

## BODY ELECTRICAL

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## DESCRIPTION

The body electrical system is of 12 volt system with integrally constructed lightings, and wiring harnesses.

The special feature of the headlights is that these can be retracted during day driving, and are incorporated with electric motors which are actuated by the headlight retracting switch located on the instrument panel.

This car is also provided with a hazard flasher for emergency purpose utilizing the turn signal lights actuated by the switch installed on the instrument panel.

On the LHD car, driving lights are installed which can be utilized as headlight horn for car-passing purpose.

Fog lights are installed on the RHD car in place of the driving lights. The driving lights are available as available equipment if desired.

For removal, disassembly, and other procedures, refer to the descriptions on the following paragraphs.

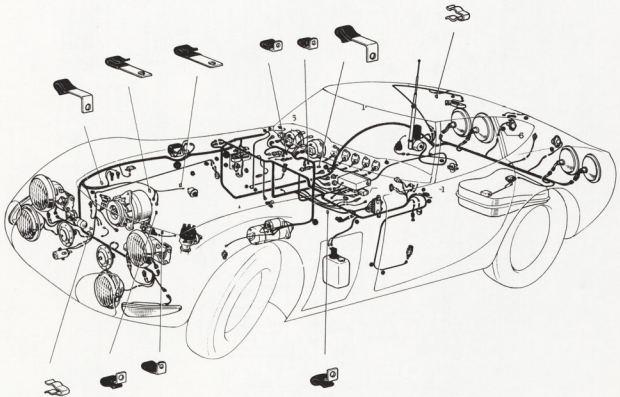


Fig.16-1 Body Electrical System

E1605

# 16-2 BODY ELECTRICAL - Description

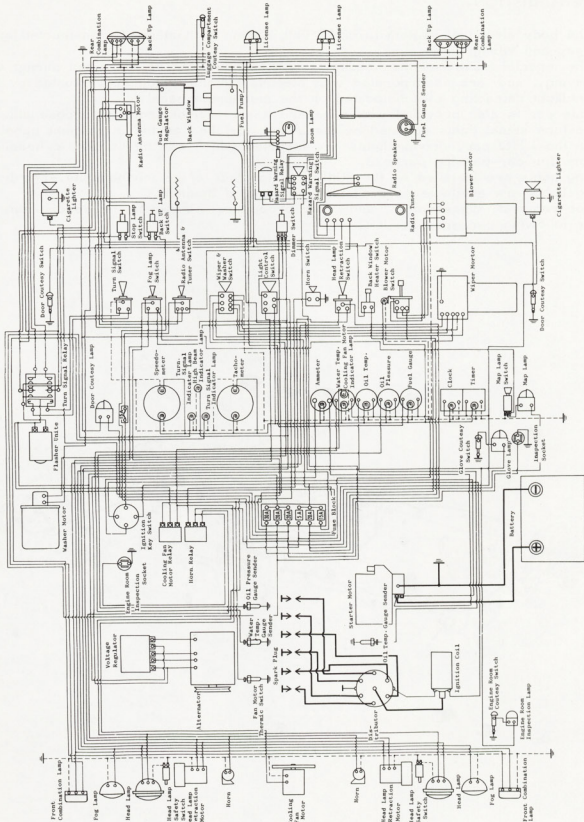


Fig.16-2 Wiring Diagram

Y5498-A

## HEADLIGHTS

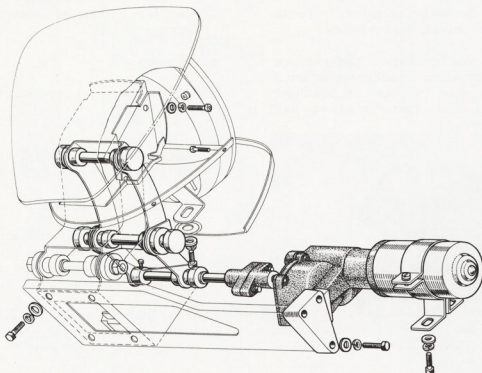


Fig.16-3 Retracting Mechanism

Y5313

The headlights are retractable as illustrated above provided with electric motors for each, actuated by the retracting switch installed on the instrument panel. The headlights will not light when the headlights are fully retracted. The sealed beams are of all-weather type.

Removal

1. Raise the headlights by actuating the switch installed on the instrument panel, and loosen the headlight cover retaining bolts, then remove the headlight cover.

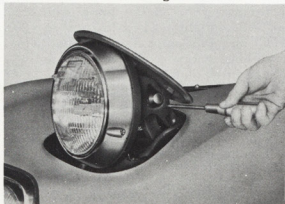


Fig.16-4 Headlight Cover Removal V1515

2. The headlight assembly cannot be removed independently, therefore, the following procedures are necessary.
  - a. Remove the fog light assembly by removing the fog light cover. Remove the fog light retaining ring, and disconnect the fog light wiring connection, then remove the fog light unit. Remove the fog light housing retaining screws, and remove the fog light housing with the fog light unit mounting ring, and the housing packing.
  - b. To remove the turn signal light assembly, disconnect the turn signal wiring from the connection. Loosen the turn signal light attaching screws, then remove the turn

signal assembly.

c. To remove the hood, refer to Hood Removal procedures.

3. Raise the headlight, and remove the retracting headlight link front cover, then retract the headlight and remove the retracting link rear cover.

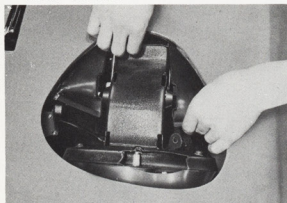


Fig.16-5 Cover Removal V1516

4. Remove the two retracting motor mounting bolts from the motor bracket. Remove the two retracting gear housing mounting bolts from the retracting bracket.
5. Remove the four retracting bracket mounting bolts from the rear side of the front fender.
6. Next, remove the headlight assembly with the retracting motor assembly.

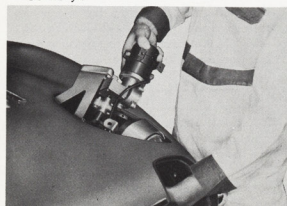


Fig.16-6 Removing Headlight Assembly V1517

7. Loosen the two retracting motor to link retaining bolts, and disconnect the retracting motor, and the link.

### Installation

Follow the removal procedures in the reverse order.

#### Caution :

After installing the headlight assembly always align the headlights.

### Inspection & Adjustment

1. Ensure that the headlight cover, and the fender surfaces are aligned. If necessary, adjust the cover to specified limit of  $\pm 1.0$  mm.
2. When retracting the headlights, inspect the headlight safety switch for correct operation.
3. Inspect the headlights for smooth operation during rising, and retracting operations.
4. The movement of the headlights must be the same for right, and left lights.
5. Installing the wire harness for the headlight, be sure to thread through the inside of the support.

### Headlights Alignment

The headlights alignment should be performed with all the tires with the specified inflation ( $1.9 \text{ kg/cm}^2$  or 27 psi), and the car being unloaded with the trunk empty except the car tools. Before making the adjustment, bounce the car by pushing on the centers of both front, and rear bumpers to level the car.

To align the headlights by means of a wall screen, select a level position in the shop.

Lay out the floor, and the wall as illustrated in figure 16-7, 16-8.

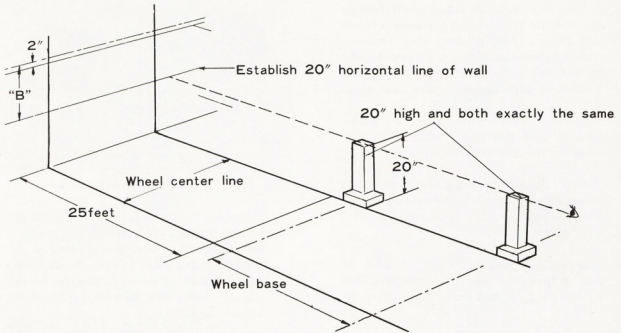


Fig.16-7 Headlight Alignment with Wall Screen

Z0310

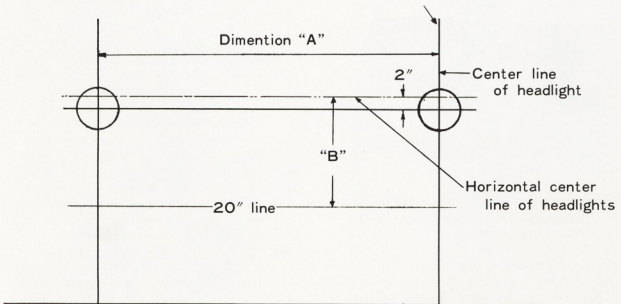


Fig.16-8 Headlight Alignment with Wall Screen

X4898

1. Establish the headlight horizontal centerline by subtracting 20 inches from the actual measured height of the headlight lens center from the floor, and adding this dimension (dimension "B" of figure 16-8) to the 20 inches reference line obtained by sighting over the uprights.
2. Draw a horizontal line 2 inches below and parallel to the headlight horizontal centerline.
3. Then draw the headlight vertical centerlines on the screen as measured on the car (dimension "A" of figure 16-8).
4. Adjust the headlight by means of the adjusting screws so that the headlights high beam will come to "F".

Disassembly - Retracting Motor

1. Loosen the two attaching nuts, and remove the motor from the gear housing.

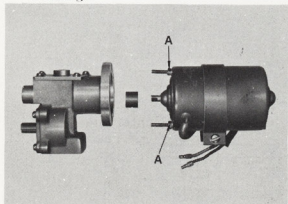


Fig.16-9 Motor Removal V1518

2. Loosen the motor holder retaining screw, and remove the motor holder from the motor.
3. Remove the two housing "A" retaining nuts on the through bolts. Disconnect the connections of the two lead wires (green & red) to the field coil wiring by melting the solder at the connections, then remove the wire with the housing "B".

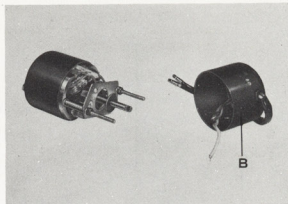


Fig.16-10 Motor Disassembly W5781

4. Remove the brush holder terminals to the field coil wiring by melting the solder at the terminals. Loosen the two brush holder retaining nuts, then remove the brush holder with the armature from the housing.

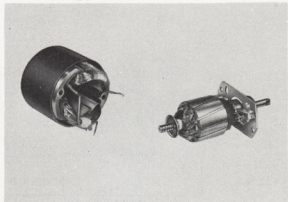


Fig.16-11 Armature Removal W5782

5. Disassemble the brush holder, and the armature.

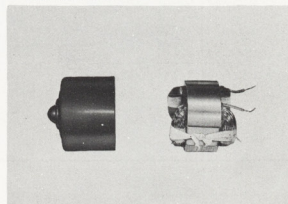


Fig.16-12 Field Coil Removal W5783



- Remove the two through bolts, and disassemble the field coil with the stator from the housing "B".

**Inspection - Retracting Motor**

Inspect the following, and repair or replace the part/s if necessary.

- To check the armature coil, connect a circuit tester from the commutator to the armature core for ground. If the tester needle moves, the armature coil is defective. Replace if necessary.

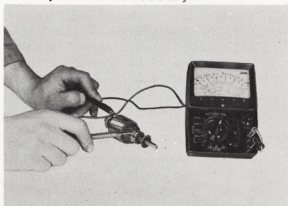


Fig.16-13 Armature Coil W5784 Ground Test

- Check the open circuit of the armature coil, by connecting the tester circuit between the two segments of the commutator. If the tester needle does not move, the armature coil is defective. Replace if necessary.

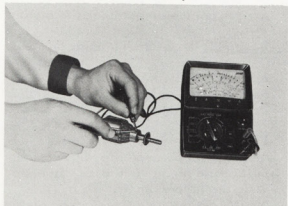


Fig.16-14 Armature Coil W5785 Open Circuit Test

- Check the armature for short circuit by placing the armature on a growler, and hold a hacksaw blade over the armature core while rotating the armature. If the hacksaw blade vibrates, the armature is shorted. Replace the armature if necessary.



Fig.16-15 Armature Coil W5786 Short Circuit Test

- Inspect the commutator for roughness, burnt or scored surface. If necessary, repair or replace the armature.
- To check the field coil for ground, connect a circuit tester between the field coil, and the stator core. If the tester needle moves, the field coil is defective. Replace the field coil.

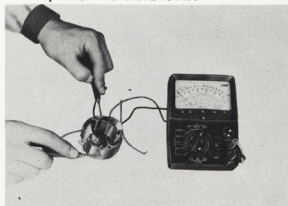


Fig.16-16 Field Coil W5787 Ground Test

- To check for open circuit of the field coil, connect the circuit tester between the field coil lead wires.

If the tester needle does not move, the field coil is defective. Repair or replace if necessary.

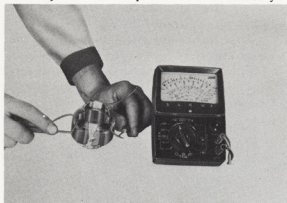


Fig.16-17 Field Coil Open W5788  
Circuit Test

### Assembly

Follow the removal procedures in the reverse order.

#### Note:

The follow precautions should be adhered upon installation.

a. Apply few drops of turbine oil onto the felt washer installed onto the splash ring on both ends of the armature.

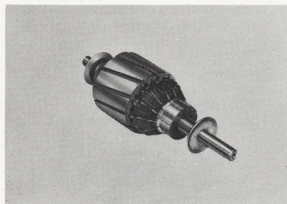


Fig.16-18 Armature W5789  
Lubrication

b. Also apply turbine oil onto the felt washer at the oil-less bearings of the housing A and B

c. The armature thrust adjustment of the motor should be made only at the motor.

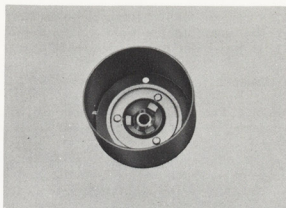


Fig.16-19 Housing W5790  
Lubrication

Prepare one or two of each washer (part No. 90099-01319, and 90099-01165) to be installed to the side surface of the armature shaft brush holder side, and adjust the thrust play to 0.05 ~ 0.2 mm or 0.002 ~ 0.008".

d. Care should be exercised so as not make a mistake in connecting the left and right field coil lead wires (green and red) to the brush holder.

e. Be sure to install the bushing between the brush holder, and the stator core when inserting the through bolt into the brush holder.

f. After assembling the motor housing "A" and "B", coat or paint with a sealer or same quality of water-proof paint to the joints to prevent water entering the motor.

### Disassembly - Gear Housing

1. Loosen the two attaching nuts, and remove the gear housing from the retracting motor.
2. Loosen the four cover plate attaching screws of the drive shaft side, and remove the cover plate with the drive shaft. Next, disassemble the cover plate and the drive shaft.

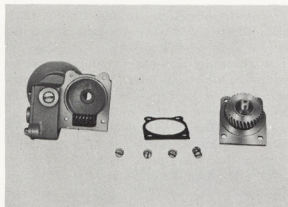


Fig. 16-20 Gear Housing W5792  
Disassembly

3. Loosen the four cover plate attaching screws at the gear side, and remove the cover plate with the gear, then disassemble the cover, and the gear.

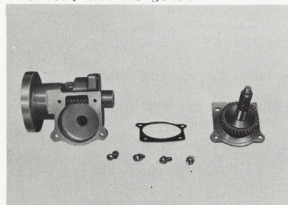


Fig. 16-21 Gear Housing W5793  
Disassembly

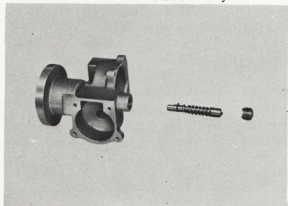


Fig. 16-22 Gear Housing W5794  
Disassembly

4. Remove the worm shaft set screw, and remove the ball and the shaft.

### Inspection

Inspect the drive shaft brass gear, and the bakelite gear for damage or break. If defective, repair or replace as necessary.

### Assembly

Follow the disassembly procedures in the reverse order.

### Note:

Care should be taken on the following upon assembly.

- a. Fill the gear housing with multipurpose grease.

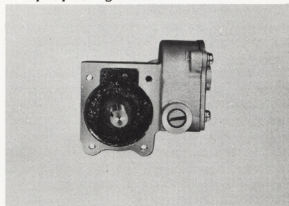


Fig. 16-23 Gear Housing W5795  
Assembly

- b. The worm shaft thrust play adjustment should be accomplished by installing the two washers (90099-01328) at the bearing side, and adjust to the specification of 0.05 to 0.2 mm (0.002 ~ 0.008") by turning the worm shaft adjusting screw.

The adjustment should be performed by screwing in the adjusting screw fully, then screw out 1/2 of a turn. After the adjustment, lock the adjusting screw with a punch at two places, and paint with white paint to prevent loosening.

- c. To adjust bakelite gear shaft thrust play, install the two washers (90099-01328) at the worm gear

side, then install two to three washers (90099-01328) at the bakelite gear side to obtain the specified clearance of 0.05 ~ 0.2 mm or 0.002 ~ 0.008".

d. To adjust the brass gear drive shaft thrust play, install one to two of each washer (90099-01194) or (90099-01195) at the housing side, then install one to two of each washer (90099-01147) or (90099-01148) at the cover plate side to obtain the specified clearance of 0.05 ~ 0.2 mm (0.002 to 0.008").

Test After Assembly

After assembling the retracting motor, inspect the motor, and the gear housing performance by testing it at no load.

Connect the battery (12 volt) positive cable to the leading wire (green) of the motor as shown in figure 16-24, and ground the battery ground cable to the motor housing. In this condition, the revolution of the drive shaft should be more than 6 rpm, and the amperage should be less than 3 amperes.

Turning direction of the drive shaft should be clockwise looking from the drive side of the case.

The turning direction will change to counterclockwise when the battery positive cable is connected to the "red" leading wire of the motor.

Ensure that the motor will produce any abnormal noise in the housing during the test.

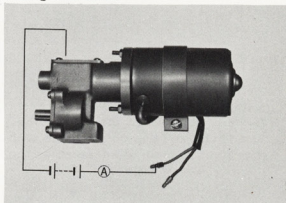


Fig.16-24 No Load Test V1519

Installation

Follow the removal procedures in the reverse order.

TURN SIGNAL LIGHT

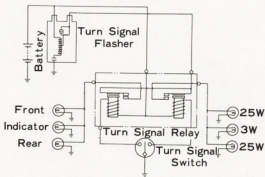
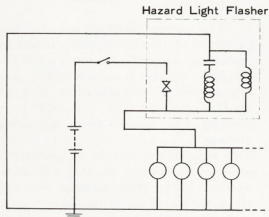


Fig.16-25 Turn Signal Light & Hazard Light Circuit

G0434

The turn signal lights are connected in parallel with the front and rear turn signal lights, and the flasher circuit is as illustrated above.

The hazard light circuit is connected with the turn signal circuit incorporated with an independent switch, and a flasher.

Turn Signal Relay Specification:

Voltage	12 volts
Current capacity	5 amperes
Magnet	Energized continuously
Capacity	53 watts
Minimum operating voltage	Less than 10 volts
Point gap	0.3 ~ 0.4 mm (0.012 ~ 0.016")
Air gap (point contacted)	0.1 mm (0.004")
Point contact pressure	Over 50 grams (1.8 oz)

Turn Signal Flasher Specification:

Voltage	12 volts
Type	Condenser relay
Polarity	Negative ground
Capacity	25 + 25 + 3 watts
Cycle	50 ~ 120 per minute
Operating voltage capacity	10 ~ 16 volts
Current	3.82 ~ 3.90 amperes

Hazard Light Flasher Specification:

Voltage	12 volts
Type	Condenser relay
Polarity	Negative ground
Capacity	25 + 25 + 3 watts x 2
Cycle	75 ~ 95 per minute
Operating voltage capacity	10 ~ 16 volts
Current	7.10 ~ 7.30 amperes

Trouble Shooting

Symptoms & Probable Causes

Remedies

1. Flashing cycle differs on right & left sides.
 

a.	Wrong capacity bulb utilized	Replace the wrong bulb
b.	Defective ground	Correct
c.	Defective wiring contact	Correct
d.	Defective relay point contact	Repair
  
2. Flashing operates only on one side.
 

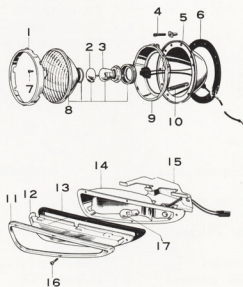
a to d	same as above	
e.	Burnt out bulb	Replace
f.	Burnt relay coil	Replace
  
3. Turn indicator lights inoperative.
 

a.	Burnt out fuse or poor contact	Repair or replace
b.	Defective flasher.	

Symptoms & Probable Causes

Remedies

- |   |                   |
|---|-------------------|
| 4. Turn indicator cancels improperly.                                   |                   |
| a. Less capacity bulb utilized  | Replace           |
| b. Voltage dropped, fuse poor contact or wiring connection poor contact | Repair or replace |
| c. Defective flasher  | Replace           |
| 5. Flashing cycle excessive.  |                   |
| a. Large capacity bulb utilized   | Replace           |
| b. Defective flasher  | Replace           |
| 6. Operates occasionally.   |                   |
| a. Wiring poor contact  | Correct           |
| b. Defective flasher  | Replace           |



- |                                  |                                     |
|----------------------------------|-------------------------------------|
| 1. Fog light unit retaining ring | 10. Fog light adjusting spring      |
| 2. Bulb cap                      | 11. Front turn signal light rim     |
| 3. Bulb (12V 35W)                | 12. Front turn signal lens          |
| 4. Adjusting screw               | 13. Front turn signal light gasket  |
| 5. Fog light housing and wire    | 14. Front turn signal light body    |
| 6. Fog light housing packing     | 15. Front turn signal light bracket |
| 7. Screw                         | 16. Screw                           |
| 8. Fog light unit,               | 17. Bulb (12V 25/8W)                |
| 9. Fog light unit mounting ring  |                                     |

Fig.16-26 Fog Light & Parking Light (Front Turn Signal) Components Y5314

Removal - Fog & Front Turn Signal Lights

To removal the front turn signal light the fog light must be removed before removing the front turn signal light.

1. Remove the fog light moulding, and the go light cover.
2. Remove the fog light retaining ring and disconnect the fog light connection, then remove the fog light assembly.
3. Remove the bulb from the fog light assembly if necessary.
4. To remove the front turn signal light, loosen the screws, and remove the light rim, and the light lens.

5. Turn the bulb counterclockwise while pushing in lightly.

6. Remove the front turn signal light bracket, then remove the front turn signal light assembly.

Installation

Follow the removal procedures in the reverse order.

Note: The headlight horn light can be installed in place of the fog light if desired.

Always adjust the headlight horn light similar to the headlights by referring to Headlights Adjustment.

REAR COMBINATION LIGHT, BACK-UP LIGHT, LICENSE PLATE LIGHT

1. Rear combination light assembly
2. Rim (for rear combination and back-up)
3. Rear combination light lens
4. Packing (for rear combination light and back-up light lens)
5. Bulb (12V 25/8W)
6. Rear combination light reflector
7. Stopper (for rear combination and back-up light reflector)
8. Body (for rear combination and back-up light)
9. Spring washer
10. Screw
11. Rear combination light socket and wire
12. Back-up light assembly
13. Lens (for back-up light)
14. Bulb (12V 26W)
15. Back-up light socket and wire
16. License plate light assembly
17. License plate light body
18. Bulb (12V 10W)
19. License plate light lens packing
20. License plate light lens
21. License plate light cover
22. Screw
23. Reflex reflector assembly
24. Reflex reflector body
25. Reflex reflector seat
26. Screw
27. Toothed washer
28. Nut
29. Rear combination light body packing
30. Spring washer
31. Nut

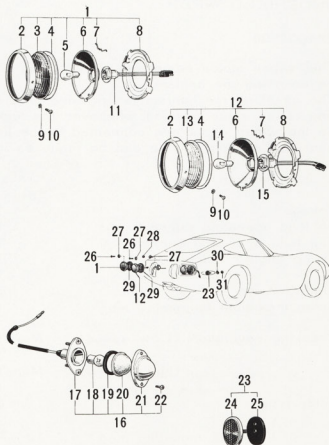


Fig.16-27 Rear Lights Components

## 16-14 BODY ELECTRICAL - Rear Combination Light, Back-up Light

### Removal - Rear Combination Light

Note: When replacing only the bulb, remove the socket with the bulb from the inside of the luggage compartment by turning the socket counterclockwise and replace the bulb.

1. Remove the combination light finisher plate.
2. Remove the combination light rim attaching screw, then remove the light unit.  
Remove the bulb.
3. Remove the combination light housing.

### Installation

Follow the removal procedures in the reverse order.

## WINDSHIELD WIPER

### Description

The wiper motor composes of two main components. The electric motor, and the cranking mechanism.

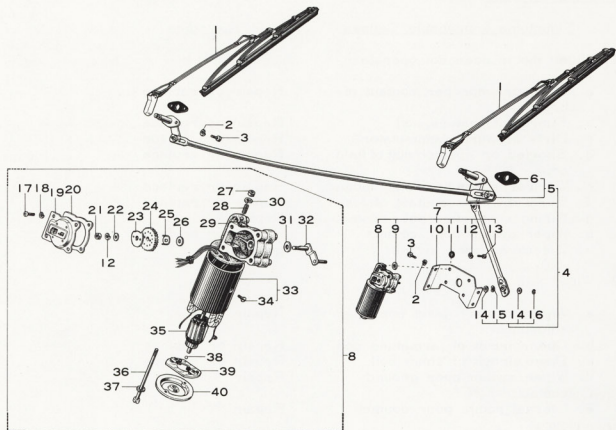
The cranking mechanism is provided with an electric brake for automatic stopping at the same position whenever the wiper motor is switched off.

As the wiper arms are connected to the linkage shaft with serration, the adjustment of the wiping angle can be made easily.

### Specification :

Voltage	12 volts
No load operating current	Less than 5.0 amperes
With load operating current	Less than 15 amperes
Wiping angle: Right	$110^{\circ} \pm 3^{\circ}$
Left	$101^{\circ} \pm 3^{\circ}$
Blade tension	550 grams (1.210 lb)
Motor maximum torque	50 cm-kg at high speed 70 cm-kg at low speed
Cranking revolution (Low speed)	More than 36 ~ 43 rpm at 6 cm-kg torque 25 rpm at 24 cm-kg torque
(High speed)	More than 60 ~ 75 rpm at 6 cm-kg torque 30 rpm at 24 cm-kg torque
Motor type	Direct current, series wound at high speed Direct current, shunt wound at low speed





- |  |   |
|--|---|
| 1. Windshield wiper arm and blade              | 21. Nut                                   |
| 2. Spring washer                               | 22. Washer                                |
| 3. Bolt  | 23. Wiper motor cam plate                 |
| 4. Motor and link assembly                     | 24. Wiper motor gear                      |
| 5. Windshield wiper link assembly              | 25. Wiper motor shaft support             |
| 6. Windshield wiper packing                    | 26. Washer                                |
| 7. Windshield wiper motor and bracket assembly | 27. Nut                                   |
| 8. Windshield wiper motor assembly             | 28. Screw                                 |
| 9. Washer                                      | 29. Wiper motor gear housing              |
| 10. Windshield wiper bracket                   | 30. Washer                                |
| 11. Windshield wiper mounting cushion          | 31. Washer                                |
| 12. Washer                                     | 32. Wiper motor crank arm                 |
| 13. Bolt                                       | 33. Wiper motor stator assembly           |
| 14. Washer                                     | 34. Screw                                 |
| 15. Washer                                     | 35. Wiper motor armature                  |
| 16. Snap ring                                  | 36. Bolt                                  |
| 17. Screw                                      | 37. Washer                                |
| 18. Washer                                     | 38. Ball                                  |
| 19. Wiper motor crank housing cover plate      | 39. Wiper motor brush holder sub-assembly |
| 20. Wiper motor crank housing cover packing    | 40. Wiper motor end frame                 |

Fig.16-28 Windshield Wiper Components

Y5316

Trouble Shooting

<u>Symptoms &amp; probable Causes</u>	<u>Remedies</u>
1. Wiper motor does not operate	
a. Worn or improper contact of brushes	Repair or replace
b. Shorted armature coil	Repair or replace
c. Dirty or burnt commutator	Repair or replace
d. Shorted or open circuit of field coil	Repair or replace
e. Worn or frozen bearing of motor	Repair or replace
f. Burnt or poor contact of fuse	Repair or replace
g. Wiring connection poor contact	Repair
h. Wiper switch poor contact	Repair or replace
i. Defective wiper switch	Replace
2. Wiper will not stop	
a. Wiper contact point improper adjustment	Repair
b. Open circuit of armature coil	Repair or replace
c. Open circuit of shunt coil	Repair or replace
d. Wiper switch poor ground contact	Repair
e. Internal points poor contact	Repair
3. Wiper blade stops incorrectly	
a. Wiper contact point improper adjustment	Repair
b. Dirty or burnt contact point	Repair or replace
c. Terminal "+" poor contact	Repair
d. Wiper arm improperly installed	Correct
4. Improper wiping	
a. Wiper blade rubber poor contact	Repair or replace
b. Wiper blade rubber harden or worn	Replace
c. Insufficient wiper blade tension	Repair or replace
<u>Removal</u>	
1. Remove the battery ground cable from the battery ground terminal.	
2. Remove the steering column clamp by removing the steering column attaching bolts, then remove the steering column clamp sub-assembly.	
3. Disconnect the wiper arms with the wiper blades.	
4. Remove the wiper link pivot attaching bolts.	
5. Disconnect the wiring connector.	
6. Remove the wiper bracket attaching bolts, then remove the wiper	

motor bracket, and the wiper link.

Disassembly

1. Remove the cover plate, and packing from the gear housing.
2. Tap the wiper crank arm lightly, and remove the cam plate and gear by removing the gear securing nut.

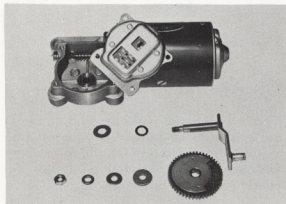


Fig.16-29 Wiper Motor V3878  
Disassembly

3. Remove the two through bolts, and remove the end frame.
4. Remove the brush holder, and brush by melting the solder, and remove the armature. Do not lose the balls installed at both ends of the armature shaft.

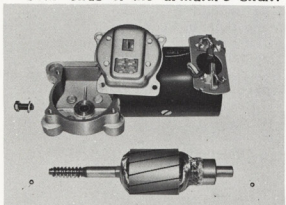


Fig.16-30 Wiper Motor V3879  
Disassembly

Inspection

Wipe off the grease from the disas-

sembled parts with clean shop towel. Inspect the following, and repair or replace the part/s if necessary. Refer to Headlights Inspection.

1. Check the point for contact pressure, and damage.
2. Check the armature core for short with a growler tester. Clean the commutator with an emery cloth.
3. Inspect the field coil for open circuit, and short.
4. Check the brushes for wear, and damage.

Installation

Follow the removal procedures in the reverse order.

Note: Apply multipurpose grease on the worm, worm gear, cam lever, and balls installed at both ends of the armature.

Test After Assembly

1. Connect the wiper motor socket to the socket in the car, and connect the battery cable, then check the no load revolution in accordance with the following specification.

No load operating current  
Less than 5.0 amperes

No load revolution  
65 ~ 80 rpm at high speed  
36 ~ 43 rpm at low speed

2. If defective, check the following.
  - a. Connect the (+) terminal of the motor to the battery (+) terminal, and connect the wiper motor bracket to the battery (-) terminal respectively.
  - b. The motor should run at high speed when the (+2) terminal is

connected to the battery (+) terminal.

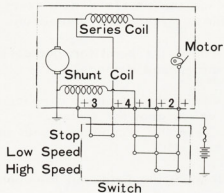


Fig.16-31 Motor Wiring Diagram G0437

c. The motor cranking should be stopped at the specified position when the (+2) terminal is disconnected from the battery (+) terminal.

d. The motor should run at low speed when the (+2), and (+1) are connected to the battery (+) terminal.

Windshield washer specification :

Motor  
 Pump  
 Rated voltage  
 Operating current  
 Time rating  
 Delivery pressure  
 Delivery capacity  
 Nozzle diameter  
 Tank capacity  
 Weight

Direct current magnet type  
 Centrifugal pump  
 12 volts  
 Less than 3 amperes  
 One second  
 More than 0.4 kg/cm<sup>2</sup> (5.7 psi)  
 More than 500 cc per minute  
 One millimeter  
 1.3 liters (1.4 US qt., 1.1 Imp qt)  
 Approx. 0.6 kg (1.3 lb)

Trouble Shooting

Symptoms & Probable Causes

Remedies

1. Washer motor does not turn

- a. Fuse burnt out
- b. Wiring broken
- c. Switch defective
- d. Motor defective
- e. Armature shaft rusty

- Replace
- Repair
- Replace
- Replace
- Replace motor

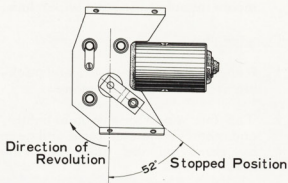


Fig.16-32 Stopping Position G0436 of Crank



Symptoms & Probable Causes

Remedies

2. Insufficient sound
  - a. Wire loose
  - b. Wire incorrect
  - c. Horn switch poor contact
  - d. Horn out of adjustment
  - e. Horn contact plate poor contact
  - f. Condenser or resistor defective
  - g. Diaphragm defective

- Repair  
 Repair  
 Repair  
 Repair  
 Repair  
 Replace  
 Replace

Removal

1. Remove the radiator grille, and remove the oil cooler with the pipe. Do not disconnect the oil cooler pipe from the oil cooler.
2. Remove both horn wiring connections. Remove the securing bolts, and remove the horn/s.

Adjustment

1. Connect an ammeter onto the horn, and inspect the amperage of the horn.
2. To adjust the amperage of the horn, turn the adjusting screw at the rear of the horn to obtain the amperage of 3.5 amperes. To increase the amperage, turn the adjusting screw clockwise, and to decrease the amperage, turn the adjusting screw counterclockwise. If necessary, clean the contact points with a fine grit emery cloth.
3. To adjust the horn sound.
  - a. Remove the adjusting screw bolt cap.
  - b. Loosen the lock nut.
  - c. Screw the adjusting bolt fully, then screw back 270° to obtain a proper air gap of 0.7 mm or 0.28".

d. Tighten and lock the lock nut, then install the adjusting screw bolt cap.

Installation

Follow the removal procedures in the reverse order.

WIRING HARNESS

Removal

1. Disconnect the battery cables from the battery terminals.
2. Disconnect all wiring connections. Disconnect the front wiring harness and the rear wiring harness from the connections at the right cowl upper portion.
3. Remove the wiring harness from the wiring harness clamps.
4. Remove the wiring harness from the car interior.

Installation

Follow the removal procedures in the reverse order by referring the wiring diagram.

Color Codes

The first alphabet indicates the basic color of the wire, and the second alphabet indicates the spiral line color. R is red, W is white, L is blue, G is green, Y is yellow, B is black, and O is orange.



16-22 BODY ELECTRICAL - Wiring Harness

Keys	Connections	Color
A1 ~A'1	Starter motor (B)	Ammeter (+) B
A2 ~A'2	Starter magnet switch (S)	Ignition switch (ST) BW1
A3 ~A'3	Ammeter (-)	B1 ~ B'1 connected W
A4 ~A'4	B1 ~ B'1 connected	Ignition switch (AM) BR1
A5 ~A'5	Ignition switch (IG)	Fuse box ignition (B) L
A6 ~A'6	A5 ~ A'5 connected	Ignition coil (B) BY1
B1 ~B'1	Alternator (B)	Fuse box battery (B) W
B2 ~B'2	Voltage regulator (IG)	D1 ~ D1 connected WR1
B3 ~B'3	Alternator (F)	Voltage regulator (F) WG1
B4 ~B'4	B1 ~ B'1 connected	Voltage regulator (B) W
B5 ~B'5	Alternator (N)	Voltage regulator (N) WL1
B6 ~B'6	Alternator (E)	Voltage regulator (E) WB1
C1 ~C'1	Fuse box (light)	Light control switch (B) R
C2 ~C'2	Light control switch	Dimmer switch (B) RW1
C3 ~C'3	Dimmer switch (Hi-beam)	Headlight R.H. (Hi-beam) RY1
C4 ~C'4	C3 ~ C'3 connected	Headlight L.H. (Hi-beam) RY1
C5 ~C'5	C3 ~ C'3 connected	Hi-beam indicator light (B) RY1
C6 ~C'6	Dimmer switch (Lo-beam)	Headlight R.H. (Lo-beam) RG1
C7 ~C'7	C6 ~ C'6 connected	Headlight L.H. (Lo-beam) RG1
C8 ~C'8	Light control switch (tail)	Rear harness connection (tail B) G
C9 ~C'9	Light control switch (parking)	Front combination light (R.H.) P GO1
C10~C'10	C9 ~ C'9 connected	Front combination light (L.H.) P GO1
C11~C'11	C8 ~ C'8 connected	Engine room inspection light (B) RW1
C12~C'12	Light control switch (meter)	Oil pressure gauge light (B) RB1
C13~C'13	C12 ~ C'12 connected	Speedometer light (B) RB1
C14~C'14	C12 ~ C'12 connected	Ammeter light (B) RB1
C15~C'15	C12 ~ C'12 connected	Water temperature gauge light (B) RB1
C16~C'16	C12 ~ C'12 connected	Oil temperature gauge light (B) RB1
C17~C'17	C12 ~ C'12 connected	Tachometer light (B) RB1
C18~C'18	C12 ~ C'12 connected	Fuel gauge light (B) RB1
C19~C'19	C12 ~ C'12 connected	Auto clock light (B) RB1
C20~C'20	C12 ~ C'12 connected	Stop watch light (B) RB1
C21~C'21	C12 ~ C'12 connected	Heater control lever light (B) RB1
C22~C'22	C8 ~ C'8 connected	Glove box light (B) RW1
C23~C'23	Fuse box (spare)	Fog light switch (B1) RW1
C24~C'24	Fog light switch (L)	Fog light R.H. (B) RB1
C25~C'25	C24 ~ C'24 connected	Fog light L.H. (B) RB1
C26~C'26	Fog light switch (B2)	C6 ~ C'6 connected RG1
C27~C'27	C23 ~ C'23 connected	Rear harness connection (Room Light) RG1
C28~C'28	Rear harness connection	Door courtesy light switch R.H. (S) RW1
C29~C'29	C28 ~ C'28 connected	Door courtesy light switch L.H (S) RW1
C30~C'30	Rear harness connection	Courtesy light switch (S) RY1
C31~C'31	C30 ~ C'30 connected	Courtesy light R.H. (E) RY1
C32~C'32	C23 ~ C'23 connected	Courtesy light R.H. (B) RW1
C33~C'33	C23 ~ C'23 connected	Courtesy light L.H. (B) RW1



Keys	Connections	Color
C34~C'34	Courtesy light L.H. (E)	Courtesy light switch (L) RY1
C35~C'35	Fuse box (meter)	Back-up light switch (B) RL1
C36~C'36	Back-up light switch (L)	Rear harness connection RL1
C37~C'37	Glove box light (E)	Glove box courtesy switch RY1
D1 ~D'1	Fuse box (turn signal)	Flasher unit (B) GR1
D2 ~D'2	D'1 ~ D'1 connected	Turn signal relay (B) GR1
D3 ~D'3	Flasher unit (L)	Turn signal relay (unit) GL1
D4 ~D'4	Turn signal switch S(R.H.)	Turn signal relay S(R.H.) GY1
D5 ~D'5	Turn signal switch S(L.H.)	Turn signal relay S(L.H.) GB1
D6 ~D'6	Turn signal relay F(R.H.)	Front combination light (R.H.) GY1
D7 ~D'7	D6 ~ D'6 connected	Turn signal indicator light R.H. (B) F GY1
D8 ~D'8	Turn signal relay F(L.H.)	Front combination light (L.H.) F GB1
D9 ~D'9	D8 ~ D'8 connected	Turn signal indicator light L.H. (B) GB1
D10~D'10	Turn signal relay R(R.H.)	Rear harness connection (rear turn signal R.H.) GY1
D11~D'11	Turn signal relay R(L.H.)	Rear harness connection (rear turn signal L.H.) GB1
D12~D'12	Fuse box (horn)	Horn relay (B) GY1
D13~D'13	Horn switch (E)	Horn relay (S) GB1
D14~D'14	Horn relay (H)	Horn R.H. (B) GW1
D15~D'15	Horn R.H. (B)	Horn L.H. (B) GW1
D16~D'16	D12 ~ D'12 connected	Stop light switch (B) RW1
D17~D'17	Stop light switch (L)	Turn signal relay (stop) GW1
E1 ~E'1	Fuse box (meter)	Water temperature gauge (IG) Y
E2 ~D'2	E1 ~ D'1 connected	Oil temperature gauge (IG) Y
E3 ~D'3	E1 ~ E'1 connected	Oil temperature gauge (IG) Y
E4 ~D'4	E1 ~ E'1 connected	Fuel gauge (IG) Y
E5 ~D'5	Water temperature gauge (unit)	Water temperature gauge sender (B) YG1
E6 ~E'6	Oil temperature gauge (unit)	Oil temperature gauge sender (B) YW1
E7 ~E'7	Oil pressure gauge (unit)	Oil pressure gauge sender (B) YB1
E8 ~E'8	Fuel gauge (unit)	Rear harness connection (fuel sender) YR1
E9 ~E'9	D12 ~ D'12 connected	Stop watch (B) R
E10~E'10	E9 ~ E'9 connected	Auto clock (B) R
F1 ~F'1	Fuse box (wiper)	Wiper motor (B) L
F2 ~F'2	F1 ~ F'1 connected	Wiper switch (B) L
F3 ~F'3	Wiper motor (+1)	Wiper switch (+1) LB1
F4 ~F'4	Wiper motor (+2)	Wiper switch (+2) LO1
F5 ~F'5	Wiper motor (+3)	Wiper switch (+3) LR1
F6 ~F'6	Wiper motor (-S)	Wiper switch (-S) LW1
F7 ~F'7	E1 ~ E'1 connected	Washer motor (B) L
F8 ~F'8	Washer motor (E)	Wiper switch (washer) LY1
F9 ~F'9	Fuse box (wiper)	Blower motor switch (B) L
F10~F'10	Blower motor switch (Hi)	Blower motor (Hi) LB1
F11~F'11	Blower motor switch (Med)	Blower motor (Med) LY1
F12~F'12	Blower motor switch (Low)	Blower motor (Low) LR1

16-24 BODY ELECTRICAL - Wiring Harness

Keys	Connections	Color
F13~F'13	F9 ~ F'9 connected Rear harness connection (fuel pump B)	BW1
F14~F'14	F9 ~ F'9 connected Back window defroster switch (B)	L
F15~F'15	Back window defroster switch (W) Rear harness connection (back window defroster B)	LW1
F16~F'16	D12 ~ D'12 connected Headlight retraction switch (B)	LR1
F17~F'17	Headlight retraction switch (UP) Headlight retraction motor R.H. (UP)	L
F18~F'18	F17 ~ F'17 connected Headlight retraction motor L.H. (UP)	L
F19~F'19	Headlight retraction switch (down) Headlight retraction motor R.H. (down)	LW1
F20~F'20	F19 ~ F'19 connected Headlight retraction motor L.H. (down)	LW1
F21~F'21	D12 ~ D'12 connected Cigarette lighter (B)	RB1
F22~F'22	D12 ~ D'12 connected Cigarette lighter (B)	RB1
F23~F'23	D12 ~ D'12 connected Engine room inspection consent	R
F24~F'24	F22 ~ F'22 connected Instrument panel glove box inspection consent	R
F25~F'25	D1 ~ D'1 connected Radiator thermic control relay (B)	L
F26~F'26	Radiator thermic control (S) Radiator thermic control switch (B)	LW1
F27~F'27	Radiator thermic control relay (M) Engine cooling fan motor (B)	LB1
F28~F'28	F27 ~ F'27 connected Engine cooling fan motor indicator light	LB1
F29~F'29	Ignition switch (ACC) Fuse box 15A (IN)	LB1
F30~F'30	Fuse box 15A (OUT) Radio control switch (B)	LB1
F31~F'31	Radio control switch (Radio ON) Radio tuner (B)	L
F32~F'32	Radio control switch (Antenna UP) Rear harness connection (Antenna motor)	LW1
F33~F'33	Radio control switch (Antenna DOWN) Rear harness connection (Antenna motor)	LR1
G1 ~G'1	Headlight R.H. (E) Headlight safety switch R.H. (E)	WB1
G2 ~G'2	Headlight R.H. (E) Headlight safety switch L.H. (E)	WB1
G3 ~G'3	Headlight L.H. (E) Headlight safety switch R.H. (E)	WB1
G4 ~G'4	Headlight L.H. (E) Headlight safety switch L.H. (E)	WB1
G5 ~G'5	Body ground (E) Blower motor (E)	WB1
G6 ~G'6	Instrument panel glove box inspection consent (E) G5 ~ G'5 connected	WB1
G7 ~G'7	Glove box courtesy switch (E) G6 ~ G'6 connected	WB1
G8 ~G'8	Courtesy light switch (E) G6 ~ G'6 connected	WB1
G9 ~G'9	Fuel gauge (E) G5 ~ G'5 connected	WB1
G10~G'10	Oil pressure gauge (E) G9 ~ G'9 connected	WB1
G11~G'11	Oil temperature gauge (E) G9 ~ G'9 connected	WB1
G12~G'12	Water temperature gauge (E) G9 ~ G'9 connected	WB1

Keys	Connections	Color
G13~G'13	Ammeter (E)	G9 ~ G'9 connected WB1
G14~G'14	Turn signal switch (E)	G9 ~ G'9 connected WB1
G15~G'15	Wiper switch (E)	G14 ~ G'14 connected WB1
G16~G'16	Speedometer (E)	G14 ~ G'14 connected WB1
G17~G'17	Tachometer (E)	G16 ~ G'16 connected WB1
G18~G'18	Hi-beam, turn signal indicator warning light (E)	G16 ~ G'16 connected WB1
G19~G'19	Radio tuner (E)	G9 ~ G'9 connected WB1
G20~G'20	Heater control light (E)	G9 ~ G'9 connected WB1
G21~G'21	Horn R.H. (E)	G2 ~ G'2 connected WB1
G22~G'22	Horn L.H. (E)	G4 ~ G'4 connected WB1
G23~G'23	Front combination light R.H. (E)	G2 ~ G'2 connected WB1
G24~G'24	Front combination light L.H. (E)	G4 ~ G'4 connected WB1

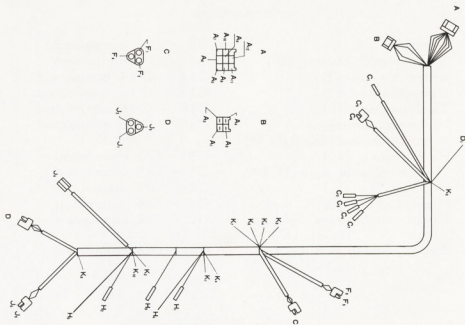


Fig.16-35 Rear Light Wiring Harness

Y5318

Rear Light Wiring Harness

Keys	Connections	color
A1 ~C1	Main harness connection	Fuel pump regulator (B) BW1
A2 ~C2	Main harness connection	Room light (B) RG1
A3 ~C3	Main harness connection	Room light door switch (S) RW1
A4 ~C4	Main harness connection	Back window defroster (B) LW1
A5 ~C5	Main harness connection	Radio antenna motor (UP) LW1
A6 ~C5	Main harness connection	Radio antenna motor (DOWN) LR1
A7 ~F1	Main harness connection	Tail light R.H. (B) G
K1 ~H1	K1 is connected to K3 ~ J1	License light R.H. (B) G
K2 ~H2	K2 is connected to K3 ~ J1	License light L.H. (B) G
K3 ~J1	K3 is connected to A7 ~ F1	Tail light L.H. (B) G
A8 ~F2	Main harness connection	Rear turn signal light R.H. (B) GY1
A9 ~J2	Main harness connection	Rear turn signal light L.H. (B) GB1
A10~F3	Main harness connection	Back-up light R.H. (B) RL1
K4 ~J3	K4 is connected to A10 ~ F3	Back-up light L.H. (B) RL1
K5 ~H3	K5 is connected to A3 ~ C3	Back door courtesy switch (S) RW1
A11~J4	Main harness connection	Fuel gauge sender (B) YR1
A12~C7	Main harness connection	Room light courtesy light (H) R
D1 ~F4	Body ground	Rear combination light R.H. WB1
K6 ~F5	K6 is connected to D1 ~ F4	(E)
K7 ~J5	K7 is connected to D1 ~ F4	Back-up light R.H. (F) WB1
		Rear combination light L.H. WB1
		(E)
K8 ~J6	K8 is connected to K7 ~ J5	Back-up light L.H. (E) WB1
H4 ~K9	License light R.H. (E)	K9 is connected K7 ~ K5 WB1
H5 ~K10	License light L.H. (E)	K10 is connected K7 ~ J5 WB1