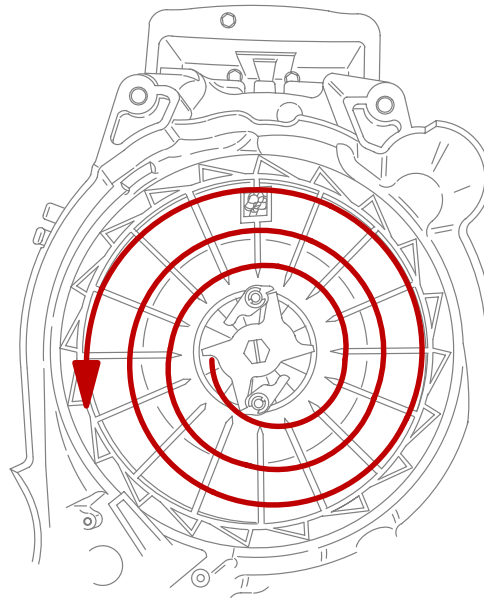
- a** - Spring
- b** - Cam
- c** - Screw

Cam Screw Torque
135 lb. in. (15.5 N·m)

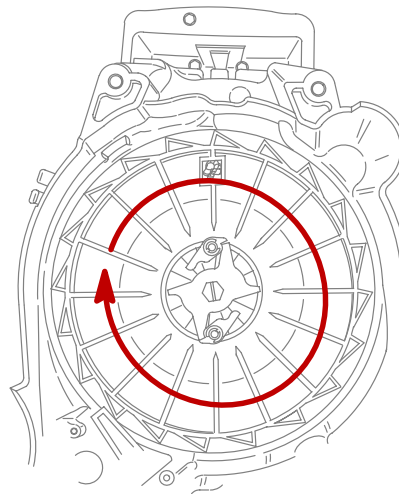


Adjusting Rewind Spring Tension

1. Rotate sheave counterclockwise until it stops (coil is bound).



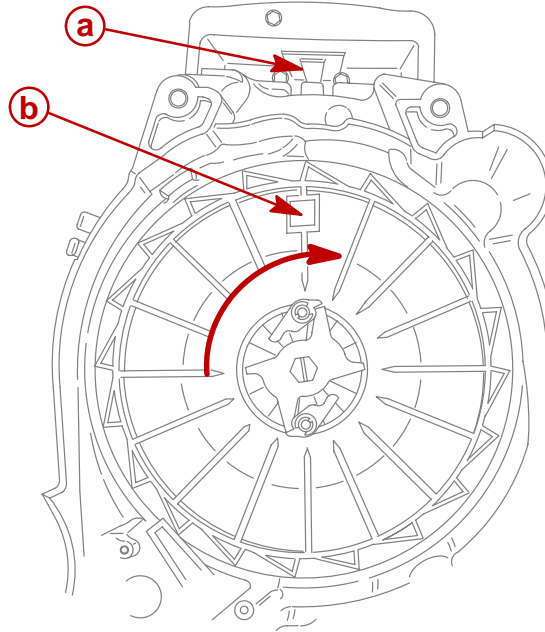
2. Back sheave off until rope hole in sheave aligns with rope bushing.





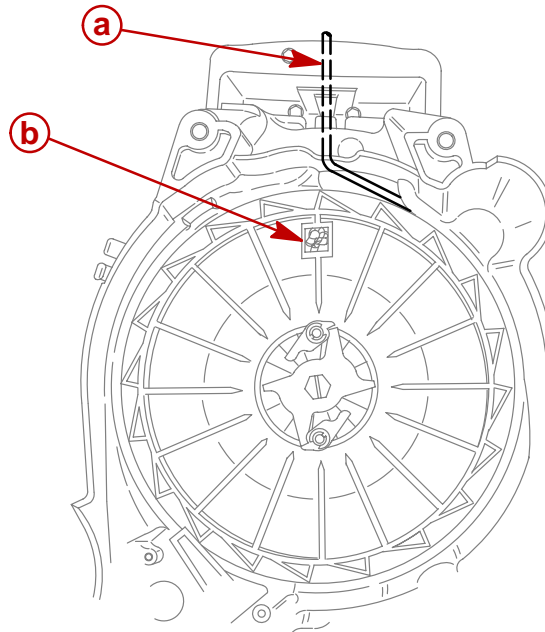
3. If less than 90° rotation required to achieve, then back off one additional turn.

IMPORTANT: Never back off sheave less than one full turn.



a - Rope Guide Hole
b - Knot Recess

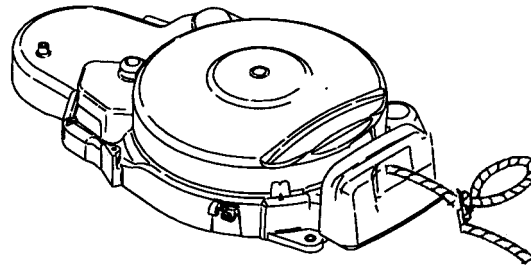
4. Thread starter rope through rope guide, starter housing, and starter sheave. Tie knot in end of rope and place knot into recess.



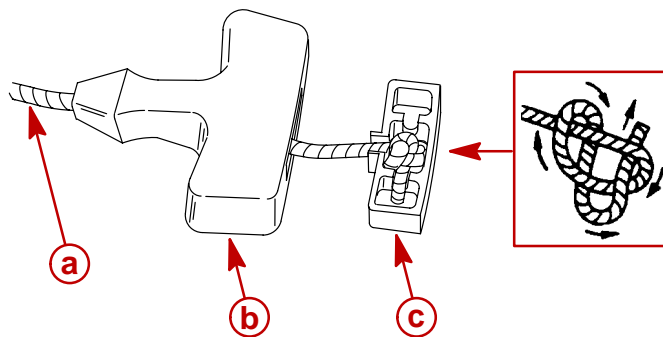
a - Starter Rope
b - Knot



5. Allow starter rope to pull back into rewind starter until about 1 ft. (30.5cm) of rope is left. Tie an overhand knot at this point to prevent rope from being pulled back into rewind starter.



6. Route starter rope through starter handle. Tie a knot into end of rope and secure in rope retainer.
7. Untie overhand knot from step 5.

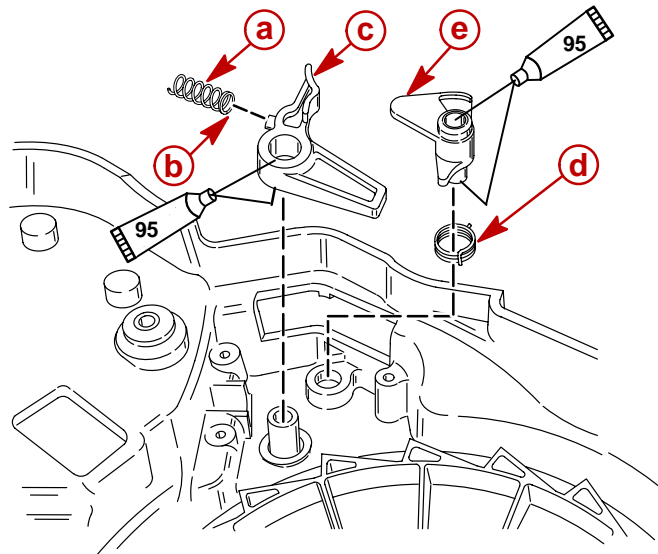


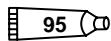
- a** - Starter Rope
- b** - Starter Handle
- c** - Retainer



8. Install springs, interlock lever, and cam.

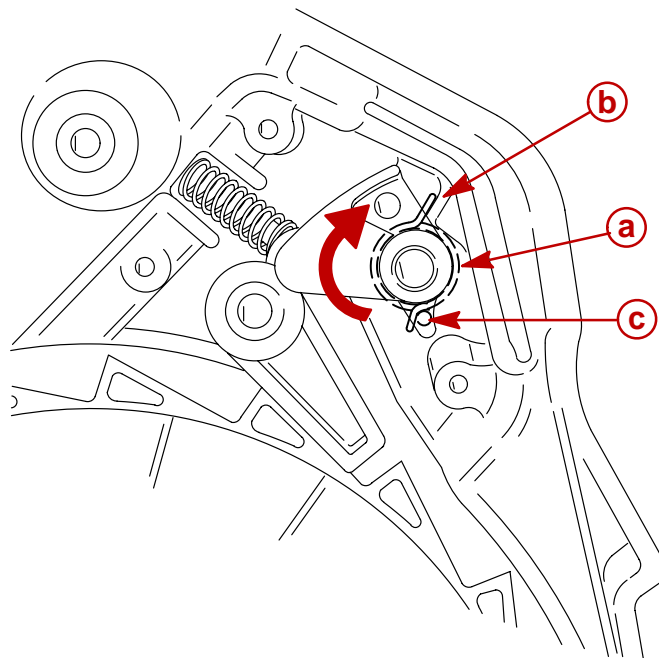
IMPORTANT: Interlock lever spring should be installed with squared end of spring seated on interlock lever.



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- a** - Spring (Interlock Lever)
- b** - Squared End of Spring
- c** - Interlock Lever
- d** - Spring (Cam)
- e** - Cam

IMPORTANT: Cam spring ends should be seated on recoil housing and cam boss. Spring tension should be noticeable when turning cam clockwise.



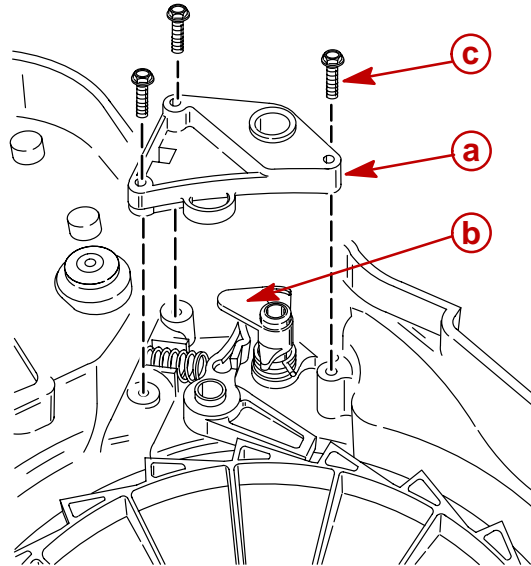
- a** - Spring (Cam)
- b** - Recoil Housing
- c** - Cam Boss (Hidden)

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9. Install cam retainer. Drive screws tight.

NOTE: Cam should be held with some preload until retainer is seated.



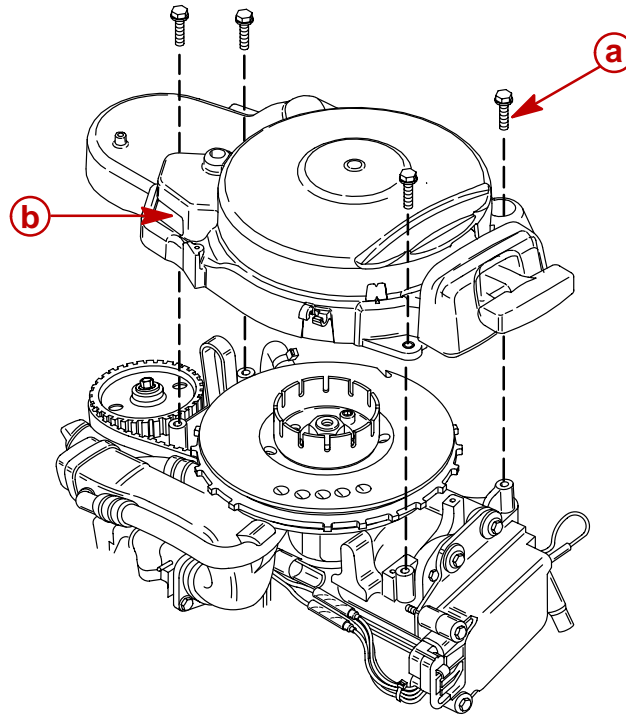
- a - Cam Retainer
- b - Cam
- c - Screws (3) - 10-16x.625 Drive Tight

NOTE: Hold interlock lever back and check the operation of the rewind and rewind tension before installation.



Manual Starter Installation

1. Secure manual starter with screws.

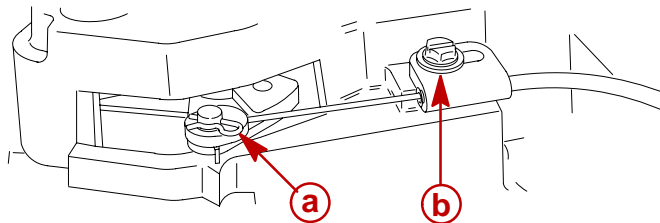


- a** - Screws (4) - M6x25
- b** - Manual Starter

Manual Starter Screw Torque
60 lb. in. (7 N-m)

2. Install interlock cable onto cam boss and secure with retaining clip.
3. Secure interlock cable to rewind housing with adjustment screw.

NOTE: Interlock cable should be adjusted after installation. Refer to interlock cable adjustment procedures.



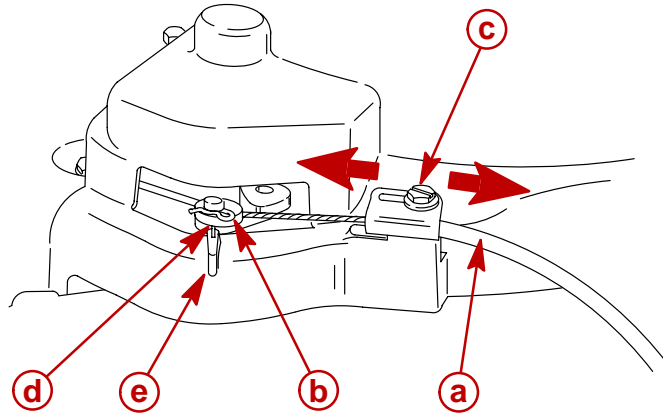
- a** - Retaining Clip
- b** - Adjustment Screw



Interlock Cable Adjustment

IMPORTANT: Lubricate core wire of interlock cable with light oil prior to making adjustments.

1. While rotating the propeller shaft, place the gear shift lever into REVERSE.
2. Return the gear shift lever to NEUTRAL without going past neutral detent.
3. Place end of interlock cable over pin of cam lever and secure with retaining clip.
4. Secure interlock cable to starter housing using adjusting screw. Do not tighten screw at this time.
5. Adjust interlock cable to align raised mark of cam lever with pointer of rewind housing.



- a** - Interlock Cable
- b** - Retaining Clip
- c** - Adjustment Screw
- d** - Raised Mark of Cam Lever
- e** - Pointer of Rewind Housing

6. Tighten cable adjustment screw and check adjustment after 4 or 5 shift cycles.