
Instruction Manual

Electric Starting Attachments (55761 DA and 55763 DA)

Electric Lighting Attachments (50944 DA, 50945 DA, 55766 D and 57401 D)

Electric Starting and Lighting Attachments (55764 DA and 57400 D)

For Farmall-A, B and BN Tractors

With "exploded" views and parts list

Important:

This book contains instructions for assembling, and in addition, a parts list with detailed illustrations of the various units arranged so that parts wanted may readily be located.

INTERNATIONAL HARVESTER COMPANY
(INCORPORATED)

180 NORTH MICHIGAN AVE. CHICAGO, ILLINOIS, U.S.A.

STARTING AND LIGHTING ATTACHMENTS

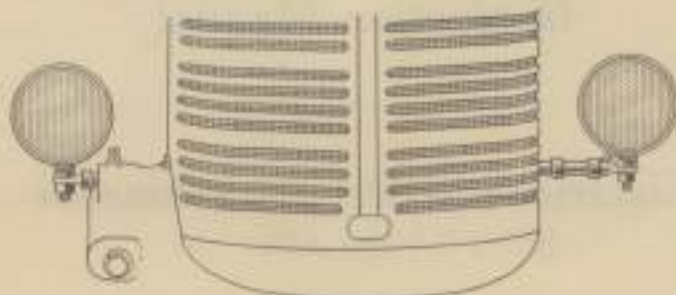


Illustration No. 1
View Showing Head Lamps and Connections
Assembled on Farmall-A Tractor.

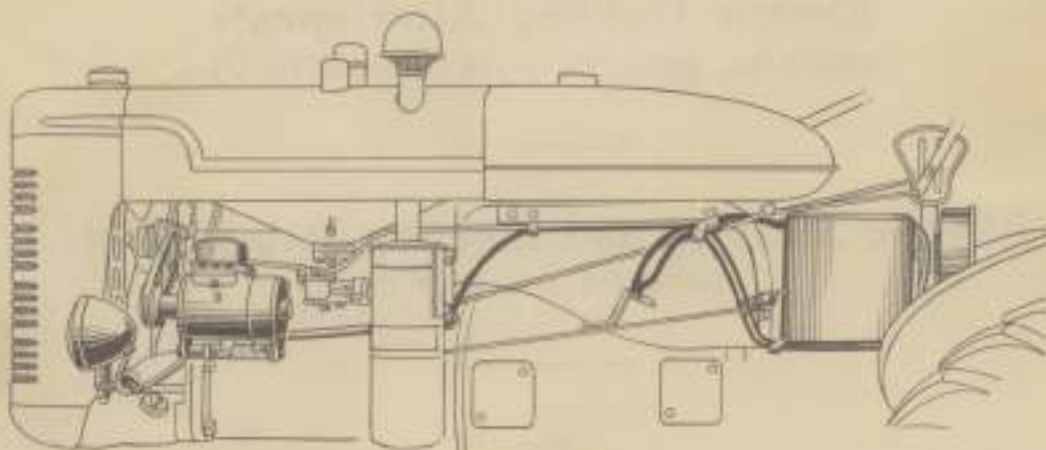
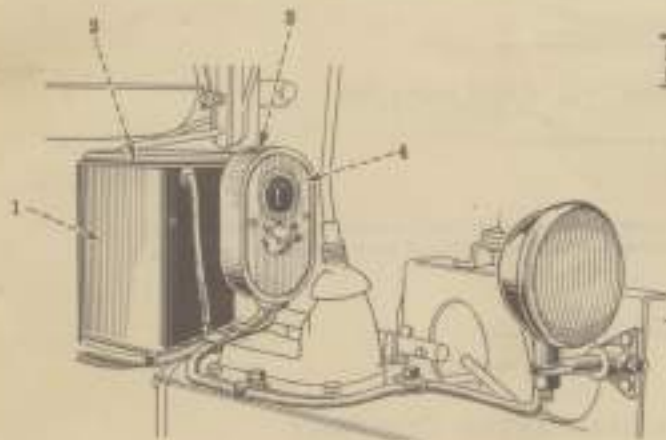


Illustration No. 2
View Showing Battery, Generator, Head Lamp and Connections.
Starting and Lighting Attachment for Farmall-A, B and BN Tractors.



Ref. No.	I H C Part No.	Description
1	50943 D	Battery box, complete.
2	50937 DX	Battery box cover, complete.
3	50929 DBX	Instrument panel.
4	50930 DX	Instrument panel cover, complete.

Illustration No. 3
View Showing Rear Lamp, Ammeter and Switch
Starting and Lighting for Farmall-A, B and BN Tractors.

STARTING AND LIGHTING ATTACHMENTS

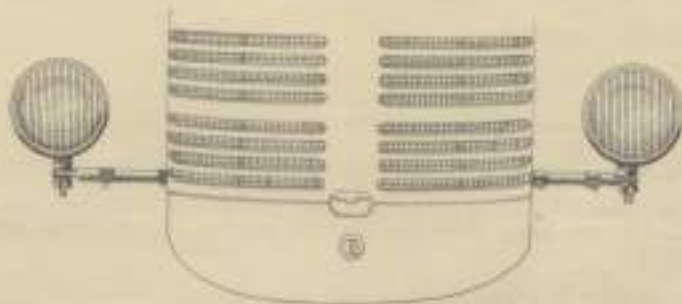


Illustration No. 4
View showing Head Lamps and Connections
Farnall-B and BN Tractors Only.

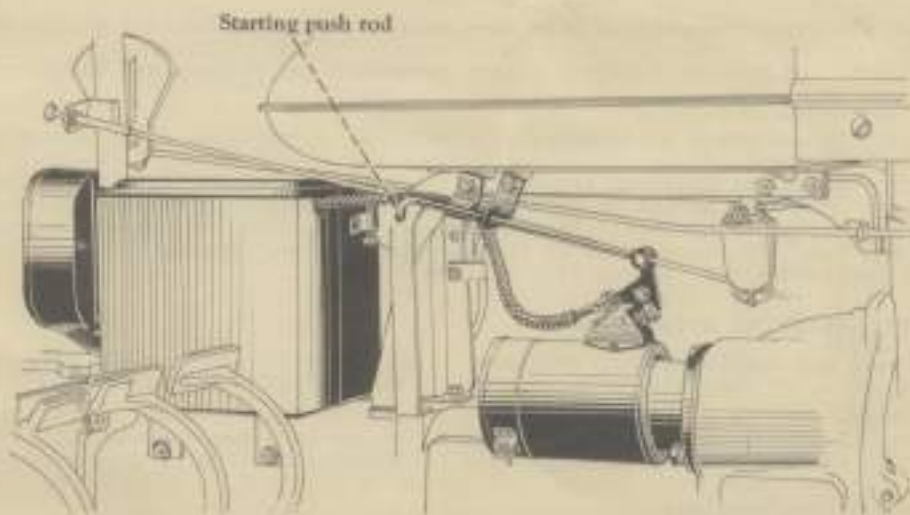


Illustration No. 5
View showing Starting Motor, Battery Box, Etc.
Farnall-A, B and BN Tractors.

STARTING AND LIGHTING ATTACHMENTS

INSTALLATION

NOTE: If tractor is already equipped with Double Groove Fan and Generator Pulley Hub, disregard instructions for installing new pulley. If tractor is not equipped with Double Groove Fan and Generator Hub it should be ordered under number 28318 DX.

Drain water from cooling system.

Loosen engine hood at radiator end.

Remove radiator, complete.

Loosen fan adjusting nut and loosen belt.

Remove fan and hub assembly complete.

Replace single pulley on fan and hub assembly with the new double pulley.

Assemble new (double pulley) fan and hub assembly. At the same time slip the generator drive belt over the inside pulley and the fan drive belt over outside pulley.

Assemble generator bracket, brace and generator. (See Illustration No. 2). Slip generator drive belt over generator pulley and adjust both belts to correct tension as described in Instruction Book.

Reassemble radiator and hood sheet, and be sure to fill cooling system with water before starting the engine.

Assemble front and rear lamps, and assemble instrument panel, complete with ammeter and switch, on steering post. (See Illustrations Nos. 1, 2, 3 and 4).

Install battery box and battery, and wiring with clips and fuse. (See Illustrations Nos. 1, 2, 3, 4 and 5 and wiring diagrams).

Check over electrical circuit to be sure all connections are clean and tight.

When all other connections have been made, connect the battery ground cable.

CAUTION: Do not start engine unless generator and battery are completely hooked up.

NOTE: Do not paint instruments or electrical connections after assembly.

NOTE: After the Lighting Attachment has been completely installed, the lights should be turned on in the "dim" position and allowed to burn for approximately 15 minutes. This will cause the dimmer resistance to heat up and burn off the varnish on the resistance wire. During this process, the resistance will smoke; this will do no harm.

ELECTRIC STARTING ATTACHMENTS

Install new double pulley, generator, lighting instrument panel, battery box, etc., as described under "INSTRUCTIONS FOR LIGHTING ATTACHMENTS".

Flywheel Ring Gear Attachment (28318 D) must be installed on tractor when Starting Attachment is applied (unless Tractor is already so equipped) and should be done only by an authorized IHC Service Station or Service Dealer. (For illustrations and Repair Parts refer to Instruction pamphlet covering Special Attachments.)

See Illustration No. 5 showing starting motor assembled.

NOTE: Follow instructions on tag accompanying starting motor.

Always disengage clutch before pushing in starting rod.

GENERAL WIRING INSTRUCTIONS

If the wiring or cables in loom are wired according to the Wiring Diagram there will be no trouble from rubbing or wires crossing, causing a short circuit.

The clips should be assembled as per Wiring Diagram.

Follow the instructions for generator given on tag which is attached to the generator, also see illustration No. 6.

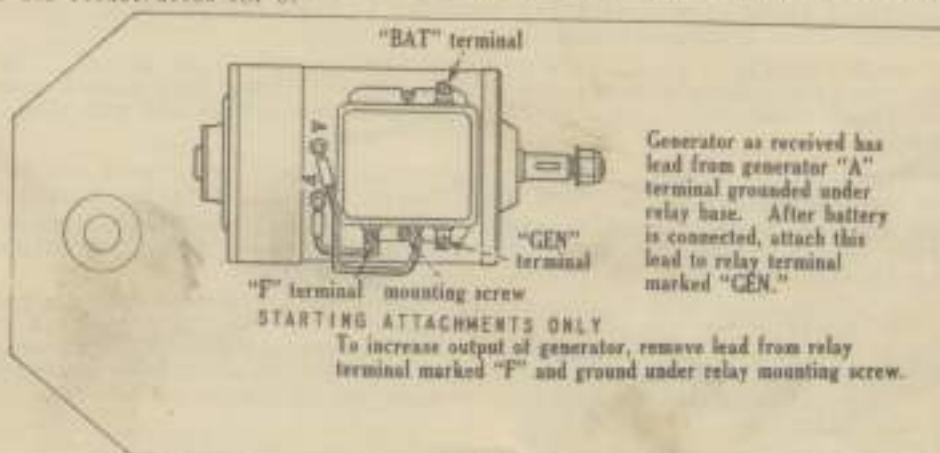


Illustration No. 6

ELECTRICAL EQUIPMENT

PRECAUTIONS:

CAUTION: Before working on any part of the electrical system, first disconnect the battery ground cable. Do not reconnect the battery ground cable until all other equipment has been connected. This will avoid shorting and causing damage to any of the electrical units.

Be sure all terminals are clean and securely fastened and that there are no broken wires anywhere in electrical circuit.

WARNING: Generator will burn out if operated with battery cables or battery charging circuit cables disconnected or broken. To operate generator without battery, remove connection from "GEN" terminal on relay and ground on relay mounting screw, or remove generator field cable from "F" terminal on generator frame.

STORAGE BATTERIES

REGISTRATION CARD (NOT FOR EXPORT)

A registration card is furnished with the battery. The purchaser of a new unit should take it to the nearest authorized Battery Service Station for registration.

FOR EXPORT (BMY BATTERIES)

Complete instructions are included with battery.

Keep top electrolyte in the batteries up to the proper level at all times to prevent failure of batteries.

Inspect the battery once a week or oftener to keep the water at the correct level and to maintain the correct specific gravity. Specific gravity reading of about 1.250 corrected to 80° F. should be maintained. (See Chart "VARIATION OF SPECIFIC GRAVITY WITH TEMPERATURES". Keep vent holes in battery filler caps open.

CAUTION: When adding water to battery in temperature near freezing point (32° F.), always run engine long enough to mix the water and the electrolyte or damage to battery from water freezing will result.

Acid or electrolyte should never be added except by a skilled battery man. Under no circumstances add any special battery "dopes", solutions or powders.

The electrolyte in each cell should be 3/8" above the separators. When the electrolyte is below this level, pure distilled water should be added. Never use hydrant water or any water which has been in a metal receptacle. Keep pure distilled water in glass jar on hand for battery use only. To put water in a cell, use a clean syringe.

Battery cable terminals must be clean and tight. Use hot water for removing terminal corrosion and for cleaning top of battery. Brighten terminal contact surface with wire wool, apply a light coat of vaseline and reassemble. Be sure terminals are sloped tightly and that battery is closed securely in the battery box. If this is done two or three times a year, no trouble should be experienced.

ELECTRICAL EQUIPMENT - Continued

GENERATOR AND LIGHT SWITCH

Generator has an adjustable third brush for changing charging rate. Also on Lighting, and Starting and Lighting Attachment, a light switch with field resistance control is provided to regulate charging rate of generator from instrument panel.

The generator field circuit is grounded through the light switch. Therefore, it is absolutely necessary at all times to make sure that a good electrical connection is established between the switch and mounting panel.

The light switch is used to control generator field resistance and has four positions: Low Charge "L"; High Charge "H"; Dim "D"; and Bright "B". When the lights are turned on either dim or bright, the field circuit is direct to the ground, giving high charge or increased generator output. This is also true when the switch is on position "H".

During the daytime when lights are not used, switch should then be put in the "L" position, which adds a resistance coil to the field circuit and reduces the output of the generator to approximately one-half its original charge rate. If the battery is low, the switch should be placed in the "H" position until it is fully charged as indicated on Specific Gravity Chart.

The generators for Starting and Lighting Attachment, and Lighting Attachment, as received from factory will have the third brush set in a position to give an output of approximately 10 amperes when switch is in the "H" position. In the "L" position of the switch the generator output will be approximately 4 to 5 amperes.

On Starting Attachment the generator as shipped from the factory has the short lead connected from "F" terminal on generator frame to "F" terminal on relay. This will give an output of approximately 4 - 5 amperes. To increase charging rate, remove connection at "F" terminal on relay and ground under relay mounting screw. (See Illustration No. 5)

It may be desired to reduce the charging rates mentioned above. This may be accomplished by adjusting the third brush. (See paragraph relating to third brush adjustment.)

The charging rates given above are for average conditions only. The generator output may have to be varied to meet abnormal operating conditions in order to maintain a fully charged battery. To obtain the best life and performance of battery do not under or over-charge, but maintain the correct specific gravity.

GENERATOR COMMUTATOR

If the commutator is dirty, it may be cleaned with a strip of No. 00 sandpaper. *Never use emery cloth.*

TO CLEAN COMMUTATOR

All dust must be blown from the generator after the commutator has been cleaned. If the commutator is very rough or out of round, it is advisable to take generator to an IHC or United Motor Service Station and have commutator reconditioned.

GENERATOR LUBRICATION (2 CUPS)

Every 60 hours of operation put in 8 to 10 drops of SAE-20 oil. Do not lubricate excessively since excessive oiling may cause oil and grease to gum on the commutator and cause a reduction of the generator output. *Never oil the commutator.*

STARTING MOTOR LUBRICATION

Occasionally put a few drops of SAE-20 oil in oil cup on starting motor.

ELECTRICAL EQUIPMENT - Continued

TO ADJUST CHARGING RATE BY THIRD BRUSH

Remove cover band "C" (Illustration No. 7).

Loosen round head screw "A" on commutator end bearing casting until lockwasher tension is released. DO NOT TRY TO REMOVE SCREW. (See Illustration No. 7)

The charging rate is changed by moving the third brush "B" (Illustration No. 7). This brush is the one mounted on a movable carrier, whereas the other main brushes are mounted directly on the end bearing casting.

The rate of charge is increased by moving the third brush in the direction of rotation of the armature. To decrease the rate of charge, move the third brush in a direction opposite to that of the armature rotation.

The maximum rate of charge of this generator is 9-11 amperes with generator hot and 13-15 amperes with generator cold (with switch in high charge position and with no electrical load). DO NOT SET BEYOND THESE LIMITS.

Always check the maximum generator output when operating with a fully charged battery.

IMPORTANT! The third brush should never be set closer than 3.2 commutator bars from main brush. (See Illustration No. 7A.)

When the above adjustments are completed be sure to tighten the round head screw "A" (Illustration No. 7) which locks the third brush carrier in place.

Reassemble cover band "C" with joint on bottom of generator so that joint is not over any opening.

Unless you are familiar with this equipment and how to adjust same, the above adjustment is best done by an IHC or United Motor Service Station. They have the correct equipment and capable men to make the adjustment.

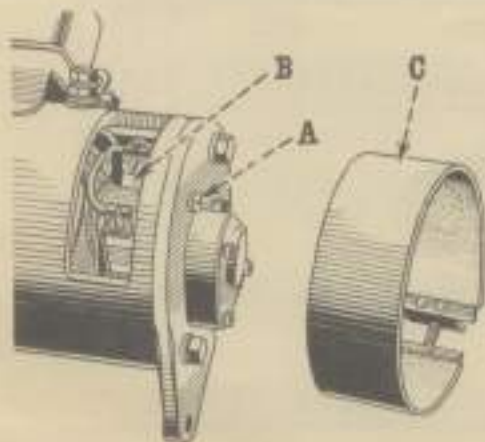


Illustration No. 7

Generator showing Third Brush

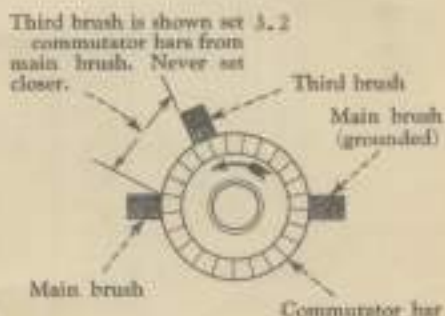


Illustration No. 7A

View showing Commutator End (Brush Setting)

Variation of Specific Gravity with Temperature

Consult This Chart

Read the thermometer in the battery acid—read the Hydrometer—then at the top of the table find the column headed by the temperature which in nearest the battery acid temperature; find, in that column, the figure nearest the observed Specific Gravity reading; and trace horizontally across to the 80° F. column. The 80° F. figures are the true acid gravity and should form the basis for any acid adjustment.

The specific gravity of acid in fully charged batteries should not exceed the value specified by the manufacturer (base temperature 80° F.). If hydrometer readings are taken at acid temperatures other than 80° F., allowances must be made for temperature.

All figures in horizontal lines represent the same state of charge but at the various temperatures shown in the column headings; that is, 1.280 Specific Gravity at 80° F. (the base temperature) becomes 1.266 when Electrolyte temperature is 110° F., and 1.312 when Electrolyte temperature is 0° F.

0° F.	10° F.	20° F.	30° F.	40° F.	50° F.	60° F.	70° F.	80° F.	90° F.	100° F.	110° F.	120° F.
1.167	1.163	1.160	1.157	1.154	1.150	1.147	1.144	1.140	1.137	1.134	1.131	1.127
1.177	1.174	1.170	1.167	1.164	1.160	1.157	1.154	1.150	1.147	1.143	1.140	1.137
1.187	1.184	1.181	1.177	1.174	1.170	1.167	1.164	1.160	1.157	1.153	1.150	1.146
1.198	1.195	1.191	1.187	1.184	1.180	1.177	1.173	1.170	1.166	1.163	1.159	1.156
1.208	1.205	1.201	1.198	1.194	1.191	1.187	1.183	1.180	1.176	1.173	1.169	1.165
1.219	1.215	1.211	1.208	1.204	1.201	1.197	1.193	1.190	1.186	1.182	1.179	1.175
1.229	1.225	1.222	1.218	1.214	1.211	1.207	1.203	1.200	1.196	1.192	1.189	1.185
1.239	1.236	1.232	1.228	1.224	1.221	1.217	1.213	1.210	1.206	1.202	1.198	1.195
1.251	1.247	1.243	1.239	1.236	1.232	1.228	1.224	1.220	1.217	1.213	1.209	1.205
1.261	1.257	1.253	1.249	1.246	1.242	1.238	1.234	1.230	1.227	1.223	1.219	1.215
1.271	1.267	1.263	1.259	1.256	1.252	1.248	1.244	1.240	1.236	1.233	1.229	1.225
1.281	1.277	1.273	1.269	1.266	1.262	1.258	1.254	1.250	1.246	1.243	1.239	1.235
1.291	1.287	1.284	1.280	1.276	1.272	1.268	1.264	1.260	1.256	1.252	1.248	1.245
1.301	1.298	1.294	1.290	1.286	1.282	1.278	1.274	1.270	1.266	1.262	1.258	1.255
1.312	1.308	1.304	1.300	1.296	1.292	1.288	1.284	1.280	1.276	1.272	1.268	1.265
1.322	1.318	1.314	1.310	1.306	1.302	1.298	1.294	1.290	1.286	1.282	1.278	1.274
1.332	1.328	1.324	1.320	1.316	1.312	1.308	1.304	1.300	1.296	1.292	1.288	1.284
1.342	1.338	1.334	1.330	1.326	1.322	1.318	1.314	1.310	1.306	1.302	1.298	1.294
1.354	1.350	1.346	1.342	1.337	1.333	1.329	1.325	1.320	1.316	1.312	1.308	1.303

With battery fully charged and on charge at the normal rate, the cell voltage will be about as follows:

Average cell voltage at 60° usually falls between 2.5 and 2.7 volts.

Average cell voltage at 100° usually falls between 2.4 and 2.6 volts.

For accuracy always take acid temperature when reading specific gravity.

STARTING AND LIGHTING ATTACHMENTS

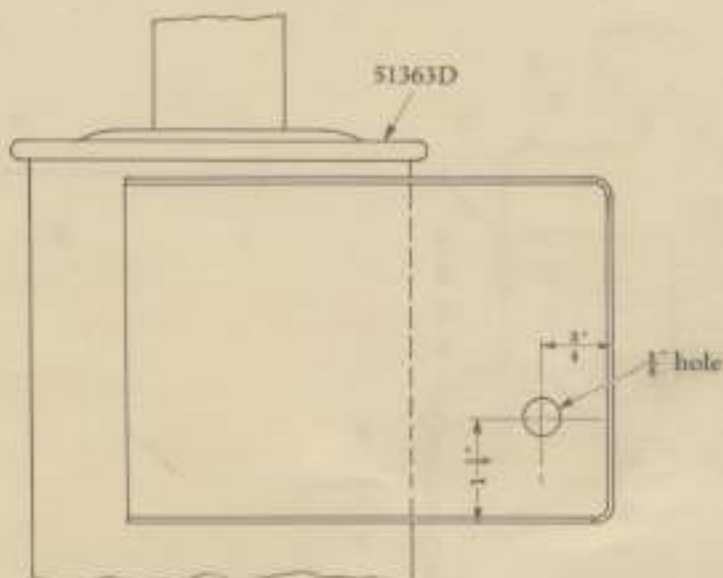


Illustration No. 5
View showing Drilling Diagram for Air Cleaner Bracket.
(For Tractors with Air Cleaner Bracket not Drilled).

WIRING DIAGRAMS

IMPORTANT!

- A - Before any electrical work is started, remove the cable that runs from the battery to the ground.
- B - After all other connections are made, connect battery to ground cable.
- C - Surface under all terminals must be clean and a good electrical connection must be made. After assembly, do not paint instruments or electrical connections.
- D - Extra lengths of wire should be distributed between points so that the final assembly has a neat appearance.
- E - All clips must grip cables lightly to prevent vibration and rapid cable wear. The clips must be closed in a workmanlike manner so as not to injure the insulation.

WIRING DIAGRAM FOR LIGHTING ATTACHMENT 50945 DA

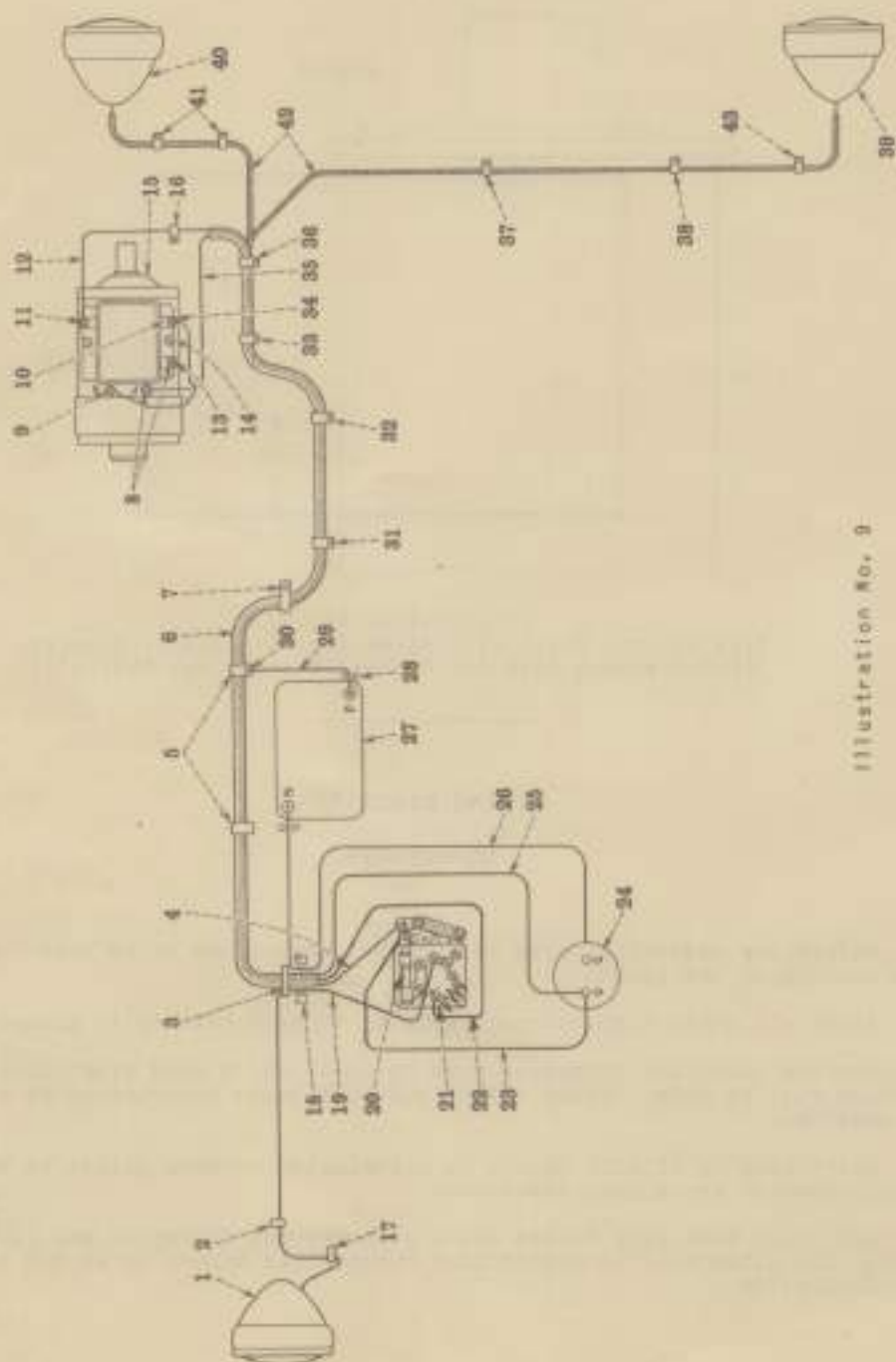


Illustration No. 9

WIRING DIAGRAM FOR LIGHTING ATTACHMENT (50945 DA) - Continued

† - These parts not supplied separately, order 51928 D.

Ref. No.	I H C Part No.	Description	Ref. No.	I H C Part No.	Description
1	45640 D	Rear lamp.	21	57310 EX	Lighting switch.
2	27385 D	Clip - on transmission case cover corner bolt, left side.	22	59482 D	Cable - switch to head lamp (black).
3	27387 D	Clip - on corner transmission case cover bolt. Turn clip toward rear of tractor and bend in assembly to clear transmission case cover. Lead cables over top of cover to instrument panel.	23	42388 D	Cable - ammeter to switch.
4	---	Lead cables over top of cover to instrument panel.	24	---	Ammeter.
5	22063 D	Cable-generator field to switch (natural with black tracer).	25	---	Cable - generator to ammeter (natural with black and red cross tracers).
6	51996 D	Clips - on battery box mounting bolts.	26	51999 EX	Cable - battery to ammeter.
7	22063 D	Cable harness, complete.	27	1408 IC	Battery.
8	---	Clip-on fuel tank support, rear. Bend clip so cable harness does not touch control rod.	28	52063 D	Grommet - battery box.
9	---	Remove short lead connecting field terminal to field connection on control box. Connect cable (that runs from generator field to switch) directly to field terminal on generator frame.	29	25407 D	Cable - battery to ground.
10	---	The generator, when received has lead from "A" terminal grounded under relay base. After battery has been connected, attach this lead to relay terminal marked "GEN".	30	---	Ground on battery box mounting bolt.
11	---	Battery terminal.	31	22063 D	Clip - on fuel tank support bracket bolt, rear.
12	---	Cable - generator to ammeter (natural with black and red cross tracers).	32	22063 D	Clip - on fuel tank support bracket bolt, front.
13	---	Mounting screw.	33	22063 D	Clip - on air cleaner support bracket bolt, lower.
14	---	Generator.	34	---	"GEN" terminal.
15	45634 D	Clip - on generator brace bolt (generator end).	35	---	Cable - generator field to switch (natural with black tracer).
16	6320 H	Clip - on transmission case cover corner bolt, right side.	36	22063 D	Clip - on generator mounting bracket.
17	27385 D	Grommet - in instrument panel cover.	37	6320 H	Clip - on generator brace bolt.
18	20711 DX	Cable - switch to rear lamp.	38	6320 H	Clip - on crankcase front cover bolt (the first bolt below the governor housing).
19	10615 VA	Fuse.	39	---	Head lamp.
20	---	---	40	45640 D	Head lamp.
			41	58116 D	Clamps (clamp cable to rear side of lamp post).
			42	---	Cables - switch to head lamps (black).
			43	58116 D	Clamp (clamp cable to rear side of lamp post).

WIRING DIAGRAM FOR LIGHTING ATTACHMENT (50944 DA)

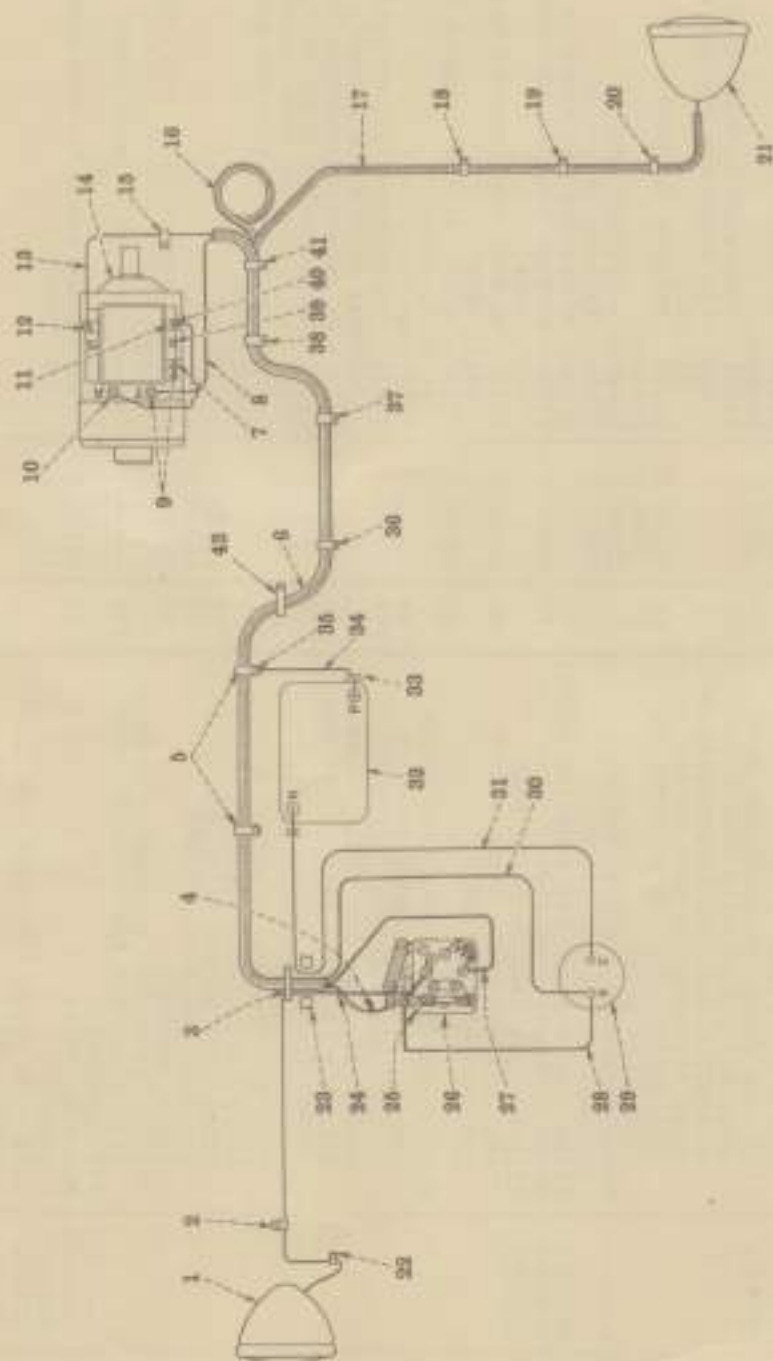


Illustration No. 10

WIRING DIAGRAM FOR LIGHTING ATTACHMENT (50944 DA) - Continued

† - These parts not supplied separately, order 51224 P.

Ref. No.	I H C Part No.	Description	Ref. No.	I H C Part No.	Description
1	45640 D	Rear lamp.	20	58116 D	Clamp (clamp cable to rear side of lamp post).
2	27395 D	Clip - on transmission case cover corner bolt, left side.	21	45640 D	Head lamp, right side.
3	27287 D	Clip - on corner transmission case cover bolt. Turn clip toward rear of tractor and bend in assembly to clear transmission case cover.	22	27385 D	Clip - on transmission case cover corner bolt, right side.
† 4	---	Lead cables over top of cover to instrument panel.	23	53042 D	Grommet - in instrument panel cover.
5	23063 D	Cable - generator field to switch (natural with black tracer).	24	20711 DX	Cable - switch to rear lamp.
6	51098 D	Clips - on battery box mounting bolts.	25	10815 VA	Fuse.
7	---	Cable harness, complete.	26	57310 DX	Lighting switch.
† 8	---	Wp terminal.	27	---	Cable - switch to head lamp (black).
9	---	Cable - generator field to switch (natural with black tracer). Remove short lead connecting field (wp) to field connection on control box. Connect cable (generator field to switch) directly to field terminal on generator frame.	28	59462 D	Cable - ammeter to switch.
10	---	The generator, when received, has load from "A" terminal grounded under relay base. After battery has been connected attach this lead to relay terminal marked "GEN."	29	42383 D	Ammeter.
11	---	Battery terminal.	† 30	---	Cable - generator to ammeter (natural with black and red cross tracers).
12	---	Cable - generator to ammeter (natural with black and red cross tracers).	31	51939 DX	Cable - battery to ammeter.
† 13	---	Generator.	32	1408 VC	Battery.
14	45634 D	Clip - on generator brace bolt (generator end).	33	58063 D	Grommet - battery box.
15	6830 H	Coil the lead for left head lamp and tape securely as close to splice as possible. Thoroughly insulate exposed terminal with tape.	34	35407 D	Cable - battery to ground.
16	---	Cable - switch to head lamp (black).	35	---	Ground on battery box mounting bolt.
17	---	Clip - on generator brace bolt.	36	23063 D	Clip - on fuel tank support bracket bolt, rear.
18	6830 H	Clip - on crankcase front cover bolt. (The first bolt below the Governor housing).	37	23063 D	Clip - on fuel tank support bracket bolt, front.
19	6830 H		38	23063 D	Clip - on air cleaner support bracket bolt, lower.
			39	---	Mounting screws.
			40	---	"GEN" terminal.
			41	23063 D	Clip - on generator mounting bracket.
			42	23063 D	Clip - on fuel tank support, rear. Bend clip so cable harness does not touch control rod.

WIRING DIAGRAM FOR STARTING ATTACHMENT (55761 DA)

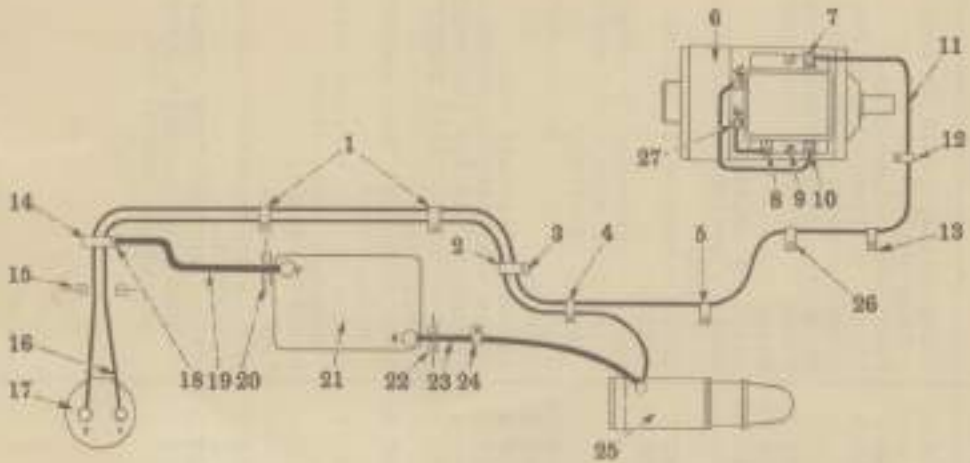


Illustration No. 11



Illustration No. 11A
View showing placing of clips on left side of tractor.

WIRING DIAGRAM FOR STARTING ATTACHMENT (55761 DA) - Continued

Ref. No.	I H C Part No.	Description
1	27387 D	Clip - on battery box mounting bolts.
2	.....	Bend clip so cable does not touch winterfront control rod.
3	27387 D	Clip - on fuel tank support, rear.
4	27387 D	Clip - on fuel tank support bracket bolt, rear.
5	27385 D	Clip - on fuel tank support bracket bolt, front.
6	48534 D	Generator.
7	.....	"BAT" terminal.
8	.....	"F" terminal. <i>Note:</i> - to increase output of generator, remove lead from "F" terminal on relay and ground it under relay mounting screw (ref. no. 9).
9	.....	Mounting screw.
10	.....	"GEN" terminal.
11	57961 D	Cable - generator to ammeter.
12	27385 D	Clip - on generator brace bolt (generator end).
13	27385 D	Clip - on generator mounting bracket.
14	27387 D	Clip - on corner transmission case cover bolt. Turn clip toward rear of tractor and bend in assembly to clear transmission case cover. Lead cables over top of cover to instrument panel.
15	52062 D	Grommet - in instrument panel cover.
16	39275 DX	Cable - ammeter to starting motor.
17	42363 D	Ammeter.
18	.....	Ground on corner transmission case cover bolt.
19	57258 D	Cable - battery to ground.
20	52118 D	Grommet - in battery box.
21	{ 53277 D 55465 D 1408 YC	Battery.
22	52118 D	Grommet - in battery box.
23	57257 D	Cable - battery to starting motor.
24	22063 D	Clip - on rear fuel tank bracket bolt, right side, under starting control rod bracket.
25	55754 D	Starting motor.
26	27385 D	Clip - on generator mounting bracket.
27	.....	"F" terminal on frame. <i>Note:</i> - Do not run generator unless battery charging circuit is completed and lead from "FA" terminal is connected as shown. If it is necessary to operate generator without battery connections, remove connection from "F" terminal on generator frame.

WIRING DIAGRAM FOR STARTING ATTACHMENT (55763 DA)

(For Tractors equipped with Lighting Att. 50944 DA or 50945 DA)

Note:— All equipment shown in dotted lines is already on tractor.

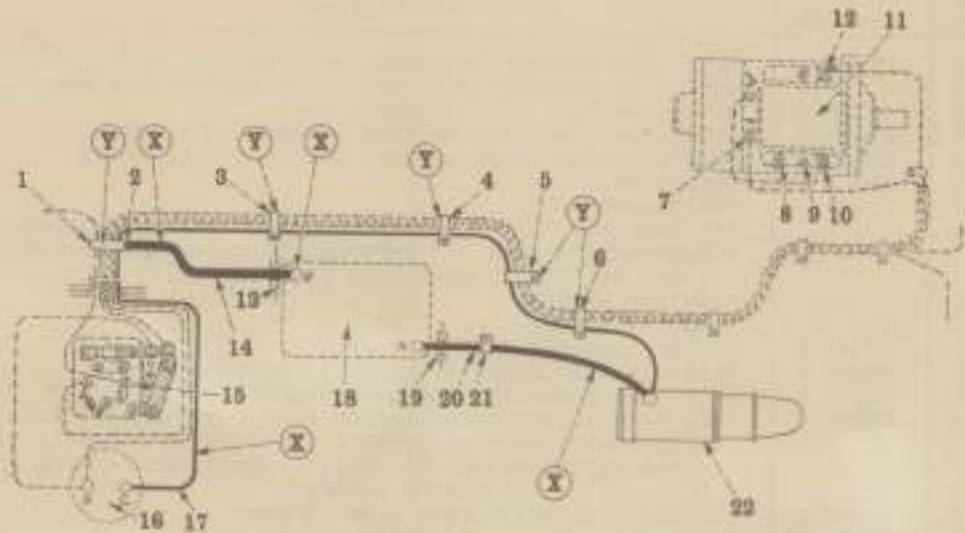


Illustration No. 12

- X - Remove battery to ammeter and battery to ground cables on tractor, turn battery end for end so positive terminal is toward rear as shown. Install new cables from battery to ground, battery to starting motor, and ammeter to starting motor as shown. Use new clips furnished.
- Y - Replace clips on tractor with new clips furnished at these points.

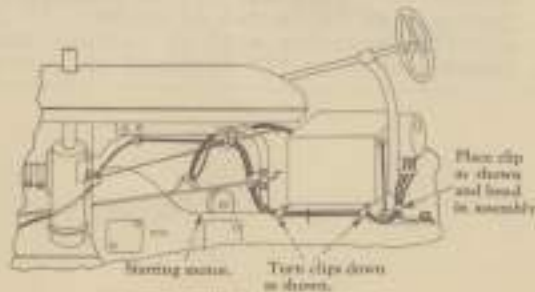


Illustration No. 12A

View showing placing of clips on left side of tractor.

WIRING DIAGRAM FOR STARTING ATTACHMENT (55763 DA) - Continued

(For Tractors equipped with Lighting Att. 50944 DA or 50945 DA)

Ref. No.	I H C Part No.	Description
1	39184 D	Clip - on corner transmission case cover bolt. Turn clip toward rear of tractor and bend in assembly to clear transmission case cover. Lead cables over top of cover to instrument panel.
2	.....	Ground - on corner transmission case cover bolt.
3	.....	.....
4	27387 D	Clip - on battery box mounting bolts.
5	27387 D	Clip - on winterfront control bracket bolt on fuel tank support, rear. Bend clip so cable does not touch winterfront control rod.
6	27387 D	Clip - on fuel tank support bracket bolt, rear.
7	.....	"F" terminal on frame. Note:- Do not run generator with "F" terminal on frame connected to switch unless battery charging circuit is completed and lead from "A" terminal is connected as shown. If it is necessary to operate generator without battery connections, remove connection from "F" terminal on generator frame.
8	.....	"F" terminal on relay.
9	.....	Mounting screw.
10	.....	"GEN" terminal.
11	45634 D	Generator.
12	.....	"BAT" terminal.
13	52118 D	Grommet - in battery box.
14	57258 D	Cable - battery to ground.
15	57310 DX	Lighting switch.
16	42383 D	Ammeter.
17	39275 DX	Cable - ammeter to starting motor.
18	.....	Battery.
19	52118 D	Grommet - in battery box.
20	57257 D	Cable - battery to ground.
21	22063 D	Clip - on rear fuel tank bracket bolt, right side, under starting control rod bracket.
22	55784 D	Starting motor.

WIRING DIAGRAM FOR LIGHTING ATTACHMENTS (55766 D AND 57401 D)

(For Tractors equipped with Starting Att. 55761 DA)

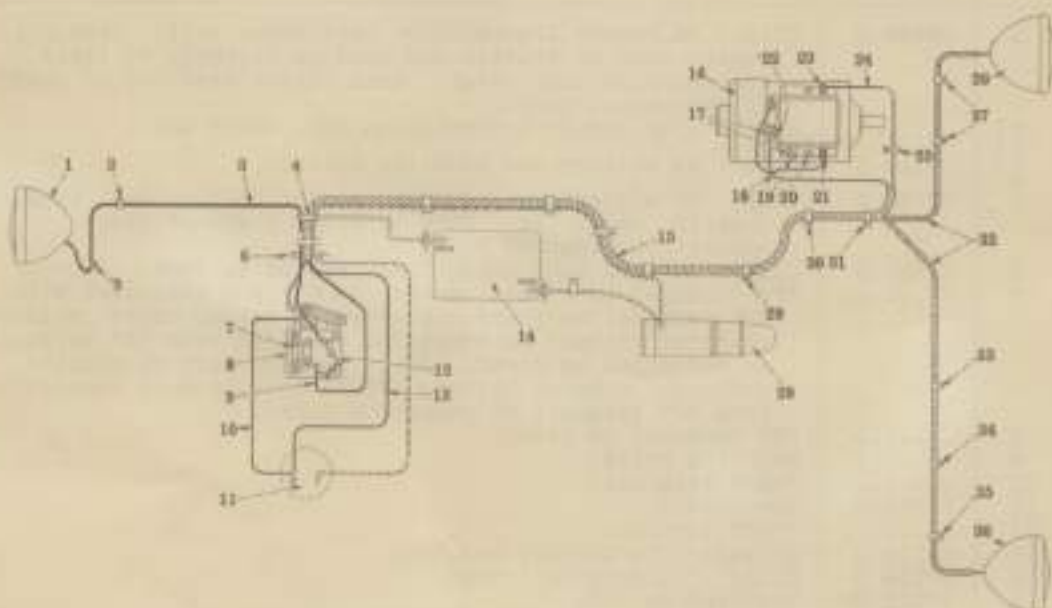


Illustration No. 13

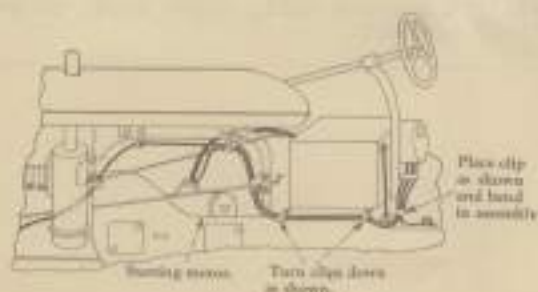


Illustration No. 13A
View showing placing of
clips on left side of
tractor.



Illustration No. 13B
Detail showing coiled
left head lamp cable
when right head lamp
only is used.

WIRING DIAGRAM FOR LIGHTING ATTACHMENTS (55766 D AND 57401 D) - Continued

(For Tractors equipped with Starting Att. 55761 DA)

Note: - Do not run generator with "F" terminal connected to switch, unless battery charging circuit is completed and lead from "A" terminal to "GEN" terminal is connected as shown. If it is necessary to operate generator with out battery connections, remove generator field to switch cable from "F" terminal on generator frame.

Ref. No.	I H C Part No.	Description
1	45640 D	Rear lamp.
2	27385 D	Clip - on transmission case cover corner bolt, left side.
3	30711 DX	Cable - switch to rear lamp.
4	.....	Replace clip on tractor with 32184 D and bend in assembly to clear transmission case cover. Lead cables over top of cover to instrument panel.
5	27385 D	Clip - on transmission case cover corner bolt, right side.
6	52063 D	Grommet - in instrument panel cover.
7	10815 VA	Fuse.
8	57310 DX	Lighting switch.
9	.....	Cable - switch to head lamp (black).
10	59482 D	Cable - ammeter to switch.
11	42383 D	Ammeter.
12	.....	A good electrical connection must be made between switch and switch mounting to complete generator field circuit.
113	.....	Cable - generator to ammeter (natural with black and red cross tracers).
14	.....	Battery.
15	51998 D	Cable harness, complete.
16	45634 D	Generator.
17	.....	Remove short lead connecting field "F" to field connection on control box. Connect generator field to switch cable directly to field terminal on generator frame.
118	.....	Cable - generator field to switch (natural with black tracer).
19	.....	"F" terminal.
20	.....	Mounting screw.
21	.....	"GEN" terminal.
22	.....	Field terminal on generator frame.
23	.....	"BAT" terminal.
124	.....	Cable - generator to ammeter (natural with black and red cross tracers).
25	6830 H	Clip - on generator brace bolt(generator end).
26	45640 D	Left head lamp.
27	52116 D	Clip - clamp cable to rear side of lamp post.
28	55784 D	Starting motor.
29	22063 D	Clip - on fuel tank support bracket bolt, front.
30	22063 D	Clip - on air cleaner support bracket bolt, lower.
31	22063 D	Clip - on generator mounting bracket.
132	.....	Cable - switch to head lamp (black).
33	6830 H	Clip - on generator brace bolt.
34	6830 H	Clip - on crankcase front cover bolt (first below governor housing).
35	52116 D	Clip - clamp cable to rear side of lamp post.
36	45640 D	Right head lamp.

† - These parts not supplied separately, order 51998 D.

WIRING DIAGRAM FOR STARTING AND LIGHTING ATTACHMENTS (55764 DA AND 57400 D)

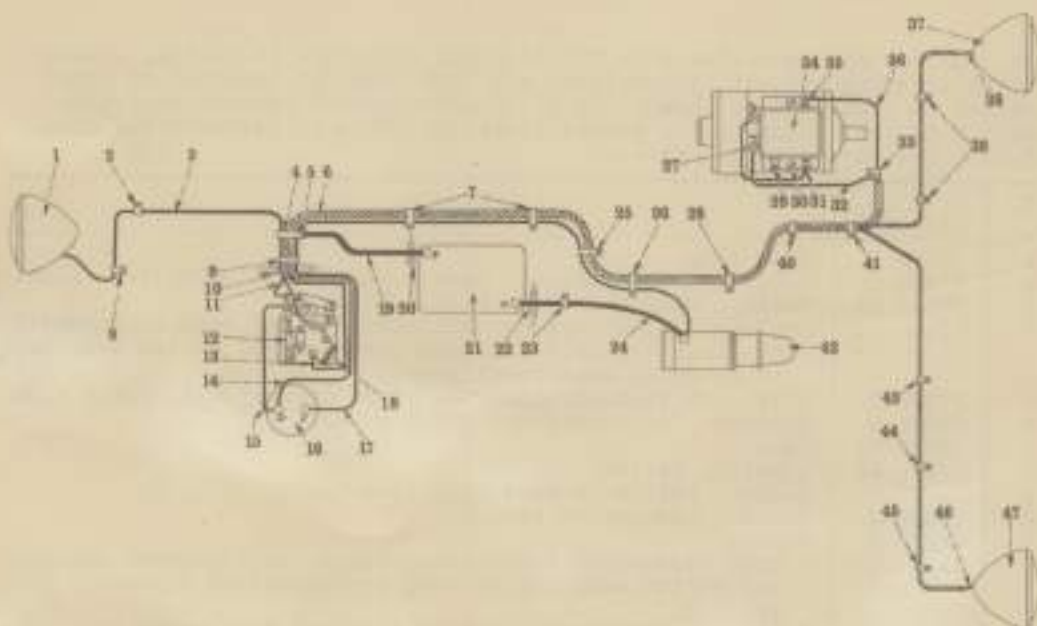


Illustration No. 14



Illustration No. 14A

View showing placing of clips on left side of tractor.



Illustration No. 14B

View showing wiring when right head lamp only is installed. (Note:- parts not shown are the same as in illustration No. 14).

WIRING DIAGRAM FOR STARTING AND LIGHTING ATTACHMENTS (55764 DA AND 57400 D) - Continued

Note: - Do not run generator with "F" terminal on frame connected to switch unless battery charging circuit is completed and lead from "A" terminal is connected as shown. If it is necessary to operate generator without battery connections, remove generator field to switch cable from "F" terminal on generator frame.

Ref. No.	I R C Part No.	Description
1	45640 D	Rear lamp.
2	27365 D	Clip - on transmission case cover corner bolt, left side.
3	30711 D	Cable - switch to rear lamp.
4	39154 D	Clip - on corner transmission case cover bolt. Turn clip toward rear of tractor and bend in assembly to clear transmission case cover. Lead cables over top of cover to instrument panel.
5	.....	Ground - on transmission case cover bolt.
6	51998 D	Cable harness, complete.
7	27247 D	Clip - on battery box mounting bolts.
8	27365 D	Clip - on transmission case cover corner bolt, right side.
9	27363 D	Cable clamp.
10	52042 D	Grommet - in instrument panel cover.
11	.....	Cable - generator field to switch (natural with black tracer).
12	10615 VA	Fuse.
13	.....	Cable - switch to head lamp (black).
14	.....	Cable - generator to ammeter (natural with black and red cross tracers).
15	59462 D	Cable - ammeter to switch.
16	42583 D	Ammeter.
17	.....	Cable - ammeter to starting motor.
18	57310 DX	Switch. Note: - a good electrical connection must be made between switch and switch mounting to complete generator field circuit.
19	57256 D	Cable - battery to ground.
20	52118 D	Grommet - in battery box.
21	1409 YC	Battery.
22	53277 D	Battery.
23	55493 D	Battery.
24	52118 D	Grommet - in battery box.
25	22063 D	Clip - on rear fuel tank bracket bolt, right side, under starting control rod bracket.
26	57257 D	Cable - battery to starting motor.
27	27367 D	Clip - on fuel tank support, rear. Bend clip so cable does not touch winterfront control rod.
28	27367 D	Clip - on fuel tank support bracket bolt, rear.
29	.....	"F" terminal on frame. Remove short lead connecting "F" terminal on frame to "F" terminal on relay. Connect generator field to switch cable directly to "F" terminal on generator frame.
30	22063 D	Clip - on fuel tank support bracket bolt, front.
31	.....	"F" terminal on relay.
32	.....	Mounting screw.
33	.....	"GEN" terminal.
34	.....	Cable - generator field to switch (natural with black tracer).
35	6830 H	Clip - on generator brace bolt (generator end).
36	45634 D	Generator.
37	.....	"BAT" terminal.
38	.....	Cable - generator to ammeter (natural with black and red cross tracers).
39	45640 D	Head lamp.
40	.....	Cable - switch to head lamp (black).
41	52118 D	Clip - clamp cable to rear side of lamp post.
42	22063 D	Clip - on air cleaner support bracket bolt, lower.
43	22063 D	Clip - on generator mounting bracket.
44	55784 D	Starting motor.
45	6830 H	Clip - on generator brace bolt.
46	6830 H	Clip - on crankcase front cover bolt (first below governor housing).
47	52118 D	Clip - clamp cable to rear side of lamp post.
48	.....	Cable - switch to head lamp (black).
49	45640 D	Head lamp.

† - These parts not specified separately in order blanks.

GENERATOR, PULLEY AND BRACKETS

(See Repair Parts List for Attachments Used On).

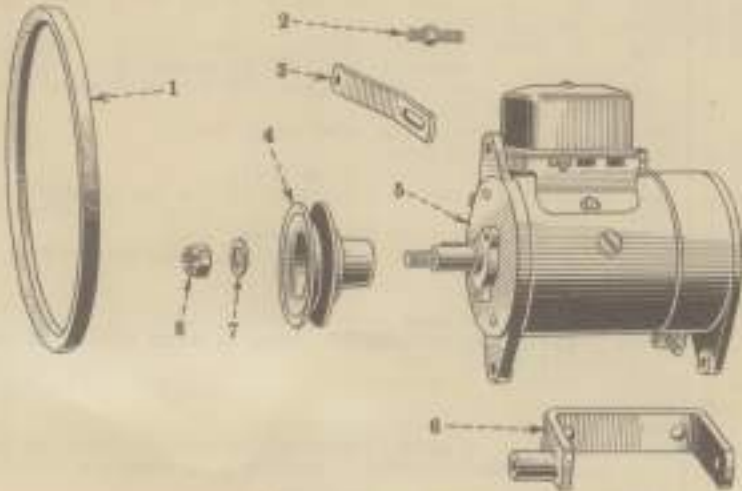


Illustration No. 15

Unnumbered parts in the illustrations are the same as corresponding parts shown with numbers.

Ref. No.	I H C Part No.	Description
1	49291 D	Belt.
2	49278 D	Stud.
3	49286 D	Brace.
4	6912 D	Pulley.
5	45634 D	Generator (Delco-Remy No. 1101355).
6	49287 DA	Bracket.
7	.....	Washer (1/2").
8	.....	Nut (1/2").

When ordering, always use I H C Part Nos.

LAMPS

(See Repair Parts List for Attachments Used On).

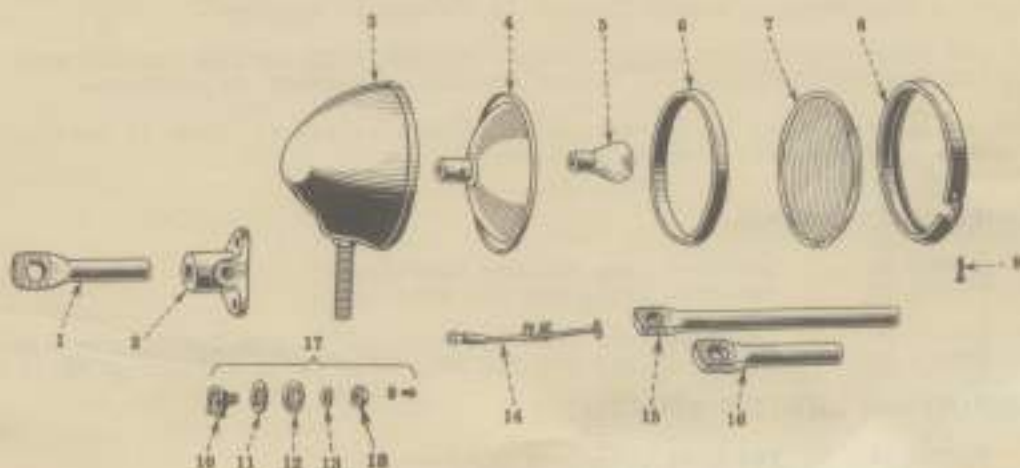


Illustration No. 14

Unnumbered parts in the illustrations are the same as corresponding parts shown with numbers

Ref. No.	I H C Part No.	Description
..	45540 D	Lamp (swivel type).
1	49393 D	Rear post.
2	6813 D	Rear lamp bracket.
3	53522 D	Body.
4	53523 D	Reflector.
5	27389 D	Bulb (32 candle power).
6	53527 D	Gasket.
7	53521 D	Lens.
8	53525 D	Moulding.
9	53526 D	Screw.
10	37064 D	Terminal plate.
11	37075 D	Insulating washer.
12	37072 D	Cup washer.
13	37077 D	Lockwasher.
14	53524 D	Wire assembly.
15	{ 49394 D	Left lamp post (Farmall-A only).
	{ 49394 D	Right and left lamp post (Farmall-B only).
16	49393 D	Right lamp post (Farmall-A only).
17	37067 D	Terminal plate assembly.
18	37063 D	Terminal nut.

When ordering, always use I H C Part Nos.

Don't order parts from the illustrations only; refer to the list also.

LIST OF REPAIR PARTS

Notes: Flywheel Ring Gear Attachment No. 56618 D must be applied with all Starting Attachments, unless Tractor is already so equipped.

Fan and Generator Pulley Hub Attachment No. 28318 DX must be applied with all Attachments listed below, unless Tractor is already so equipped.

(For Repair Parts and Illustrations of above Attachments refer to Instruction Pamphlet covering Special Attachments.)

LIGHTING ATTACHMENTS

- 1 { 50944 DA - One Head Lamp and One Rear Lamp.
50945 DA - Two Head Lamps and One Rear Lamp.
- 2 { 55765 D - Two Head Lamps and One Rear Lamp } For Tractors equipped
57401 D One Head Lamp and One Rear Lamp { with Attachment 55761 DA.

STARTING AND LIGHTING ATTACHMENTS

- 3 { 55764 DA - Two Head Lamps and One Rear Lamp.
57400 D - One Head Lamp and One Rear Lamp.

STARTING ATTACHMENTS

- 4 55761 DA Starting Attachment Only.
- 5 55763 DA Starting Attachment for Tractors equipped with Lighting Attachments 50944 DA or 50945 DA.

I H C Part No.	Description	Used on				
		1	2	3	4	5
6812 D	Generator pulley	x	-	x	x	-
6813 D	Rear lamp bracket.	x	x	x	-	-
.....	Capscrew, 5/16" x 7/8" N.C.					
.....	Set screw, 3/8" x 1".					
.....	Hex. nut, 5/16" N.C.					
.....	Hex. nut, 3/8" N.C.					
.....	Lockwasher, 5/16".					
8639 D	Carburetor starting shutter lever.	-	-	x	x	x
.....	Fillister head bolt, No. 10 - 32 x 5/8" N.F.					
.....	Lockwasher, No. 10.					
22063 D	Cable harness clip	-	x	x	-	-
22063 D	Cable clip, 17/32" for 3/8" bolt	x	-	-	-	-
22063 D	Battery to starting motor cable clip	-	-	x	x	x
27369 D	Lamp bulb (32 candle power - 6 to 8 volt).	x	x	x	-	-
27377 D	Battery to ammeter cable loom.	x	-	-	-	-
27378 D	Battery to ground cable loom	x	-	-	-	-
27383 D	Cable clamp.	x	-	x	-	-
27385 D	Loom clip, 1/4" for 3/8" bolt.	x	x	x	x	-
27387 D	Double loom clip, 1/4" for 1/2" bolt	x	-	x	x	x
27618 D	Generator to ammeter cable loom clamp ring	-	-	-	x	-
27618 D	Cable loom clamp ring.	x	-	-	-	-
27618 D	Switch to rear lamp cable loom clamp ring.	x	x	x	-	-
27618 D	Ammeter to starting motor cable loom clamp ring.	-	-	x	x	x
28805 D	Switch to rear lamp cable loom	x	x	x	-	-
30700 D	Generator to ammeter cable loom.	-	-	-	-	x
30711 DX	Switch to rear lamp cable with loom.	x	x	x	-	-
35407 D	Battery to ground cable, complete.	x	-	-	-	-
38438 D	Generator to ammeter cable terminal.	-	-	-	x	-

For index to reference Nos. see page 24.

I H C Part No.	Description	Used On				
		1	2	3	4	5
38433 D	Switch to rear lamp cable terminal.	X	X	X	-	-
38433 D	Ammeter to starting motor cable terminal.	-	-	X	X	X
38433 D	Ammeter to switch cable terminal.	X	X	X	-	-
38433 D	Battery cable terminal.	X	-	-	-	-
38433 D	Switch to left head lamp cable terminal.	X	X	X	-	-
38433 D	Switch to right head lamp cable terminal.	X	X	X	-	-
38433 D	Generator field to switch cable terminal.	X	X	X	-	-
38433 D	Generator to ammeter cable terminal.	X	X	X	-	-
38777 D	Battery cable terminal, complete (negative)	X	-	-	-	-
38778 D	Battery cable terminal, complete (positive)	X	-	-	-	-
38937 D	Ammeter to starting motor cable terminal.	-	-	X	X	X
38937 D	Battery to ground cable terminal.	X	-	-	-	-
39184 D	Triple loom clip, 1/4" for 3/8" bolt.	-	X	X	-	X
39275 DX	Ammeter to starting motor cable with loom.	-	-	X	X	X
39276 D	Ammeter to starting motor cable loom.	-	-	X	X	X
42333 D	Ammeter.	X	-	X	-	-
43038 D	Switch mounting screw.	X	X	X	-	-
45488 D	Starting switch lever.	-	-	X	X	X
45509 D	Lamp spacer.	X	X	X	-	-
*45634 D	Generator, complete (Delco-Remy No. 1101355).	X	-	X	X	-
.....	Capscrew, 5/16" x 1" N.F.					
.....	Hex. nut, 5/16" N.C.					
.....	Lockwasher, 5/16".					
.....	Cotter, 3/32" x 1".					
45640 D	Lamp (swivel type).	X	X	X	-	-
.....	Hex. nut, 1/2" N.C.					
.....	Lockwasher, 1/2".					
47889 D	Dimmer resistance coil.	X	X	X	-	-
47891 D	Generator field resistance coil.	X	X	X	-	-
48279 D	Generator brace stud.	X	-	X	X	-
.....	Hex. nut, 3/8" N.C.					
.....	Lockwasher, 3/8".					
49287 DA	Generator bracket, complete.	X	-	X	X	-
.....	Capscrew, 3/8" N.C. x 7/8".					
.....	Lockwasher, 3/8".					
49288 D	Generator brace.	X	-	X	X	-
.....	Capscrew, 5/16" x 3/4" N.C.					
.....	Washer, 11/32" I.D. x 5/4" O.D.					
.....	Lockwasher, 5/16".					
49291 D	Generator belt.	X	-	X	X	-
49393 D	Right front lamp post (used on Farmall-A Tractor only).	X	X	X	-	-
49393 D	Rear lamp post.	X	X	X	-	-
.....	Set screw, 3/8" N.C. x 1".					
.....	Hex. jam nut, 3/8" N.C.					
49394 D	Left front lamp post.	X	X	X	-	-
50929 DX	Instrument panel, complete.	X	X	X	X	-
50930 DX	Instrument panel cover, complete.	X	-	X	X	-
.....	Hex. nut, 5/16" N.F.					
.....	Lockwasher, 5/16".					
50937 DX	Battery box cover, complete.	X	-	X	X	-
50939 DX	Battery box cover hold down screw, complete.	X	-	X	X	-
.....	Wing nut, 1/4" N.C.					
.....	Washer, 9/32" I.D. x 5/8" O.D.					
50943 D	Battery box, complete (less cover).	X	-	X	X	-
50943 DX	Battery box with cover, complete.	X	-	X	X	-
51063 D	Instrument panel screw.	X	X	X	X	-
.....	Hex. nut, (No. 8 - 32 N.C.)					
.....	Lockwasher, No. 8.					
51690 D	Battery hold down rubber.	X	-	X	X	-
51998 D	Cable harness.	X	X	X	-	-
51999 DX	Battery to ammeter cable, complete with loom.	X	-	-	-	-

* - All service and replacement parts for Starting Motor and Generator should be referred to an authorized United Motors Service Branch or Service Station.

For Index to reference Nos. see page 24.

I H C Part No.	Description	Used On				
		1	2	3	4	5
52062 D	Instrument panel grommet	X	-	X	X	-
52063 D	Battery box body grommet	X	-	-	-	-
52116 D	Front lamp post loop clip.	X	-	-	-	-
.....	Round head slotted screw, No. 10 - 24 x 5/8" N.C.					
.....	Square nut, No. 10 - 24 N.C.					
.....	Lockwasher, No. 10.					
52116 D	Cable clamp.	-	X	X	-	-
.....	Round head slotted screw, No. 10 - 24 x 5/8" N.C.					
.....	Square nut, No. 10 - 24 N.C.					
52119 D	Battery box grommet.	-	-	X	X	X
53277 D	Battery, complete (6 volt) (Exide) (optional).	X	-	X	X	-
55465 D	Battery, complete (6 volt) (Willard) (optional).	X	-	X	X	-
55757 D	Starting motor push rod.	-	-	X	X	X
.....	Washer, 11/32" I.D. x 3/4" O.D.					
.....	Cotter, 3/16" x 5/8".					
55758 D	Starting motor push rod bracket.	-	-	X	X	X
.....	Capscrew, 3/8" x 1" N.F.					
55759 D	Choke rod.	-	-	X	X	X
.....	Cotter, 1/16" x 1/8".					
55760 D	Choke rod bracket.	-	-	X	X	X
.....	Capscrew, 3/8" x 1".					
*55764 D	Starting motor (Delco-Remy No. 1107021).	-	-	X	X	X
.....	Capscrew, 1/8" x 1-1/4" N.C.					
.....	Lockwasher, 1/2".					
57257 D	Battery to starting motor cable, complete.	-	-	X	X	X
57258 D	Battery to ground cable, complete.	-	-	X	X	X
57261 DX	Generator to ammeter cable with loop.	-	-	-	X	X
57310 DX	Lighting switch, complete.	X	X	X	-	-
.....	Lockwasher, 3/64" x 3/64" for No. 8 screw.					
57312 D	Switch mounting nut.	X	X	X	-	-
57313 D	Switch knob.	X	X	X	-	-
57899 D	Front lamp post (used with Farmall-A on High Clearance Attachment)	X	X	X	-	-
.....	Set screw, 3/8" N.C. x 1".					
.....	Hex. jam nut, 3/8" N.C.					
59462 D	Ammeter to switch cable.	X	X	X	-	-
59550 H	Cable clip, 1/4" for 3/8" bolt.	X	X	X	-	-
59576 H	Battery to ground cable positive terminal.	-	-	X	X	X
59576 H	Battery to starting motor cable negative terminal.	-	-	X	X	X
59577 H	Battery to starting motor cable lug terminal.	-	-	X	X	X
59461 H	Battery to ground cable positive terminal.	-	-	X	X	X
59452 H	Battery to starting motor cable negative terminal.	-	-	X	X	X
59453 HX	Battery to starting motor cable bolt, complete.	-	-	X	X	X
59453 HX	Battery to ground cable bolt, complete.	X	-	X	X	X
59453 HX	Battery cable terminal bolt, complete.	X	-	-	-	-
57637 H	Generator field to switch cable terminal.	X	X	X	-	-
59499 H	Lighting cable insulator - small.	X	X	X	-	-
59500 H	Lighting cable insulator - large.	X	X	X	-	-
59745 H	Battery to ground cable lug terminal.	-	-	X	X	X
49425 H	Lighting switch lockwasher.	X	X	X	-	-
10815 VA	Fuse.	X	X	X	-	-
1409 YC	Battery, complete (6 volt) (Prent-o-Lite) (optional).	X	-	X	X	-

* - All service and replacement parts for Starting Motor and Generator should be referred to an authorized United Motors Service Branch or Service Station.

MEMORANDA

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Avoid Accidents

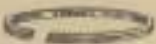
Most accidents, whether they occur in industry, on the farm, at home, or on the highway, are caused by the failure of some individual to follow simple and fundamental safety rules or precautions. For this reason most accidents can be prevented by recognizing the real cause and doing something about it before the accident occurs.

Regardless of the care used in the design and construction of any type of equipment, there are many conditions that cannot be completely safeguarded against without interfering with reasonable accessibility and efficient operation.

A careful operator is the best insurance against an accident.

The complete observance of one simple rule would prevent many thousand serious injuries each year. That rule is: "Never attempt to clean, oil, or adjust a machine while it is in motion."

NATIONAL SAFETY COUNCIL



Order Genuine Parts for Replacements

Satisfactory and efficient service in the operation of this or any other machine is endangered by the use of inferior repairs, as cheap parts invariably mean short life and high cost.



If parts could be manufactured at a lower cost and sold at lower prices without sacrificing quality, this would be done. The right material for the purpose and the knowledge acquired through many years of manufacturing enables International Harvester Company to produce quality that will not be found in imitation repairs.

Inferior repair parts are sold for IHC machines, but you take an unnecessary risk when you buy them.



Our customers should remember that whenever they find repairs furnished are not as GOOD as the parts on a New IHC Machine, they are NOT getting GENUINE parts.



Baying "will fit" parts to save money is like stopping the clock to save time.