



CLINTON ENGINES

SEC. III, DIV. H
RECOIL STARTERS
ISSUED JULY, 1957
REVISED JULY, 1966

RECOIL STARTER IDENTIFICATION

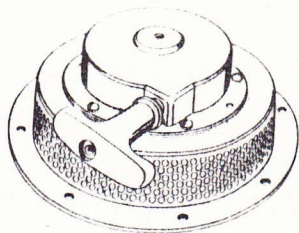


FIG. 1

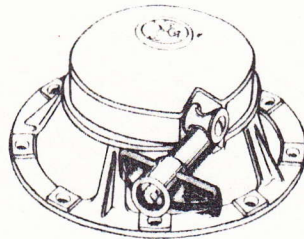


FIG. 2

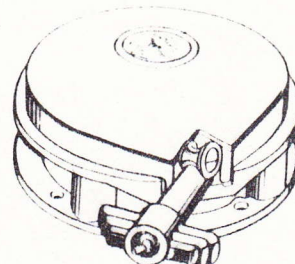


FIG. 3

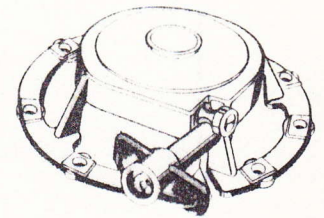


FIG. 4

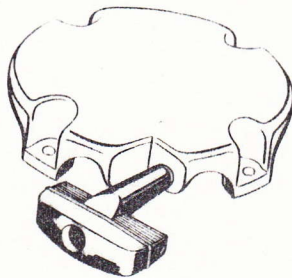


FIG. 5

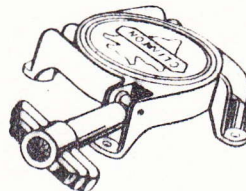


FIG. 6

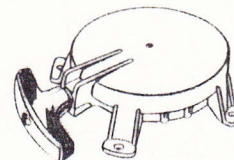


FIG. 7

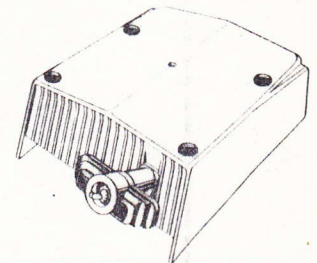


FIG. 8

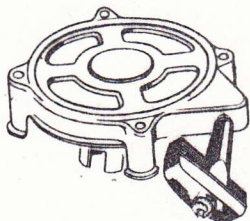


FIG. 9

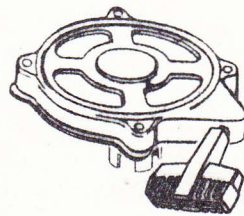


FIG. 10

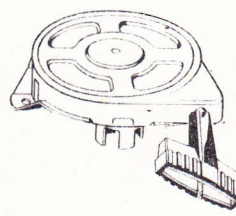


FIG. 11

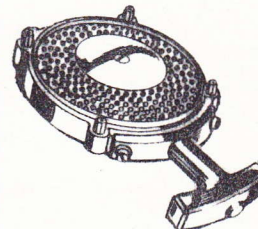


FIG. 12

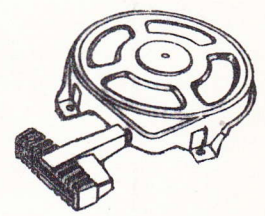


FIG. 13

Fig.	Part Number	Description	Mounting Circle Dia.	Parts List on Page No.	Fig.	Part Number	Description	Mounting Circle Dia.	Parts List on Page No.
1	149-29 (6311)	Schnacke	5 9/16"	Page 1	4	149-67 (6348)	Fairbanks Morse	5 9/16"	Page 2
1	149-30 (6312)	Schnacke	5 9/16"	Page 1	5	265-73-500 (6362)	Eaton	5 9/16"	Page 7
1	149-31 (6313)	Schnacke	6 1/4"	Page 1	6	265-124-500 (700779)	Clinton	5 9/16"	Page 8
1	149-32 (6314)	Schnacke	5 9/16"	Page 1	7	(6353)	Clinton	5 9/16"	Page 8
1	149-43 (6323)	Schnacke	5 9/16"	Page 1	7	149-68 (6349)	Clinton	5 9/16"	Page 8
1	149-44 (6324)	Schnacke	5 9/16"	Page 1	8	149-80 (6363)	Clinton	Special	Page 8
1	149-46 (6326)	Schnacke	6 1/4"	Page 1	9	149-97 (6397)	Clinton	5 9/16"	Page 9
1	149-53 (6333)	Schnacke	6 1/4"	Page 1	10	149-98 (6386)	Clinton	Special	Page 9
2	149-40 (6320)	Fairbanks Morse	5 9/16"	Page 2	11	149-126 (91005)	Clinton	5 9/16"	Page 10
2	149-41 (6321)	Fairbanks Morse	5 9/16"	Page 2	11	149-317 (91581)	Clinton	5 9/16"	Page 10
2	149-42 (6322)	Fairbanks Morse	5 9/16"	Page 2	11	265-123-500 (90996)	Clinton	5 9/16"	Page 10
2	149-60 (6341)	Fairbanks Morse	5 9/16"	Page 2	11	265-126-500 (403627)	Clinton	5 9/16"	Page 10
2	(6351)	Fairbanks Morse	6 1/4"	Page 2	11	265-130-500 (403604)	Clinton	5 9/16"	Page 10
3	149-69 (6350)	Fairbanks Morse	6 1/4"	Page 2	12	265-159-500 (402453)	Clinton	5 9/16"	Page 11
3	265-92-500 (4909)	Fairbanks Morse	6 1/4"	Page 2	12	265-160-500 (402454)	Clinton	5 9/16"	Page 11
3	265-97-500 (4999)	Fairbanks Morse	6 1/4"	Page 2	13	265-28-500 (13516)	Clinton	5 9/16"	Page 12
3	265-218-500	Fairbanks Morse	6 1/4"	Page 2	13	265-29-500 (13517)	Clinton	5 9/16"	Page 12
3	149-66 (6347)	Fairbanks Morse	5 9/16"	Page 2	13	265-224-500	Clinton	5 9/16"	Page 12

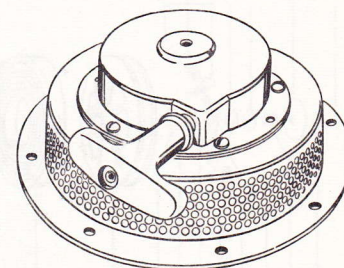
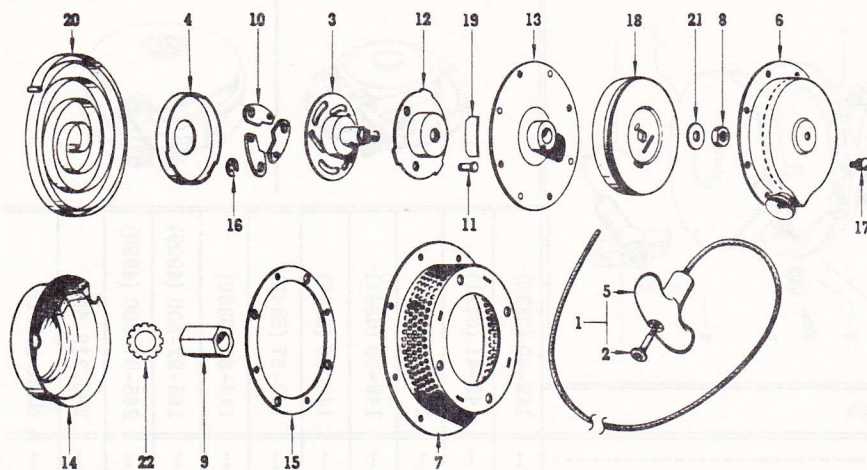


CLINTON ENGINES

SECTION III, DIV. H
Issued August, 1955
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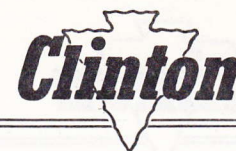
CLINTON RECOIL STARTERS

Starter Ass'y No.	Description	Starter Ass'y No.	Description
*149-29 (6311)	Schnacke	*149-43 (6323)	Schnacke
*149-30 (6312)	Schnacke	*149-44 (6324)	Schnacke
*149-31 (6313)	Schnacke	*149-46 (6326)	Schnacke
*149-32 (6314)	Schnacke	*149-53 (6333)	Schnacke



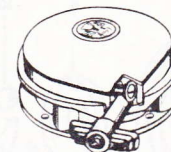
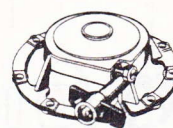
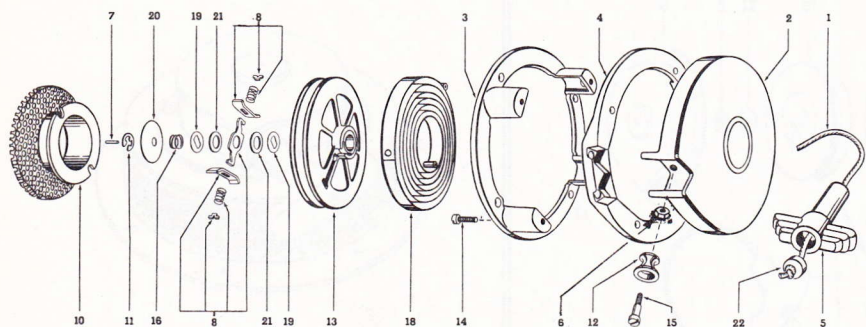
Ref. No.	Part Number	Description	149-29 (6311)	149-30 (6312)	149-31 (6313)	149-32 (6314)	149-43 (6323)	149-44 (6324)	149-46 (6326)	149-53 (6333)
	6-209-500	AXLE, CLUTCH & PIN ASS'Y -----	1	1	1	1				
1	307-164-500	CABLE & HANDLE ASS'Y -----	1	1	1	1	1	1	1	1
2	307-163	CABLE - Starter -----	1	1	1	1	1	1	1	1
3	6-210-500	CAM PLATE & AXLE ASS'Y - Clutch -----					1	1	1	1
4	6-438-500	COVER - Clutch Ass'y -----					1	1	1	1
5	121-26	HANDLE - Starter Cable -----	1	1	1	1	1	1	1	1
6	124-75	HOUSING - Sheave -----	1	1	1	1	1	1	1	1
7	124-73	HOUSING - Starter -----	1	1		1	1	1		
	124-74	HOUSING - Starter -----			1				1	1
8	183-100	NUT - Hex. 5/16-24 (Clutch Ass'y Axle) -----	1	1	1	1	1	1	1	1
9	183-96	NUT - Driven, Serrated -----	1							
	183-97	NUT - Driven, Serrated -----		1						
	183-98	NUT - Driven, Serrated -----			1					
	183-123	NUT - Driven, Serrated -----				1				
	183-48	NUT - Driven, Hex -----					1			
	183-49	NUT - Driven, Hex. -----						1	1	
	183-50	NUT - Driven, Hex. -----								1
	183-25-500	NUT & L'WASHER ASS'Y - Hex., #10-32 (Starter to Blower Housing) -----	4	4	4	4	4	4	4	4
10	157-257	PAWL - Drive, Clutch -----					3	3	3	3
11	203-103	PIN - Drive, Clutch -----					3	3	3	3
12	6-438-500	PLATE - Drive, Clutch -----					1	1	1	1
13	215-307-500	PLATE & BUSHING - Sheave Mounting -----	1	1	1	1				
	215-309-500	PLATE & BUSHING - Sheave Mounting -----					1	1	1	1
14	219-7-500	PULLEY - Starter, Rope -----					1	1	1	1
15	215-307	RING - Nut Plate, Sheave Mounting -----	1	1	1	1	1	1	1	1
16	232-75	RING - Retaining, Drive Pin -----					3	3	3	3
	258-191	SCREW - P.W. #10-32x3/8 (Starter to Blower Housing) -----	4	4	4	4	4	4	4	4
17	258-198-500	SCREW & L'WASHER ASS'Y - R.H.M. #10-32 x 3/8 (Sheave Housing to Starter Housing) -----	4	4	4	4	4	4	4	4
18	124-72-500	SHEAVE DRUM - Cable -----	1	1	1	1	1	1	1	1
	304-222	SHIM - Recoil, Starter Nut -----	3	3	3	3				
19	263-177	SPRING - Friction, Drive Plate -----					2	2	2	2
20	263-175	SPRING - Rewind (Cable) -----	1	1	1	1	1	1	1	1
21	304-228	WASHER - Cable Clamp -----	1	1	1	1	1	1	1	1
22	304-15	WASHER - Lock (Pulley Nut) -----					1			

* Check Parts Price List for Complete Unit and Individual Part Availability.



CLINTON RECOIL STARTERS

Starter Ass'y No.	Description	Starter Ass'y No.	Description
* None (6348)	Fairbanks Morse	*149-67 (6348)	Fairbanks Morse
* 265-92-500 (4909)	Fairbanks Morse	*149-40 (6320)	Fairbanks Morse
* 265-218-500	Fairbanks Morse	*149-41 (6321)	Fairbanks Morse
* 149-66 (6347)	Fairbanks Morse	*149-42 (6322)	Fairbanks Morse
* 149-69 (6350)	Fairbanks Morse	*149-60 (6341)	Fairbanks Morse



Ref. No.	Part Number	Description	149-40 (6320)	149-41 (6321)	149-42 (6322)	149-60 (6341)	149-66 (6347)	149-67 (6348)	149-69 (6350)	265-92-500 (4909)	265-97-500 (4999)	265-218-500	None (6351)
1	246-12	CORD - Starting -----	1	1	1	1	1	1	1	1	1	1	1
2	45-187	COVER - Housing -----					1		1	1	1	1	
	45-185	COVER - Housing -----	1	1	1	1							
	45-188	COVER - Housing -----											1
	45-189	COVER - Housing -----						1					
3	1-93	FLANGE - Mounting -----								1	1	1	
	1-55	FLANGE - Mounting and Screen -----	1	1	1								
	1-57	FLANGE - Mounting -----					1						
	1-58	FLANGE - Mounting -----							1				
	18-114	FLANGE - Mounting -----				1							
4	1-94	FLANGE - Middle -----								1	1	1	
	1-56	FLANGE - Middle -----	1	1	1	1							
	1-59	FLANGE - Middle -----					1		1				
5	121-6	HANDLE - Starting -----	1	1	1	1	1	1	1	1	1	1	1
6	183-25-500	NUT - Hex (Roller Guide & Starter to Housing) --	USE AS REQUIRED										
7	203-94	PIN - Centering -----	1	1	1	1	1	1	1	1	1	1	1
8	157-451-500	SHOE ASS'Y - Friction -----	1	1	1	1	1	1	1	1	1	1	1
10	219-5	PULLEY - Starter -----	1										
	219-158-500	PULLEY ASSEMBLY -----								1	1	1	
	219-6	PULLEY - Starter -----		1									
	219-32-500	PULLEY ASSEMBLY -----				1	1						
	219-65	PULLEY - Starter -----			1								
	219-33-500	PULLEY ASSEMBLY -----							1				
	219-29-500	PULLEY - Starter -----											1
	219-31-500	PULLEY - Starter -----						1					
11	232-74	RING - Retainer -----	1	1	1	1	1		1	1	1	1	
	232-59	RING - Retainer -----						1					1
12	111-12	ROLLER -----						1		1	1	1	1
	111-11	ROLLER -----	1	1	1	1	1		1				
13	265-121	ROTOR - Starting -----					1		1	1	1	1	
	265-120	ROTOR - Starting -----	1	1	1	1							
	265-122	ROTOR - Starting -----						1					1
14	258-185-500	SCREW - Machine -----	4	4	4	4	4		4	4	4	4	
15	258-469	SCREW - Roller -----					1	1	1	1	1	1	1
	258-468	SCREW - Roller -----	1	1	1	1							
16	263-161	SPRING - Brake -----	1	1	1	1	1	1	1	1	1	1	1
18	263-178	SPRING - Rewind -----					1		1	1	1	1	
	263-176	SPRING - Rewind -----	1	1	1	1							
	263-179	SPRING - Rewind -----						1					1
19	304-285	WASHER - Brake -----	2	2	2	2	2	1	2	2	2	2	1
20	304-302	WASHER - Brake Retainer -----	1	1	1	1	1		1	1	1	1	
	304-283	WASHER - Retainer, Brake -----						1					1
21	304-284	WASHER - Fiber -----	2	2	2	2	2	2	2	2	2	2	2



CLINTON ENGINES

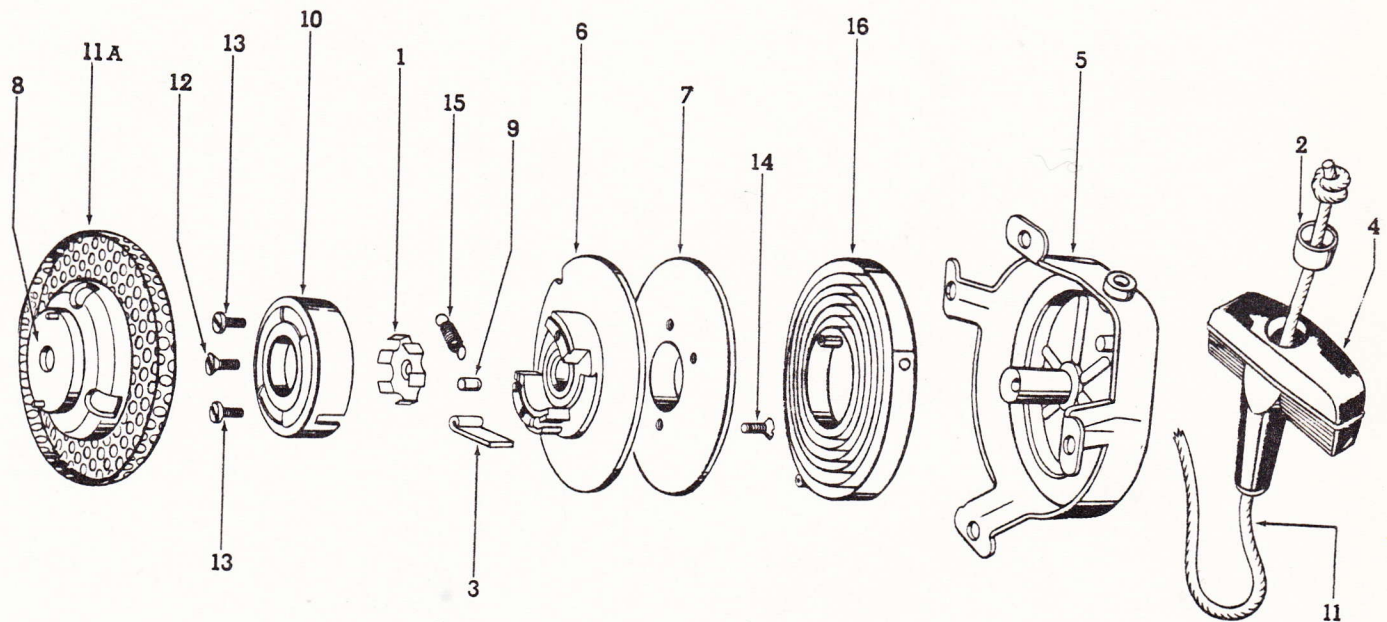
SECTION III, DIV. H
Issued March, 1958
Revised, August 1965

CLINTON RECOIL STARTERS

RECOIL STARTER
ASSEMBLY NO.

DESCRIPTION

* 265-73-500 (6362) ----- Eaton



Ref. No.	Part Number	Description	Qty.
1	263-1	BRAKE - Recoil Starter -----	1
2	136-2	CUP - Recoil Starter Handle -----	1
3	265-18	DOG - Recoil Starter Engaging -----	1
4	121-6	HANDLE - Recoil Starter -----	1
5	124-13-500	HOUSING ASSEMBLY - Recoil Starter -----	1
6	265-22	HUB - Recoil Starter Sheave -----	1
7	215-110	PLATE - Recoil Starter Sheave -----	1
8	219-12	PULLEY - Starting -----	1
9	232-9	RETAINER - Dog Return Spring -----	1
10	232-16	RETAINER - Recoil Starter -----	1
11	246-3	ROPE - Recoil Starter -----	1
11-A	257-13	SCREEN - Rotating -----	1
12	258-141	SCREW - Brake (#10-32x1/2)-----	1
13	258-142	SCREW - Retainer (#8-32x7/8) -----	2
14	258-140	SCREW - Pulley Sheave (#10-Type Z) -----	3
15	263-44	SPRING - Extension -----	1
16	263-86	SPRING - Torsion -----	1

* Check Parts Price List for Complete Unit and Individual Part Availability.



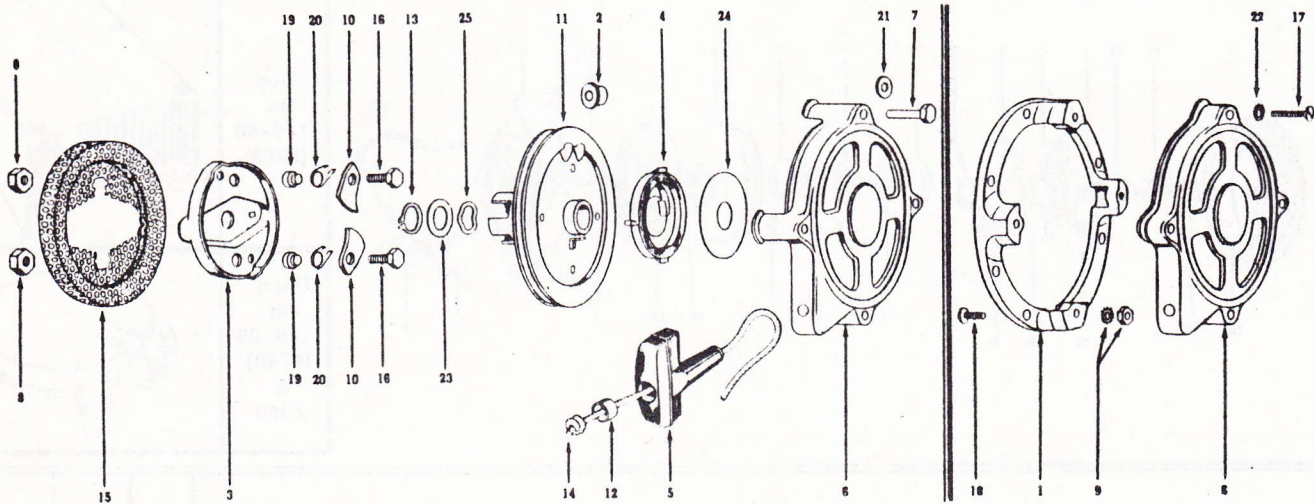
CLINTON ENGINES

SEC. III, DIV. H
Issued March 1958
Revised May, 1965

CLINTON RECOIL STARTER

Starter Ass'y No.

*149-97 (6385) ----- Clinton
*149-98 (6386) ----- Clinton



Ref. No.	Part Number	Description		
			149-97 (6385)	149-98 (6386)
1	900-2	ADAPTER-Recoil Starter -----		1
2	28-11	BUSHING-Rope -----	1	1
3	265-15	CUP-Starter -----	1	1
4	265-11-500	CUP ASSEMBLY (Includes Recoil Spring) -----	1	1
5	121-6	HANDLE -----	1	1
6	124-29-500	HOUSING ASSEMBLY -----	1	
	124-25-500	HOUSING ASSEMBLY -----		1
7	183-13	NUT-Barrel -----	4	
8	183-56	NUT-Lock -----	2	2
9	183-25-500	NUT & LOCK WASHER ASSEMBLY -----		4
10	157-239	PAWL -----	2	2
11	219-70-500	PULLEY ASSEMBLY-Starter Sheave -----	1	1
12	136-2	RETAINER-Rope -----	1	1
13	232-147	RING-Retaining -----	1	1
14	246-7	ROPE -----	1	1
15	257-26	SCREEN-Rotating -----	1	
	257-20	SCREEN-Rotating -----		1
16	258-180	SCREW-Hex. Hd. Cap -----	2	2
17	258-108-500	SCREW-Hex. Hd. Slotted -----		4
18	258-191	SCREW-Projection Weld -----	4	4
19	304-82	SPACER-Pawl -----	2	2
20	263-164	SPRING-Pawl -----	2	2
21	304-22	WASHER-Lock Internal Tooth -----	4	
22	304-14	WASHER-Lock #10 Ext. -----		4
23	304-547	WASHER-Retaining -----	1	1
24	304-140	WASHER-Spring Return -----	1	1
25	304-170	WASHER-Wave -----	1	1

*Check Parts Price List for Complete Unit and Individual Part Availability.



CLINTON ENGINES

SECTION III, DIV. H
Recoil Starters
Issued March, 1960
Revised April, 1965

CLINTON RECOIL STARTERS

Starter Ass'y

Starter Ass'y

****149-126 (91005)

----- Clinton

****149-317 (91581)

----- Clinton

****265-123-500 (90996)

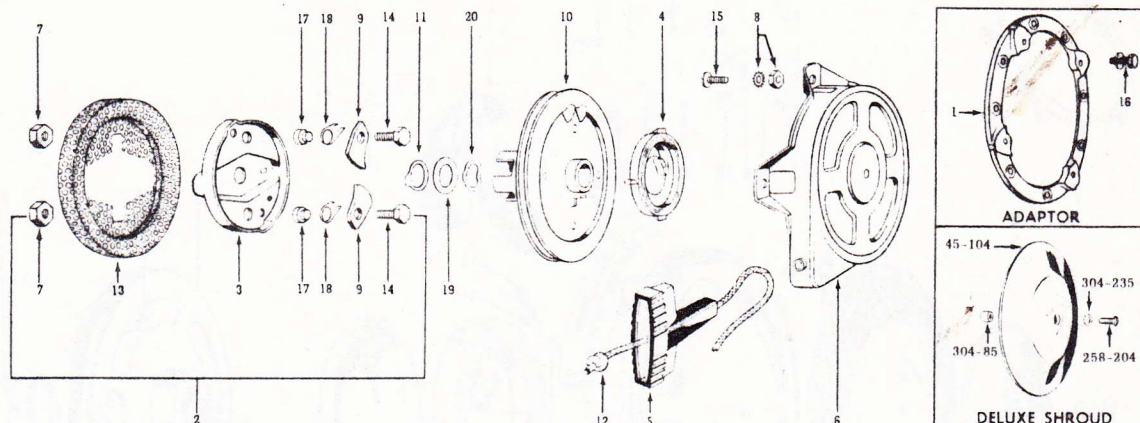
----- Clinton

****265-126-500 (403627)

----- Clinton

****265-130-500 (403604)

----- Clinton



Ref. No.	Part Number	Description	149-126 (91005)	149-317 (91581)	265-123-500 (90996)	265-126-500 (403627)	265-130-500 (403604)
1	900-162	ADAPTER-Recoil Mounting-----		1			
2	*265-12-500	CUP ASSEMBLY-Starter-----			1		
	*265-226-500	CUP ASSEMBLY-Starter-----		1			
	265-229	CUP ASSEMBLY-Starter-----	1				
	***265-129-500	CUP ASSEMBLY-Starter-----					1
	***265-127-500	CUP ASSEMBLY-Starter-----				1	
3	*265-15	CUP-Starter-----		1			
	265-14	CUP-Starter-----	1		1	1	1
4	265-11-500	CUP ASSEMBLY-Includes Recoil Spring-----		1	1	1	
	265-201-500	CUP ASSEMBLY-Includes Recoil Spring-----	1				1
5	121-6	HANDLE-----	1	1	1	1	1
6	124-29-500	HOUSING ASSEMBLY-----		1	1	1	
	124-31-500	HOUSING ASSEMBLY-----	1				1
7	183-56	NUT-Lock-----	2	2	2	2	2
8	183-25-500	NUT & LOCK WASHER ASSEMBLY-----	4	4	4	4	4
9	157-239	PAWL-----	2	2	2	2	2
10	219-70-500	PULLEY ASSEMBLY-Starter Sheave-----	1	1	1		
	**219-84-500	PULLEY ASSEMBLY-Starter Sheave-----				1	1
11	232-147	RING-Retaining-----	1	1	1	1	1
12	246-7	ROPE-58" Standard Length-----	1	1	1	1	1
13	257-26	SCREEN-Rotating-----	1		1		
	257-31	SCREEN-Rotating-----		1			
14	258-180	SCREW-Hex. Hd. Cap-----	2	2	2	2	2
15	258-191	SCREW-Projection Weld-----	4	4	4	4	4
16	258-272-500	SCREW & L'WASHER-Recoil to Adapter-----		4			
17	304-82	SPACER-Pawl-----	2	2	2	2	2
18	263-164	SPRING-Pawl-----		2	2	2	
	263-171	SPRING-Pawl-----	2				2
19	304-547	WASHER-Retaining-----	1	1	1	1	1
20	304-170	WASHER-Wave-----	1	1	1	1	1

* These cups were originally made with a 7/16" diameter hole, however they are now supplied with a 1/2" diameter hole to facilitate the 1/2" crankshaft. If you have 7/16" cup and a 1/2" is required, relieve the hole to 1/2".

** Includes Screen with Pulley.

***Does Not Include Ref. No. 13.

****Check Parts Price List for Complete Unit and Individual Part Availability.



CLINTON ENGINES

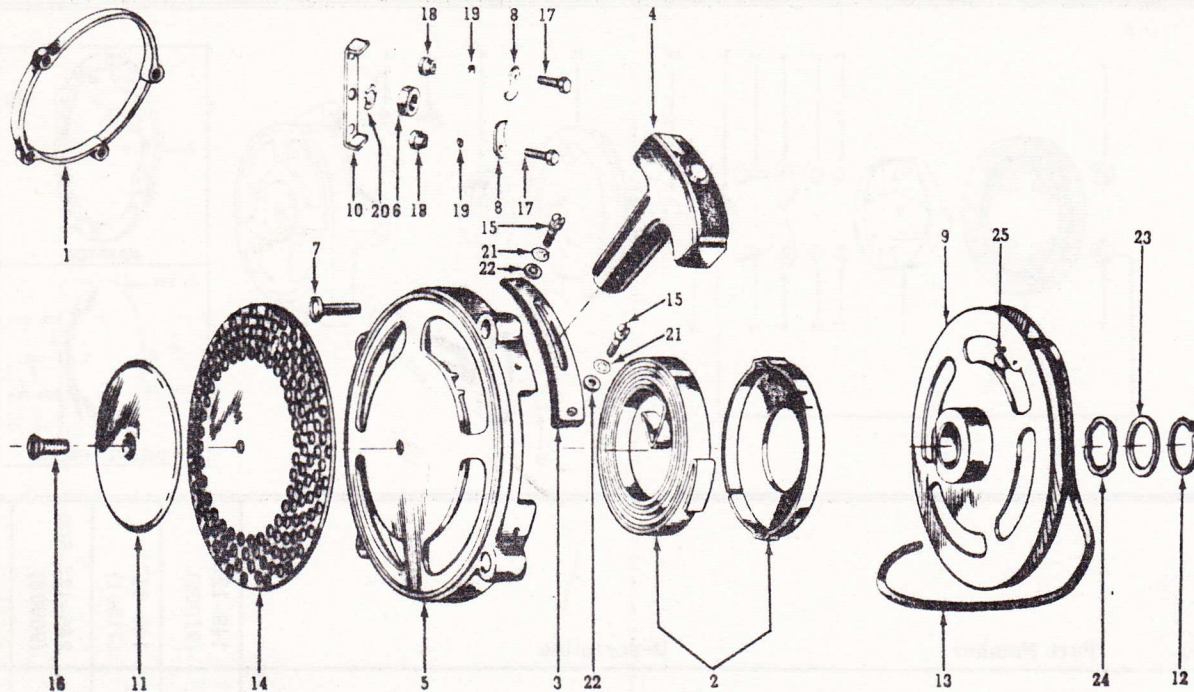
SECTION III, DIV. H
Issued March, 1960
Revised April, 1965

CLINTON RECOIL STARTERS

STARTER ASSEMBLY

* 265-159-500 (402453)-Left Hand (CCW)-----Clinton

* 265-160-500 (402454)-Right Hand (CW)----- Clinton



Ref. No.	Part Number	Description	265-159-500 (402453)	265-160-500 (402454)
1	304-406	ADAPTER-Recoil to Blower Housing -----	1	1
2	263-251-500	CUP ASSEMBLY-Recoil Spring -----		1
	265-185-500	CUP ASSEMBLY-Recoil Spring -----	1	
3	111-13	GUIDE ROPE -----	1	1
4	121-6	HANDLE-Starter -----	1	1
5	124-119	HOUSING -----	1	1
6	183-158	NUT-Hex. 7/16-20 (Lock Type) -----	1	1
7	183-182	NUT-Barrel -----	4	4
8	157-239	PAWL STARTER -----	2	2
9	219-131-500	PULLEY -----	1	1
10	215-437	PLATE-Base Pawl -----	1	1
11	232-113	RETAINER-Screen -----	1	1
12	232-109	RING-Retaining -----	1	1
13	246-7	ROPE -----	1	1
14	257-81	SCREEN -----	1	1
15	258-845	SCREW-#10-24 x 1/2 (Pull Guide to Starter Housing) -----	2	2
16	258-723-500	SCREW & OIL CUP ASSEMBLY -----	1	1
17	258-851-500	SCREW & NYLOCK ASSEMBLY-Pawl Plate to Flywheel -----	2	2
18	304-524	SPACER PAWL BASE STARTER -----	2	2
19	263-171	SPRING-Starting Pawl -----		2
	263-164	SPRING-Starting Pawl -----	2	
20	304-337	WASHER LOCK -Flywheel -----	1	1
21	304-318	WASHER-#10 Lock -----	2	2
22	304-377	WASHER-Plain -----	2	2
23	304-412	WASHER-Steel Retaining -----	1	1
24	304-411	WASHER-Wave -----	1	1
25	304-528	WASHER-Lead -----	1	1

*Check Parts Price List for Complete Unit and Individual Part Availability.

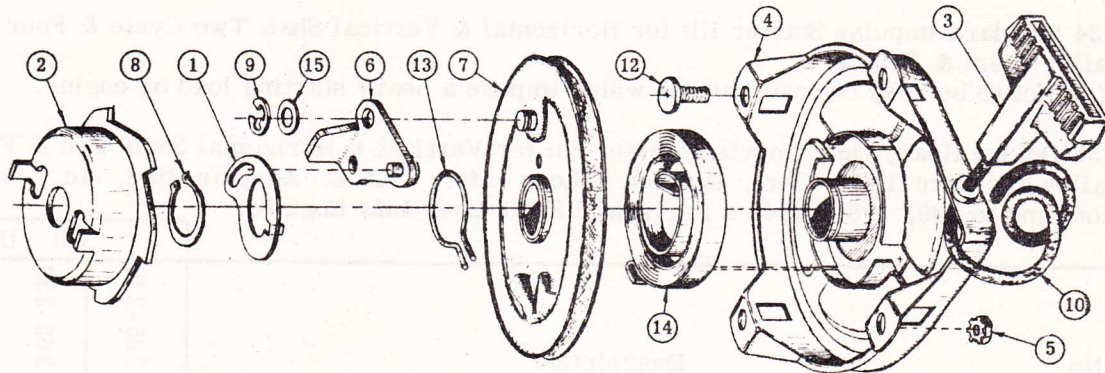


CLINTON ENGINES

SECTION III, DIV. H
Recoil Starters
Issued August, 1964
Revised May, 1965

CLINTON RECOIL STARTER

Starter Ass'y Number	Description	Starter Ass'y Number	Description
**265-28-500 (13516)	----- CCW Recoil Only	**265-236 (91866)	----- CCW-See Note 1
**265-29-500 (13517)	----- CW Recoil Only	**265-237 (91867)	----- CW-See Note 2
		**265-239 (92093)	----- CCW-See Note 3



Ref. No.	Part Number	Description	265-28-500 (13516)	265-29-500 (13517)
1	157-2	ACTUATOR -----	1	
	157-1	ACTUATOR -----		1
2	265-10	*CUP-Starter -----	1	
	265-9	*CUP-Starter -----		1
3	121-6	HANDLE -----	1	1
4	124-6-500	HOUSING-Includes Recoil Spring -----	1	
	124-8-500	HOUSING-Includes Recoil Spring -----		1
5	183-25-500	*NUT & L'WASHER ASSEMBLY -----	4	4
6	157-129-500	PAWL & PIN ASSEMBLY -----	1	
	157-352-500	PAWL & PIN ASSEMBLY -----		1
7	219-28-500	PULLEY ASSEMBLY -----	1	
	219-27-500	PULLEY ASSEMBLY -----		1
8	232-147	RING-Retaining -----	1	1
9	232-35	RING-Retaining -----	1	1
10	246-7	ROPE -----	1	1
11	257-30	*SCREEN (Not Illustrated) -----	1	1
12	258-191	*SCREW-Pan Head -----	4	4
13	263-133	SPRING-Actuator -----	1	1
14	263-79	SPRING-Recoil -----	1	1
15	304-320	WASHER -----	1	1

*Indicates Parts Not Included with Recoil Assembly.

**Check Parts Price List for Complete Unit and Individual Part Availability.

- Note 1. **265-236 (91866) Kit includes 265-28-500 (13516) Recoil, 265-10 Cup, (4) 183-25-500 Nut, 257-30 Screen, (4) 258-191 Screw.
- Note 2. **265-237 (91867) Kit includes 265-29-500 (13517) Recoil, 265-9 Cup, (4) 183-25-500 Nut, 257-30 Screen, (4) 258-191 Screw.
- Note 3. **265-239 Kit includes 265-28-500 (13516) Recoil, 265-10 Cup, 183-25-500 Nut, 257-31 Screen, (4) 258-191 Screw, 900-162 Adapter, (4) 258-880-500 Screw & L'Washer Assembly.

NOTE: Counter Clockwise (CCW) Rotation and Clockwise (CW) Rotation as viewed from P.T.O. End of Engine.



CLINTON ENGINES

SECTION III, DIV. H
Impulse Starters
Issued May, 1962
Revised May, 1965

IMPULSE STARTER KITS

NOTE: For Mounting Information, Refer to Service Bulletin #91

265-233 Deluxe Heavy Duty Impulse Starter Kit for Horizontal & Vertical Two & Four Cycle Alumatloy and Clintalloy (Gem, Panther & Long Life.)

265-234 Standard Impulse Starter Kit for Horizontal & Vertical Shaft Two Cycle & Four Cycle Alumatloy (Gem & Panther.)

NOTE: Not to be used on installations which impose a heavy starting load on engine.

265-238 Deluxe Heavy Duty Impulse Starter Kit for Vertical & Horizontal Shaft Two & Four Cycle Alumatloy and Clintalloy. (Gem, Panther & Long Life.) NOTE: Adaptor Ring, etc., not included for mounting to 499, 498 & 494 or Horizontal Shaft Long Life Engines.

Part No.	Description	Kit Usage		
		265-238	265-233	265-234
265-196-500	STARTER - Deluxe Heavy Duty	1	1	
265-206-500	STARTER - Compact, Impulse (or 265-196-500)			1
258-879-500	SCREW & L'WASHER		4	
183-25-500	NUT & L'WASHER		4	4
900-162	ADAPTOR RING - V1200, 499, 498, 494 & Horizontal Long Life		1	
258-191	SCREW - Housing		4	4
183-208	NUT - Barrel		4	4
304-473	WASHER - Lock		4	4
304-552	SPACER - 1/2" to 7/16" Use 7/16" Crankshaft to secure proper Cup alignment.	1	1	1
265-106-500	CUP ASSEMBLY	1	1	1
257-30	SCREEN - Rotating, Small	1	1	1
257-31	SCREEN - Rotating, Large		1	

CAUTION: When installing Cup Ass'y to Flywheel, use care to insure that alignment extrusions (on Cup) are fitted to recesses in Flywheel. In a few instances it may be necessary to drill relief in Flywheel. The Flywheel Nut should be Torqued to following Torque and a compression or Split Lock Washer must be used.

350 - 400 Inch Lbs. 1/2" threaded Crankshaft - (Use compression or Split Lock Washer.)

325 - 350 Inch Lbs. 7/16" threaded Crankshaft - (Use compression or Split Lock Washer.)

- NOTE:
- The Part No. 304-552 Spacer is for proper Cup alignment on 7/16" Crankshafts and must be installed in Cup on all 7/16" Crankshaft.
 - Damage to the External Ratchet Gear can indicate malfunction of Pawls of Cup Ass'y, when Ratchet Gear damaged, replace Cup Ass'y also.
 - The Cup Ass'y can be removed by first removing Impulse Starter and then holding Cup with a Rope while Flywheel Nut is loosened. Re-torquing can be done in a similar manner.
 - Refer to Service Bulletin #91 for Application Information.
 - Refer to page 13 for exploded view and parts list for complete impulse starter.



CLINTON ENGINES CORPORATION IMPULSE STARTER SERVICING

SECTION III, DIV. H
STARTERS
Issued May, 1962
Revised April, 1965

Compact & Low Profile (13540) 265-206-500				Deluxe (91116) 265-196-500	Standard (13534) 265-135-500
Ref. No.	Description	Part No.			
1.	BALL - Bearing	20-208	2	2	2
2.	CLIP - Handle	81-167	1*	1*	0
3.	COVER ASS'Y-Bottom	45-384-500	1	1	1
4.	GEAR	106-259	1	1	1
5.	HOUSING ASS'Y	124-162-500	1		
	HOUSING ASS'Y	124-164-500		1	1
6.	PLUNGER ASS'Y	265-216-500		1	1
	PLUNGER ASS'Y	265-217-500	1		
7.	RATCHET & SPRING KIT	265-240		1	1
	RATCHET & SPRING KIT	265-241	1		
8.	RING - Retaining Ball	232-157	1	1	1
9.	RIVET - Clip to Handle	244-47	1*	1*	0
10.	SCREW & L'WASHER ASS'Y - Cover	258-918-500	4	4	4
11.	SPRING ASS'Y-Power	263-336-500	1		1
	SPRING ASS'Y-Power	263-337-500		2	

* Not used on all Impulse Starters; Handle will show evidence of installation if factory applied.

Prices Subject To Change Without Notice.

IMPULSE STARTER SERVICE

Identification - External

The 265-196-500 Starter has waffled top and is 2-3/4" from bottom of legs to top of Housing. The 265-135-500 Starter is 2-3/4" or same height as 265-196-500 but does not have waffled top.

The compact and/or low silhouette Starters are 2-1/4" from bottom of legs to top of Starter Housing. Field service on compact and low silhouette is the same and these Starters will both be serviced as 265-206-500. The overall height differentiates these Starters from 265-196-500 or 265-135-500.

Disassembly

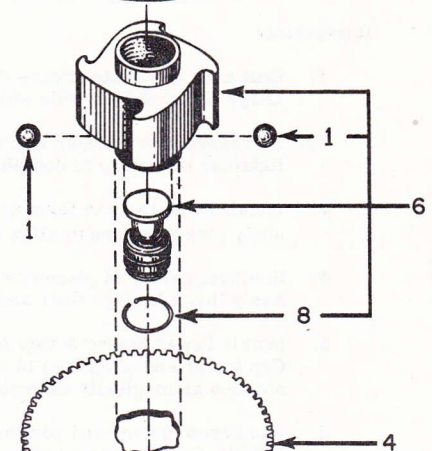
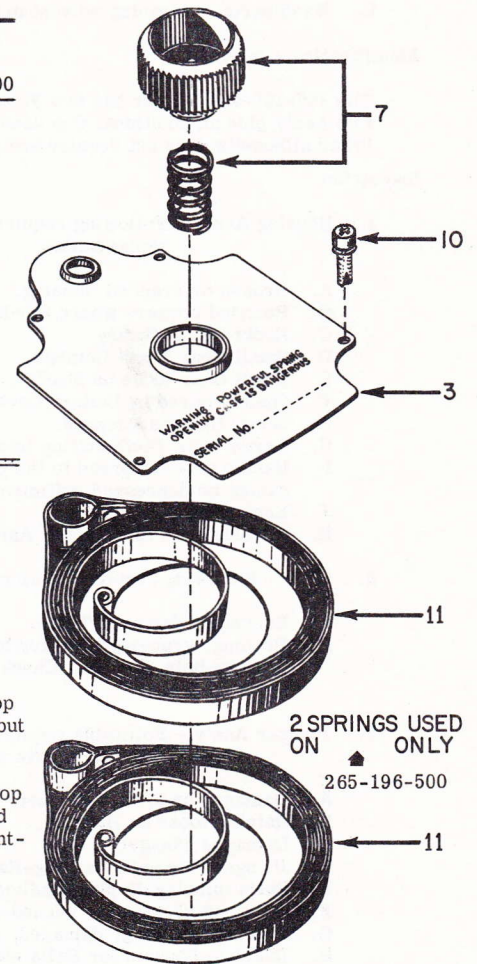
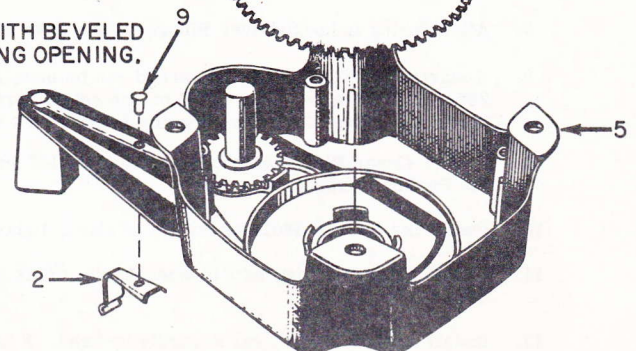
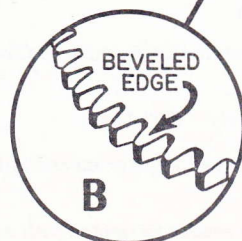
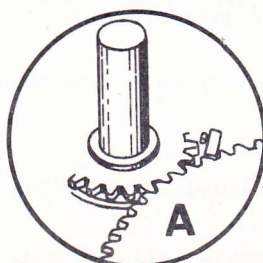
1. Prior to disassembly, make certain Starter Spring is released. Turn handle a few turns and press handle on release button.
2. Remove ratchet with 3/8" Allen Wrench. Turn in counterclockwise direction (facing bottom of Starter Ass'y.) If Ratchet is broken or will not unscrew skip this operation and do Step 3.
3. Remove Phillips Screws (4) holding bottom cover ass'y to Starter Housing.
4. Grasp Starter Housing top and lightly tap Starter Ass'y (legs down) on clean work bench holding starter at arms length with fingers on main Housing Ass'y only. Starter is safe to disassemble if the previous comment is followed.

Tapping will remove bottom Cover Ass'y, Spring & Cup Ass'y(s), Plunger Ass'y and large gear.

NOTE: Do not remove Power Spring from Power Spring Cup. These serviced as Power Spring & Cup Ass'y only. Mark position of each Spring & Cup Ass'y on double Spring Starter and replace in same relationship.

See Reverse Side

**CAUTION.. INSTALL GEAR WITH BEVELED
EDGE UP, AND FACING HOUSING OPENING.**



5. Main Housing Ass'y will be serviced as a complete Assembly and includes Handle Ass'y and Shaft, Small Gear, Pawl and Spring, Etc.
6. Remove bottom Cover Ass'y from Internal Ass'y.
7. Remove Plunger Ass'y from Power Spring & Cup Ass'y(s). Use care so that Power Spring is not forced from Cup.
8. Wash parts in cleaning solvent prior to inspection.

Identification - Internal

The 265-196-500 Starter has two Power Spring & Cup Assemblies. The 265-135-500 Starter has one Power Spring & Cup Ass'y plus an additional Cup used as Spacer. The 265-206-500 Starter has one Power Spring & Cup Ass'y due to lower silhouette does not require spacer.

Inspection

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Housing Ass'y - Following requires Housing Ass'y replacement. <ol style="list-style-type: none"> A. Broken or cracked Housing. B. Rounded corners where Handle engages to Ratchet. C. Broken Pawl Spring. D. Small Gear Tooth Damage. E. Small Gear loose on Shaft. F. Shaft grooved by Bottom Cover. G. Screw threads stripped. H. Large Gear Teeth cutting into Main Housing. I. Handle groove spread to the point that Plunger cannot be depressed sufficiently for Starter release. J. Knob broken. K. Housing bore for Plunger Ass'y worn excessively. 2. Gear - Following requires Gear replacement. <ol style="list-style-type: none"> A. Broken or damaged Teeth. B. Peening, grooving or heavy burring of center Plunger hole of Gear. Check closely where Balls lock into Gear. 3. Plunger Ass'y - Following requires replacement of individual parts and/or Plunger Ass'y. <ol style="list-style-type: none"> A. Damaged or broken Ratchet. B. Ratchet loose on Bushing. C. Damaged Plunger. D. Plunger frozen to Bushing-Ratchet Ass'y. E. Balls missing-Replace Individual parts. F. Balls out of round or peened-Replace individual parts. G. Retainer missing, damaged, or broken-Replace individual parts. H. Bushing-Pockets for Balls elongated. | <ol style="list-style-type: none"> 4. Power Spring Ass'y - Following requires replacement. <ol style="list-style-type: none"> A. Lack of tension on internal formed hook of Spring. Spring hook tension should push Plunger Ass'y to one side and good Spring will require side pressure on Spring to install Spring over Plunger. B. Broken Spring. C. Spring damage to Spring Cup (Case); this can be noted by uneven sides of Cup or bulged Cup. D. Elongation of Handle Shaft hole of Power Spring Cup. 5. Cover Ass'y - Following requires replacement of Ass'y. <ol style="list-style-type: none"> A. Bent or distorted Cover Ass'y. B. Elongated Handle Shaft Hole. C. Damaged or worn Plunger Ass'y Bushing. 6. Ratchet & Spring Kit - Following requires a replacement. <ol style="list-style-type: none"> A. Damaged teeth on Ratchet. 7. Cup Ass'y - Following requires replacement of Ass'y. <ol style="list-style-type: none"> A. Pawls lazy. B. Pawl Spring broken. C. Pawl(s) bent. D. Cup damage. |
|---|---|

SEE PAGE 12-A FOR IMPULSE STARTER
KIT CONSIST LIST

Reassembly

1. Coat with lubriplate grease (Melting point 500°F. plus or equivalent) all internal working parts including both sides of Large Gear, Cup on side which Spring slides, inside of bottom Cover, Etc.
2. To reassemble Plunger Ass'y, Slide Plunger into Bushing & Sprocket Ass'y, install a Ball from each side and slide Retainer into place to complete Assembly.
3. Install large Gear in Housing with beveled side of Gear Teeth facing Housing opening. Hook Pawl with Gear Teeth and apply side pressure to allow Gear to move into place as shown in Fig. A & B.
4. Hold large Gear in place centered to Housing with Handle Shaft Gear and large Gear Teeth meshed, then install Plunger Ass'y through large Gear and Housing so that release end of Plunger Ass'y protrudes through Starter Housing top.
5. Install Power Spring & Cup Ass'y so that open side of Spring Cup is toward Housing opening with small hole in Spring Cup (outer end of Spring) to be installed over Handle Shaft. On double Spring Starters, reinstall Springs in same position as originally assembled.
6. Use Screw Driver and position the center end of Spring over Plunger Ass'y.
NOTE: Care should be taken so that Spring is not pushed out of Spring Cup.
7. After Spring is hooked over Plunger Ass'y push Power Spring & Spring Cup Ass'y against the large Drive Gear.
8. If starter has (2) Springs the second can be installed the same as outlined previously (Steps 5, 6 & 7). If standard 265-135-500 Starter, there will be one empty Spring Cup and open side of empty Cup is to be installed towards Housing opening after Power Spring & Cup Ass'y installed.
9. Starter Cover Plate Ass'y can now be installed making certain that Bushing in Cover Plate Ass'y has the thrust side of the Bushing towards the inside.
10. Install the four (4) Phillips Screws in place, tighten securely. (20" Lbs.).
11. Install Plunger Spring into Plunger Ass'y. This Spring pushes Plunger up and failure to install causes Starter to be inoperative.
12. Install Drive Ratchet Gear securely by hand. It is not necessary to tighten with Allen Wrench as it will automatically tighten up when used. Turn in a clockwise rotation.

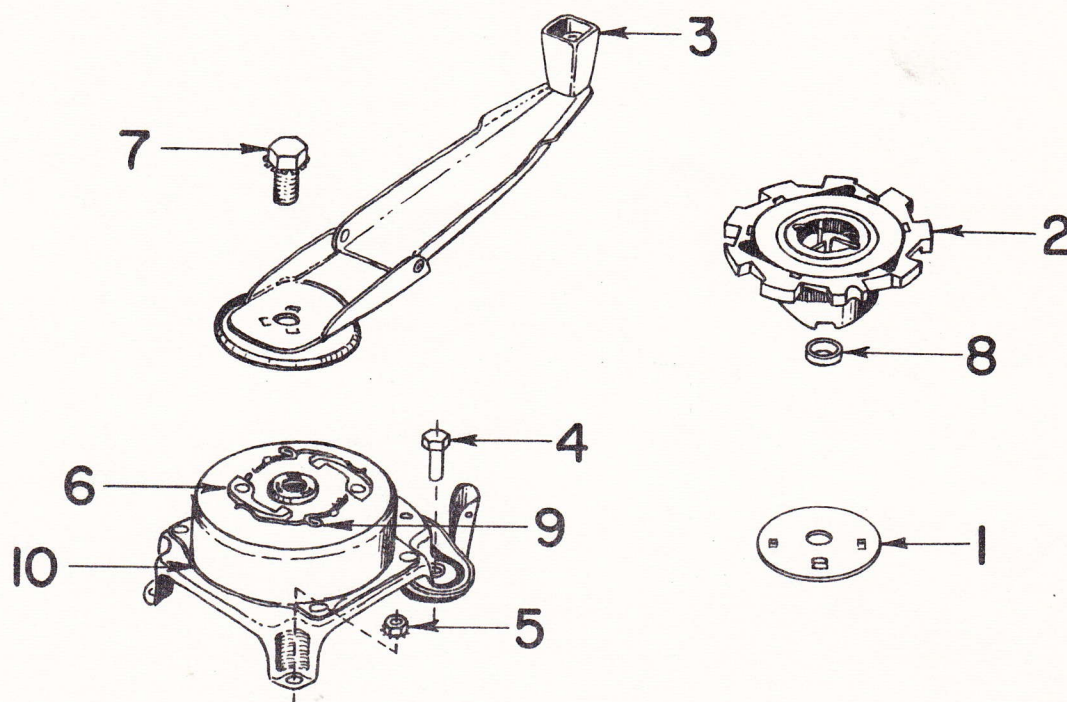


CLINTON ENGINES

Sec. III, Div. H.
Impulse Starter
Issued Oct., 1964
Revised April, 1966

CLINTON IMPULSE STARTER

265-250-500 IMPULSE STARTER



Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qty.
1	1-97	ADAPTOR-Starter Cup	1	7	258-904-500	SCREW & L'WASHER ASS'Y- (Handle to Starter)	1
2	265-246-500	CUP ASS'Y-Starter (Not Sold with 265-250-500 Starter)	1	8 *	304-618	SPACER-Starter Cup	1
3	157-420-500	HANDLE ASS'Y-Starter	1	9	263-382	SPRING-Starter Pawl	2
4	183-254	NUT-Barrel	1	10 **		Not Serviced Separately - Order 265-250-500 Impulse Starter	
5	183-25-500	NUT	3				
6	157-417	PAWL-Starter	2				

265-254 Starter Kit includes 265-250-500 Starter, 265-246-500 Cup, 304-552 Spacer, 1-97 Adaptor, 183-254 NUT-Barrel and 257-98 Screw.

265-258 Starter Kit includes 265-250-500 Starter, 265-246-500 Cup, 232-172 Adaptor Ring, 258-864 Screw, 304-94 Washer, 1-97 Adaptor, 257-31 Screen, 304-552 Spacer, (3) 258-880-500 Screw for mounting on 497 and 499 Series Engines.

* Spacer 304-618 for Starter Cup and Adaptor not required on all units. The hole diameter of 1-97 Adaptor and 265-246-500 Cup has been reduced in size for 9/16" to 1/2". Spacer 304-618 not to be used when adaptor and Cup have the 1/2" diameter hole.

** Drive Gear, located on bottom of Starter, that engages with Starter Cup is not serviced separately. If worn or damaged order complete 265-250-500 Impulse Starter.

NOTE: To assemble handle to starter, hold starter pawl away from gear that is spot welded to handle. When handle is in place make sure starter pawl engages with gear. Use a thin piece of material to hold pawl while mounting handle.

ACCESSORIES

RECOIL STARTER SERVICE

Disassembly (See Illustration Nos. 220 and 221.)

1. Remove recoil assembly from engine.
2. Release spring tension slowly.
3. Remove rope pulley assembly.
4. Remove rope from pulley.
5. Remove recoil spring.

After disassembly the parts should be cleaned in a recommended parts cleaner. After the cleaning operation, the recoil parts should be given a visual inspection for the following:

- a. Bent, damaged, or broken recoil spring.
- b. Worn bearing in rope pulley.
- c. Bent, cracked, or damaged housing.
- d. Bent, worn, or broken pawls or pawl plate.
- e. Broken, worn or defrayed rope or cable.

Any of the above listed defects would require replacement of part or assembly involved.

Reassembly (See Illustration Nos. 220 and 221.)

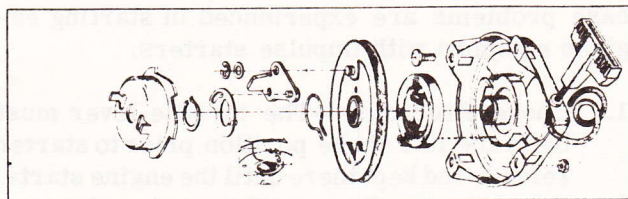


Figure 220

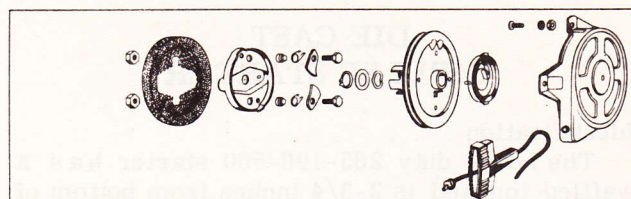


Figure 221

1. Coat with luber plate grease, recoil spring, inside dome of housing and rope pulley shaft.
2. Install recoil spring, making sure that it is installed correctly, that is so it will be wound the right direction.
3. Install rope pulley, making sure the spring hooks into the pulley. NOTE: Some recoils require the rope or cable to be installed before the pulley is put into place.
4. Assemble the pawls or washers to recoil housing shaft or rope pulley.
5. Wind the recoil spring by turning the rope pulley; The spring can be wound completely tight, and then backed off (1) one turn. Holding the pulley to keep it from unwinding, install the starter rope and handle.

NOTE: If the recoil spring is wound the wrong direction, or the spring not backed off (1) one turn, the spring will fail on the first pull of the rope.

The attached sheets show the correct disassembled sequence of the parts on current recoil starters.

RECOIL TROUBLE SHOOTING CHART

PROBLEM	POSSIBLE CAUSE	CORRECTION
1. Rope does not recoil	Spring bent Broken spring Spring disengaged Not enough end play Starter housing damaged Binding starter pulley Broken rope	Replace with new spring Replace with new spring Replace with new spring Remove shims Replace with new housing Replace with new housing Replace with bulk rope cut to length
	Insufficient tension on spring	Rewind spring
2. Noisy when running	Hub rubbing on cup Too much end play	Use additional washer or shim stock to get clearance. Replace pulley assembly.
3. Starter frozen up Will not pull	Starter spring broken and jammed on hub	Replace spring with new check hub for damage and replace if necessary for new.
	Improper lubrication or dirty	Disassemble and clean, lubricate with Lubriplate