

EVINRUDE

Service Bulletin

Service Department
EVINRUDE MOTORS
Milwaukee 16, Wisconsin

ELECTRICAL SYSTEM
BULLETIN NO. 392
OCTOBER 1, 1960

AUTO-LITE -- STARTER AND GENERATOR PARTS LISTS

These Auto-Lite illustrated parts lists are being sent for your information and will be helpful when ordering service parts for starters and generators.

At the end of each parts list you will find an "Outboard Marine to Auto-Lite Cross Index." Note that some of the Auto-Lite numbers have been assigned Evinrude part numbers, these may be ordered directly from your Evinrude Parts Distributor. Any Auto-Lite part not listed in the cross index must be ordered from your nearest Auto-Lite service station.

For your convenience all of the cross indexes have been duplicated on the reverse side of this bulletin.

Starter and generator units are assigned model numbers, which are stamped on the field housings of the new models, and on a plate attached to the housing on the older models.

For example -- if you wish to order a set of brushes for a starter, obtain the model number from the housing - MDO - 4002M for instance, and locate this number under the model column at the top of the proper starter motor parts list.

Under the column headed "Brush Set" you will find the number 17-37. This number is listed on the cross index with the equivalent Evinrude number 277707. This part should be ordered directly from your Evinrude Parts Distributor.

If you wish to order a terminal stud for this starter you will find STUD, terminal, part No. MDO-22 listed on the back of the parts list. This number is not shown on the cross index and must be ordered from your nearest Auto-Lite service station -- you have a copy of the Auto-Lite distributors and service station list.

Remember, if the part you need appears on the cross reference, you may order it from your Evinrude Parts Distributor. If it does not, it must be ordered from your nearest Auto-Lite service station.

EVINRUDE MOTORS

Richard Bayley
Service Promotion
Manager

Richard Bayley
bh

OUTBOARD MARINE - CROSS REFERENCE

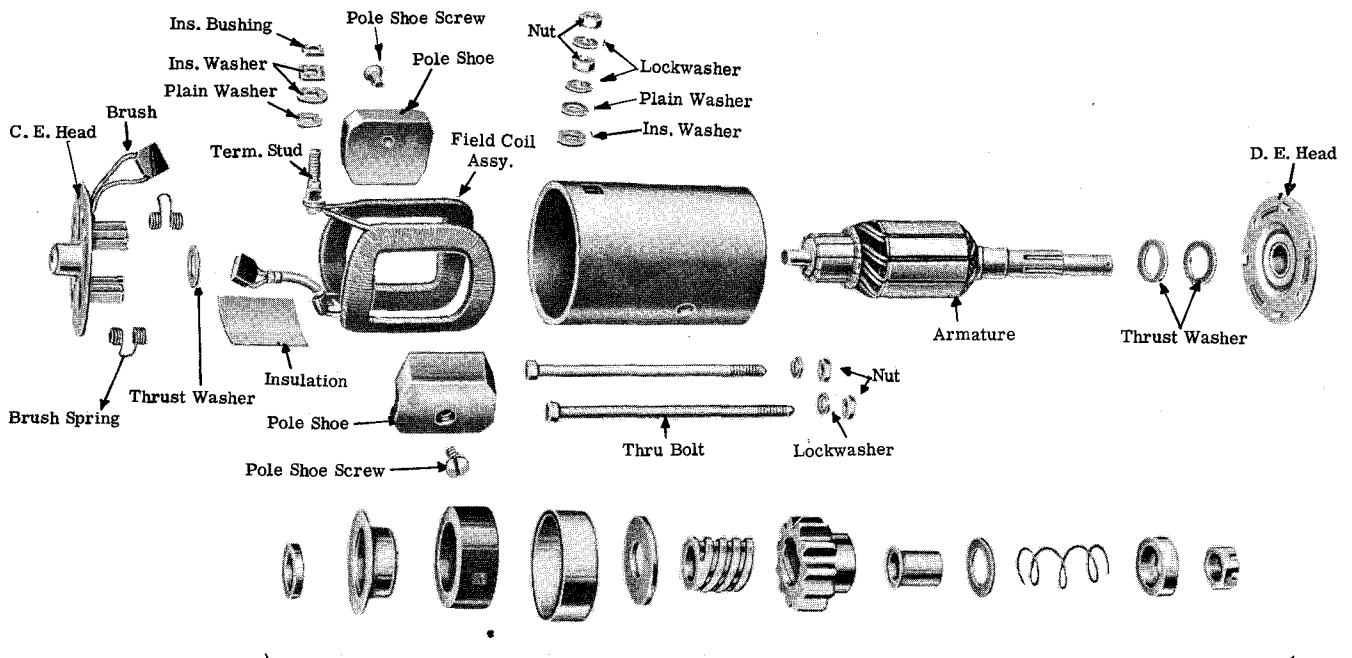
OUTBOARD MARINE PART NO.	AUTO-LITE PART NO.	OUTBOARD MARINE PART NO.	AUTO-LITE PART NO.	OUTBOARD MARINE PART NO.	AUTO-LITE PART NO.
130981	19X-160	277628	1443-1A	278244	17-40
203530	MAK-105	277705	22-12	302054	X-2875
203864	MDH-20	277706	EBB-56A	302471	19H5-101
204091	GJG-20	277707	17-37	303807	12X-205
204130	GJG-30	277742	GJG-2	303808	X-2882
204382	MDO-120	277743	GJG-2006FM	303932	X-146A
204587	MDH-40	277744	GJG-1003	303932	X-3275
204588	MDO-38	277745	11-31	304511	X-2882
204589	MDH-37	277746	X-3330	305545	MDO-37
204590	MDW-21	278022	22-11	306214	GJG-41
204591	MDW-20	278023	MDW-4002M	306396	43-7
204592	MDW-120	278023	MDW-4102M	306399	X-257
204760	MDH-39	278024	MDW-4001M	306488	X-1745A
204761	MDW-220	278160	MDO-2106	307341	MDW-65
204762	MDW-420	278161	16-72	376849	MDO-4001M
204763	MDW-320	278165	19-35	376850	MDO-4002M
277311	MAK-4033M	278179	16-71	377001	8-27
277317	SS-4027AM	278188	MDO-2006	377004	14432A
277332	GAS-1024L	278207	MDW-4103M	377005	GJG-4001M
277336	EBB-35A	278232	MDW-4104M	377248	MDO-4003M
277337	MAK-1047	278235	19-36	377249	MDO-1035
277412	17-5	278236	22-14	377288	14704A
277432	MDH-4001M	278237 Use	MDW-4103M	377304	MDO-2035
277484	EBB-47A	278238	22-15	377315	GJG-4002M
277485	22-7	278239	MDW-1261	378032	15266A
277486	MDH-1024	278240	16-80	378048	GJG-4004M
277487	17-27	278241	16-79	378160	GJG-4003M
277609	SAE-4004M	278242	19-40	592575	14649A
277692	SAE-4003M	278243	19-39		

ELECTRIC AUTO LITE EQUIPMENT & PARTS LISTS

MDH- 4001M AND MDH- 4002M STARTING MOTOR PARTS LIST

MDH- 4001M
MDH- 4002M
(Issued 3- 21- 60)

Model	CUSTOMER
MDH- 4001M MDH- 4002M	Evinrude, Johnson Fageol, Twin Coach



BENDIX DRIVE ASSY.
Supplied assembled only.

ILLUSTRATION SHOWS TYPICAL PARTS ONLY.

Starting Motor	Armature	Brush Set	C. E. Head Assembly	Brush Springs (4 Used)	Field Coil Package	Drive End Head or Pinion Hsg.	Bendix Drive	
							A. L. No.	Eclipse No.
MDH- 4001M	16- 34	17- 27	19- 20	MDH- 18	MDH- 3005AS	22- 7	EBB- 47A	A- 3523
MDH- 4002M	16- 34	17- 27	MDH- 2035	MDH- 18	MDH- 3005AS	22- 7	EBB- 54A	A- 3569

ELECTRIC AUTO LITE EQUIPMENT & PARTS LISTS

MISCELLANEOUS PARTS

Name	Part No.	No. Used	Used On
BAND, Cover	MDH-1024	1	MDH-4001M, MDH-4002M
BOLT, Thru	MDH-20	2	MDH-4001M, MDH-4002M
BRUSH Insulated	MDH-12	1	MDH-4001M, MDH-4002M
Insulated	MDH-12A	1	MDH-4001M, MDH-4002M
Grounded	MDH-1044S	2	MDH-4001M, MDH-4002M
BUSHING, Insulating, Terminal Stud	MDH-27	1	MDH-4001M, MDH-4002M
COIL ASSEMBLY, Field Left	MDH-1007BS	1	MDH-4001M, MDH-4002M
Right	MDH-1010BS	1	MDH-4001M, MDH-4002M
INSULATION, Field Connection	MDH-45	1	MDH-4001M, MDH-4002M
LOCKWASHER Terminal Stud 1/4	43-7	2	MDH-4001M, MDH-4002M
Thru Bolt 1/4	43-7	2	MDH-4001M, MDH-4002M
NUT Cover Band Sq. Hd. #10-32	X-2875	1	MDH-4001M, MDH-4002M
Terminal Stud Hex. Hd. 1/4-20	X-3275	2	MDH-4001M, MDH-4002M
Thru Bolt Hex. Hd. 1/4-20	8X-3075	2	MDH-4001M, MDH-4002M
PAD, Felt, C. E. Head	MDH-42	1	MDH-4001M, MDH-4002M
SCREW Cover Band Rd. Hd. #10-32x1	X-26	1	MDH-4001M, MDH-4002M
Pole Shoe	MDH-38	4	MDH-4001M, MDH-4002M
STUD, Terminal	MDH-28	1	MDH-4001M, MDH-4002M
WASHER Insulating, Terminal Stud, Inner	MAK-49	1	MDH-4001M, MDH-4002M
Insulating, Terminal Stud, Outer	MAK-49A	1	MDH-4001M, MDH-4002M
Plain, Terminal Stud	SSA-43A	1	MDH-4001M, MDH-4002M
Thrust, Armature, C. E. 045 Thick	MDH-39	1	MDH-4001M, MDH-4002M
Thrust, Armature, C. E. 1/32 Thick	MDH-40	*	MDH-4001M, MDH-4002M
Thrust, Armature, D. E. 1/32 Thick	MDH-37	1	MDH-4001M, MDH-4002M

* Use as required.

OUTBOARD MARINE TO AUTOLITE CROSS INDEX

Outboard Marine Part No.	Autolite Part No.	Outboard Marine Part No.	Autolite Part No.
203864	MDH-20	277486	MDH-1024
204587	MDH-40	277487	17-27
204589	MDH-37	302054	X-2875
204760	MDH-39	303932	X-3275
277432	MDH-4001M	306396	43-7
277485	22-7		

ELECTRIC AUTO LITE EQUIPMENT & PARTS LISTS

MDO- 4002M AND MDO- 4003M STARTING MOTOR PARTS LIST

MDO- 4002M
MDO- 4003M
(Issued 3-21-60)

Model	CUSTOMER
MDO- 4002M	Evinrude, Johnson
MDO- 4003M	Evinrude, Johnson

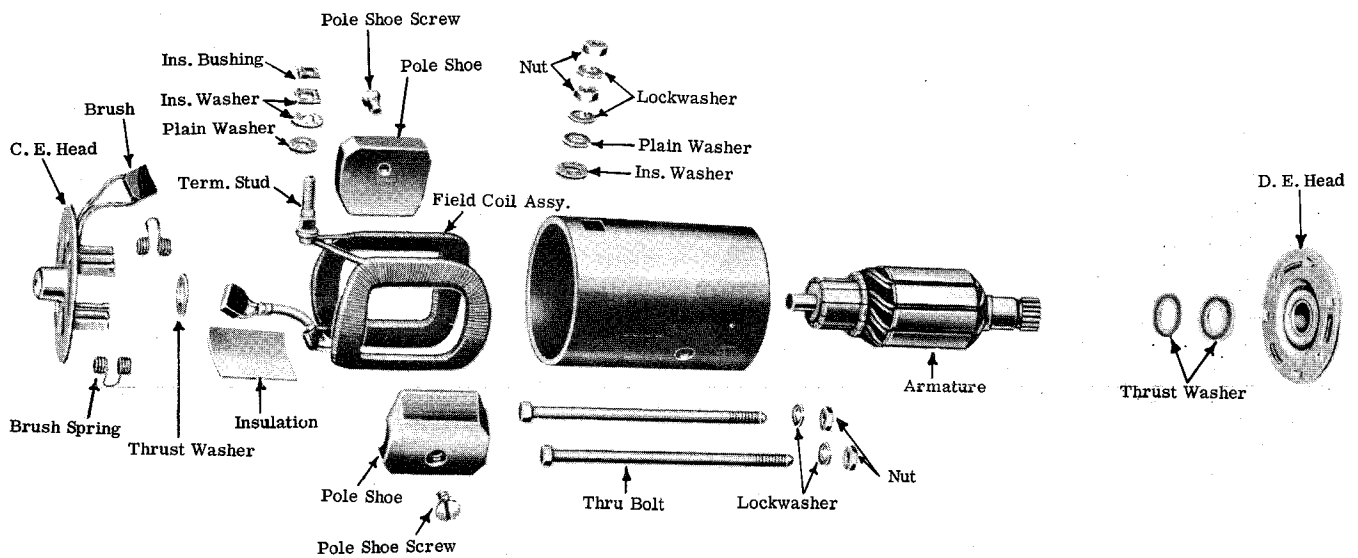


ILLUSTRATION SHOWS TYPICAL PARTS ONLY.

Starting Motor	Armature	Brush Set	C. E. Head Assembly	Brush Springs (2 Used)	Field Coil Assembly	Drive End Head	Bendix Drive	
							A. L. No.	Eclipse No.
MDO- 4002M	MDO-2006	17- 37	19- 36	MDH-18	20- 59	22- 12	EBB- 56A	A- 3599
MDO- 4003M†	MDO-2106	17- 37	19- 35	MDH-18	20- 60	22- 11	†	-----

† MDO- 2035 Jack Shaft Assembly is used with, but is not a part of this Starting Motor and consists of:

- 1 EBB- 59A Bendix Drive, Eclipse #A- 3648
- 1 MDO- 1035 Gear and Shaft Assembly
- 1 MDO- 37 Sleeve

ELECTRIC AUTO LITE EQUIPMENT & PARTS LISTS

MISCELLANEOUS PARTS

Name		Part No.	No. Used	Used On
BOLT, Thru		MDO- 20	2	MDO- 4002M
		MDO- 120	2	MDO- 4003M
BRUSH Grounded Insulated		MDO- 1034S	1	MDO- 4002M, MDO- 4003M
		MDO- 12	1	MDO- 4002M, MDO- 4003M
BUSHING, Insulating, Terminal Stud		MDO- 43	2	MDO- 4002M, MDO- 4003M
LOCKWASHER Terminal Stud Thru Bolt	1/4	43- 7	2	MDO- 4002M, MDO- 4003M
	1/4	43- 7	2	MDO- 4002M, MDO- 4003M
NUT Terminal Stud Thru Bolt	Hex. 1/4- 20	X- 3275	2	MDO- 4002M, MDO- 4003M
	Hex. 1/4- 20	X- 3075	2	MDO- 4002M, MDO- 4003M
PAD, Felt		MDH- 42	1	MDO- 4002M, MDO- 4003M
SCREW, Pole Shoe		19X- 1521	2	MDO- 4002M, MDO- 4003M
STUD, Terminal		MDO- 22	1	MDO- 4002M, MDO- 4003M
TUBE, Insulating, Field Lead		VRB- 27C	1	MDO- 4002M, MDO- 4003M
WASHER Insulating, Terminal Stud, Inner Insulating, Terminal Stud, Outer Plain, Terminal Stud, Inner Plain, Terminal Stud, Outer Thrust, Armature, C. E. Thrust, Armature, D. E. Thrust, Armature, D. E.		MDO- 42	1	MDO- 4002M, MDO- 4003M
		MAK- 49A	1	MDO- 4002M, MDO- 4003M
		MDO- 53	1	MDO- 4002M, MDO- 4003M
		SSA- 43A	1	MDO- 4002M, MDO- 4003M
	1/32 Thick	MDH- 40	*	MDO- 4002M, MDO- 4003M
	1/32 Thick	MDH- 37	1	MDO- 4002M, MDO- 4003M
	.042 Thick	MDO- 38	1	MDO- 4002M, MDO- 4003M

* Use as required.

OUTBOARD MARINE TO AUTOLITE CROSS INDEX

Outboard Marine Part No.	Autolite Part No.	Outboard Marine Part No.	Autolite Part No.
204382	MDO- 120	278160	MDO- 2106
204587	MDH- 40	278165	19- 35
204588	MDO- 38	278188	MDO- 2006
204589	MDH- 37	278235	19- 36
277705	22- 12	303932	X- 3275
277707	17- 37	306396	43- 7
278022	22- 11		

ELECTRIC AUTO LITE EQUIPMENT & PARTS LISTS

GJG- 4001M to GJG- 4004M GENERATOR PARTS LIST

GJG- 4001M
to GJG- 4004M
(Issued 4- 1- 60)

Model	CUSTOMER
GJG- 4001M	Brooklure, Buccaneer, Evinrude, Johnson, Sea Bee, Sea King
GJG- 4001MP	Wisconsin Motors
GJG- 4002M	Evinrude, Johnson
GJG- 4003M	Buccaneer, Evinrude, Johnson, Sea Bee, Sea King
GJG- 4004M	Buccaneer, Evinrude, Johnson

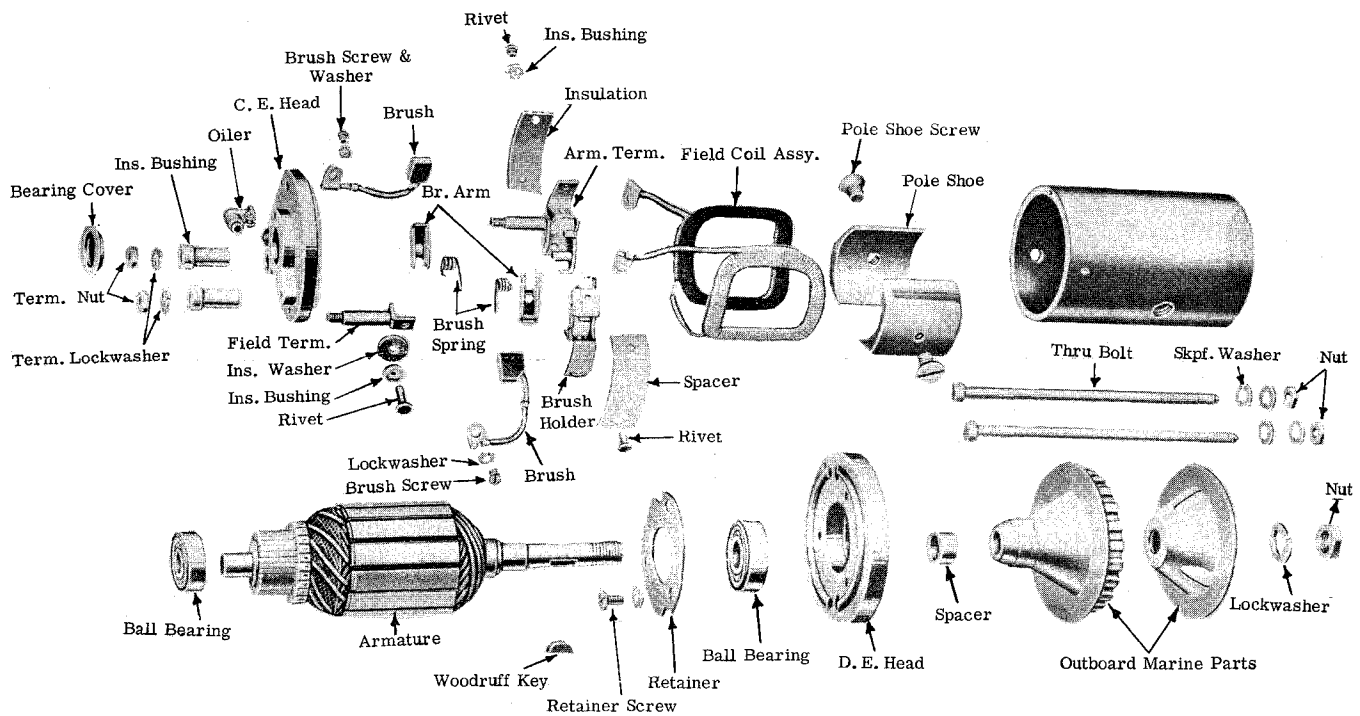


ILLUSTRATION SHOWS TYPICAL PARTS ONLY.

Generator	Armature	Brush Set	Field Coil Assembly	Brush Springs (2 Used)	Brush Arms (2 Used)	C. E. Head	C. E. Head Bearing	D. E. Head Assembly	D. E. Head Bearing	Regulator
GJG- 4001M	GJG- 2006M	11- 31	GJG- 1005	GJG- 37	GJG- 35	GJG- 2	X- 3330	GJG- 1003	X- 3212	†8- 27
GJG- 4001MP	GJG- 2006M	11- 31	GJG- 1005	GJG- 37	GJG- 35	GJG- 2	X- 3330	GJG- 1003	X- 3212	†8- 27
GJG- 4002M	GJG- 2006M	11- 31	GJG- 1005	GJG- 37	GJG- 35	GJG- 2	X- 3330	GJG- 1003	X- 3212	†8- 27
GJG- 4003M	10- 77	11- 31	13- 34	GJG- 37	GJG- 35	12- 38	GJG- 45	14- 41	GJG- 44	†8- 27
GJG- 4004M	10- 77	11- 31	13- 34	GJG- 37	GJG- 35	12- 38	GJG- 45	14- 41	GJG- 44	†8- 27

† Regulator is used with, but is not a part of this generator.

ELECTRIC AUTO LITE EQUIPMENT & PARTS LISTS

MISCELLANEOUS PARTS

Name	Part No.	No. Used	Used On
BOLT, Thru	GJG-20	2	GJG-4001M, GJG-4001MP
	GJG-41	2	GJG-4002M
	GJG-320	2	GJG-4003M
	GJG-420	1	GJG-4004M
(Long)	GJG-520	1	GJG-4004M
BUSHING, Insulating, Field Terminal and Insulated Brush Holder Rivet	GJG-25	3	All
BUSHING, Insulating, Terminal Studs	GJG-26	2	All
COIL, Field			
Left	GJG-1007	1	GJG-4001M, GJG-4001MP, GJG-4002M
	GJG-1107	1	GJG-4003M, GJG-4004M
Right	GJG-1008	1	GJG-4001M, GJG-4001MP, GJG-4002M
	GJG-1108	1	GJG-4003M, GJG-4004M
COVER, Bearing, C. E.	GAL-40C	1	All
HEAD, D. E.	GJG-3	1	All
HOLDER, Brush			
Ground	GJG-1033	1	All
Insulated and Armature Terminal Stud	GJG-1034	1	All
INSULATION, Brush Holder	GJG-32	1	All
KEY, Woodruff #2	X-257	1	All
LOCKWASHER			
Armature Shaft	12X-205	1	All
Brush Lead Screw, #6	43-4	2	All
Retainer Screw D. E., #10	43-6	3	All
Thru Bolt Skpf. 1/4	X-1272	4	GJG-4001M, GJG-4001MP, GJG-4002M
Thru Bolt Skpf. 1/4	X-1745A	4	GJG-4003M, GJG-4004M
NUT			
Armature Shaft	19X-160	1	All
Armature Terminal Stud Hex. #10-32	X-2853	2	All
Field Terminal Stud Hex. #8-32	X-176	2	All
Thru Bolt Hex. 1/4-20	8X-3075	2	All
PIN, Dowel	GJG-21	2	All
RETAINER, Bearing, D. E.	GJG-14	1	All
RIVET			
Brush Holder	19H4-116	4	All
Field Terminal	19X-3327	1	All
SCREW			
Brush Lead Rd. Hd. #6-32x3/16	X-1	2	All
Pole Shoe	MDH-38	2	All
Retainer Bdg. Hd. #10-32x5/16	19X-706	3	All
SPACER, Armature Shaft, D. E.	GJG-27	1	All
STUD, Field Terminal	GJG-1038	1	All
TUBE, Insulating, Coil Assembly	GJG-23	1	GJG-4001M, GJG-4001MP, GJG-4002M
WASHER			
Insulating, Field Terminal Rivet	GJG-19	1	All
Plain, Armature Terminal	X-183B	1	All
Plain, Field Terminal	X-364	1	All
Spring C. E. Head	GJG-46	1	GJG-4003M, GJG-4004M

OUTBOARD MARINE TO AUTOLITE CROSS INDEX

Outboard Marine Part No.	Autolite Part No.	Outboard Marine Part No.	Autolite Part No.
130981	19X-160	303807	12X-205
204091	GJG-20	306214	GJG-41
277742	GJG-2	306399	X-257
277744	GJG-1003	306488	X-1745A
277745	11-31	377001	8-27
277746	X-3330		

ELECTRIC AUTO LITE EQUIPMENT & PARTS LISTS

MDW-4001M to MDW-4104M STARTING MOTOR PARTS LIST

MDW-4001M
to MDW-4104M
(Issued 3-21-60)

Model

CUSTOMER

MDW-4001M	Evinrude, Johnson
MDW-4002M	Evinrude, Johnson
MDW-4003M	Wisconsin
MDW-4101M	Evinrude, Johnson
MDW-4102M	Evinrude, Johnson
MDW-4103M	Evinrude, Johnson
MDW-4104M	Evinrude, Johnson

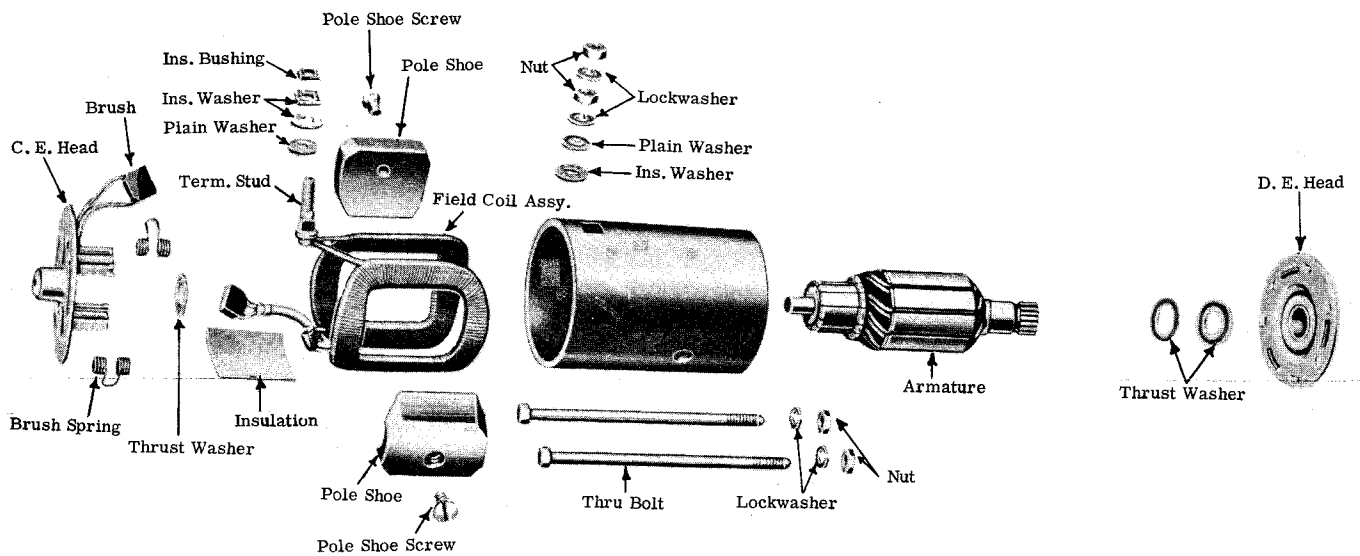


ILLUSTRATION SHOWS TYPICAL PARTS ONLY.

Starting Motor	Armature	Brush Set	C. E. Head Assembly	Brush Springs (2 Used)	Field Coil Assembly	Drive End Head	Bendix Drive	
							A. L. No.	Eclipse No.
MDW-4001M†	16-72	17-37	19-35	MDH-18	20-61	22-11	†	
MDW-4002M	16-71	17-37	19-36	MDH-18	20-62	22-12	EBB-56A	A-3599
MDW-4003M	16-71	17-37	19-36	MDH-18	20-62	22-12	MDW-1161	478917
MDW-4101M	16-72	17-37	19-35	MDH-18	20-61	22-11	-----	-----
MDW-4102M	16-76	17-37	19-36	MDH-18	20-62	22-12	MDW-1261	478975
MDW-4103M	16-80	17-37	19-40	MDH-18	20-58	22-11	-----	-----
MDW-4104M	16-79	17-37	19-39	MDH-18	20-57	22-12	MDW-1261	478975

† MDO-2035 Jack Shaft Assembly is used with, but is not a part of this Starting Motor and consists of:
 1 EBB-59A Bendix Drive, Eclipse No. A-3648
 1 MDO-37 Sleeve
 1 MDO-1035 Gear and Shaft Assembly

ELECTRIC AUTO LITE EQUIPMENT & PARTS LISTS

MISCELLANEOUS PARTS

Name	Part No.	No. Used	Used On					
BOLT, Thru	MDW - 20	1	MDW - 4002M, MDW - 4003M, MDW - 4102M					
	MDW - 21	1	MDW - 4002M, MDW - 4003M, MDW - 4102M					
	MDW - 120	2	MDW - 4001M					
	MDW - 220	2	MDW - 4101M, MDW - 4103M					
	MDW - 320	1	MDW - 4104M					
	MDW - 420	1	MDW - 4104M					
BRACKET, Mounting	MDW - 65	1	MDW - 4101M, MDW - 4103M					
BRUSH								
				Grounded	MDO - 1034S	1	MDW - 4001M, MDW - 4002M, MDW - 4003M, MDW - 4101M, MDW - 4102M	
				Grounded	MDW - 12S	1	MDW - 4103M, MDW - 4104M	
Insulated	MDO - 12	1	All					
BUSHING, Insulation, Terminal Stud	MDO - 43	2	All					
INSULATION, Field Coil	MDO - 52	1	MDW - 4103M, MDW - 4104M					
LOCKWASHER								
				Terminal Stud	1/4	43 - 7	2	All
				Thru Bolt	1/4	43 - 7	2	MDW - 4001M, MDW - 4002M, MDW - 4003M, MDW - 4102M
				Thru Bolt	Skpf. 1/4	X - 1745A	2	MDW - 4101M, MDW - 4103M, MDW - 4104M
NUT								
				Terminal Stud	Hex. 1/4 - 20	X - 3275	2	All
Thru Bolt	Hex. 1/4 - 20	8X - 3075	2	All				
PAD, Felt	MDH - 42	1	All					
SCREW, Pole Shoe	19X - 1521	2	All					
STUD, Terminal	MDO - 22	1	MDW - 4001M, MDW - 4002M, MDW - 4003M, MDW - 4101M, MDW - 4102M					
	MDW - 22	1	MDW - 4103M, MDW - 4104M					
TUBE, Insulating, Field Lead	VRB - 27J	1	MDW - 4103M, MDW - 4104M					
	VRB - 27L	1	MDW - 4001M, MDW - 4002M, MDW - 4003M, MDW - 4101M, MDW - 4102M					
WASHER								
				Insulating, Terminal Stud, Inner	MDO - 42	1	All	
				Insulating, Terminal Stud, Outer	MAK - 49A	1	All	
				Plain, Terminal Stud, Inner	MDO - 53	1	All	
				Plain, Terminal Stud, Outer	SSA - 43A	1	All	
				Plain, Thru Bolt	19H5 - 101	2	MDW - 4101M, MDW - 4103M, MDW - 4104M	
				Thrust, Armature C. E.	.045 Thick	MDH - 39	1	MDW - 4103M, MDW - 4104M
				Thrust, Armature C. E.	1/32 Thick	MDH - 40	*	All
				Thrust, Armature D. E.	1/32 Thick	MDH - 37	1	All
				Thrust, Armature D. E.	.042 Thick	MDO - 38	1	All

* Use as required.

OUTBOARD MARINE TO AUTOLITE CROSS INDEX

Outboard Marine Part No.	Autolite Part No.	Outboard Marine Part No.	Autolite Part No.
204587	MDH - 40	278161	16 - 72
204588	MDO - 38	278165	19 - 35
204589	MDH - 37	278179	16 - 71
204590	MDW - 21	278235	19 - 36
204591	MDW - 20	278240	16 - 80
204592	MDW - 120	278241	16 - 79
204760	MDH - 39	278242	19 - 40
204761	MDW - 220	278243	19 - 39
204762	MDW - 420	302471	19H5 - 101
204763	MDW - 320	303932	X - 3275
277705	22 - 12	306396	43 - 7
277707	17 - 37	306488	X - 1745A
278022	22 - 11	307341	MDW - 65