TOYOTA
SERVICE BULLETIN
Group: 09 No.: 20 Date: May, 17

Model: **LandCruiser 70**

Subject: Corrections to Repair Manual RM0584E

Please ensure these pages are distributed to all relevant staff for their information; and a copy made available for future reference, with the above repair manual.

Section	Title	Paragraph
PREPARATION	WINCH	SST
SERVICE SPECIFICATIONS	WINCH	TORQUE SPECIFICATIONS
WINCH	WINCH UNIT	COMPNENTS
		DISASSEMBLY
		REASSEMBLY
		INSTALLATION

The revised pages listed above are attached.

(The corrected parts are indicated by arrows.)

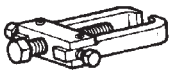
This bulletin does not cause the Flat Rate Manual to be changed

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WINCH

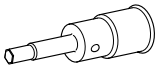
SST

[Added]

	09286-46011	Injection Pump Spline Shaft Puller	-
	09628-62011	Ball Joint Puller	-

PP

RECOMMENDED TOOLS

	09010-3C100	Set, Hexagon Wrench	-
	(09013-6C110)	Socket Hexagon 6mm	-
	09082-00040	TOYOTA Electrical Tester	-
	(09083-00150)	Test Lead Set	-

EQUIPMENT

Torque wrench	-

LUBRICANT

Item	Capacity	Classification
Automatic transmission fluid	1.0 liters (1.1 US qts, 0.9 Imp. qts)	ATF D-II or DEXRON III (DEXRON II)

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WINCH

SERVICE DATA

Winch	Wire diameter Minimum	7.5 mm (0.295in.)

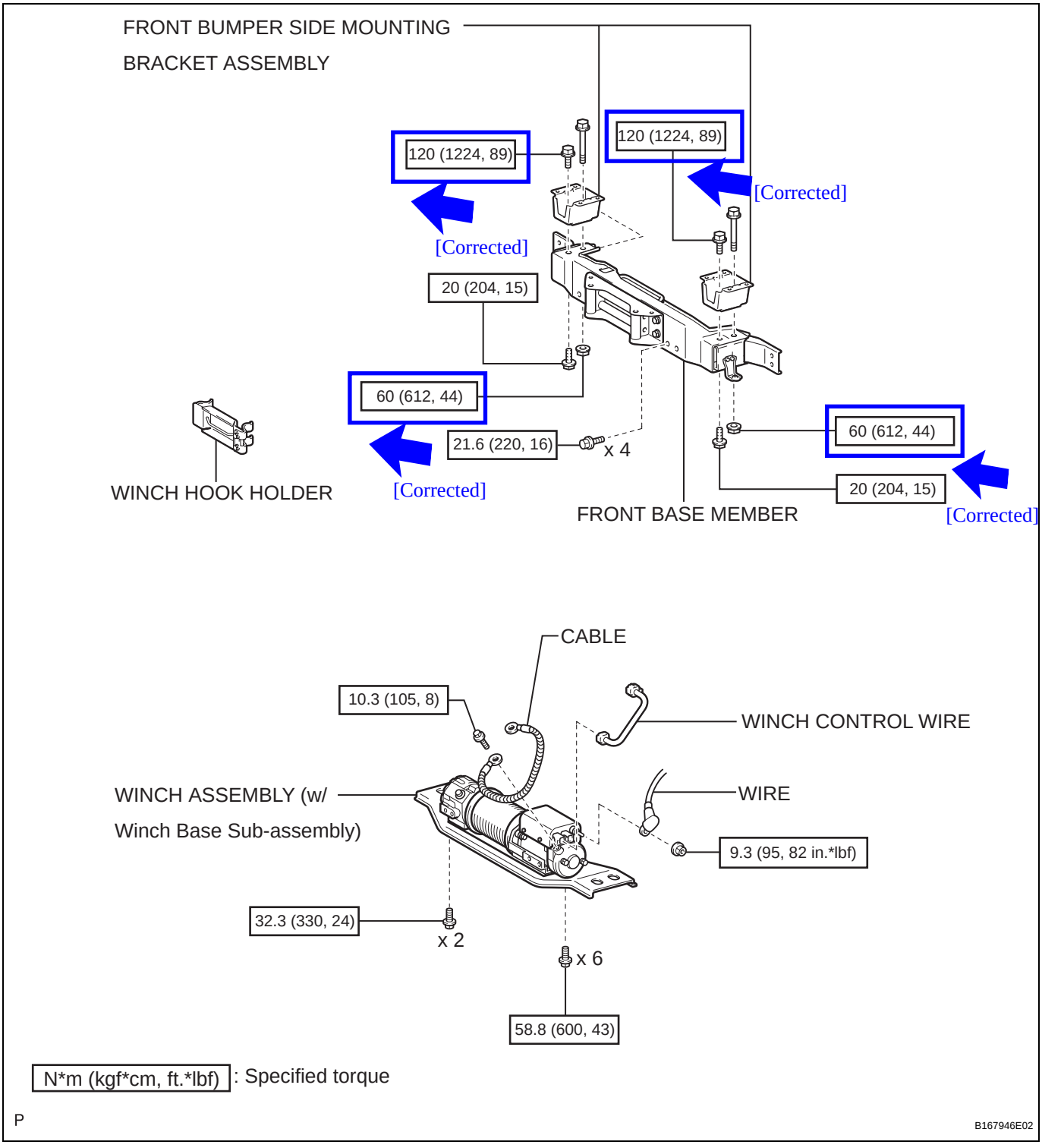
TORQUE SPECIFICATIONS

[Corrected]

Part tightened	N*m	kgf*cm	ft.*lbf
Front base member x member Nut A	60	612	44
[Corrected] Front base member x member Bolt B	20	205	15
Front base member x member Bolt C	120	1224	89
Front base member x Winch assembly	216	220	16
Winch assembly x Winch base sub-assembly bolt A	58.8	600	43
Winch assembly x Winch base sub-assembly bolt B	32.3	330	24
Winch motor x Cable	10.3	105	8
Winch motor x Wire	9.3	95	82 in.*lbf
Winch x Winch motor	15.7	160	12
Winch main relay x Body	10.2	105 [Added]	8
Magnet Switch Winch Cover x Winch Motor Assembly	1.5	15	13 in.*lbf
Winch Motor Assembly x Winch Motor Yoke Sub-assembly	4.9	50	43 in.*lbf
Winch Motor Assembly x Wire Harness	9.3	95	82 in.*lbf
Winch Motor Brash x Winch Motor Brash Holder Assembly	3.4	35	30 in.*lbf
Winch Motor Commutator End Frame x End Frame	7.6	77	67 in.*lbf
Winch main relay x Wire	9.3	95	82 in.*lbf
Winch x Drain plug	17	175	13

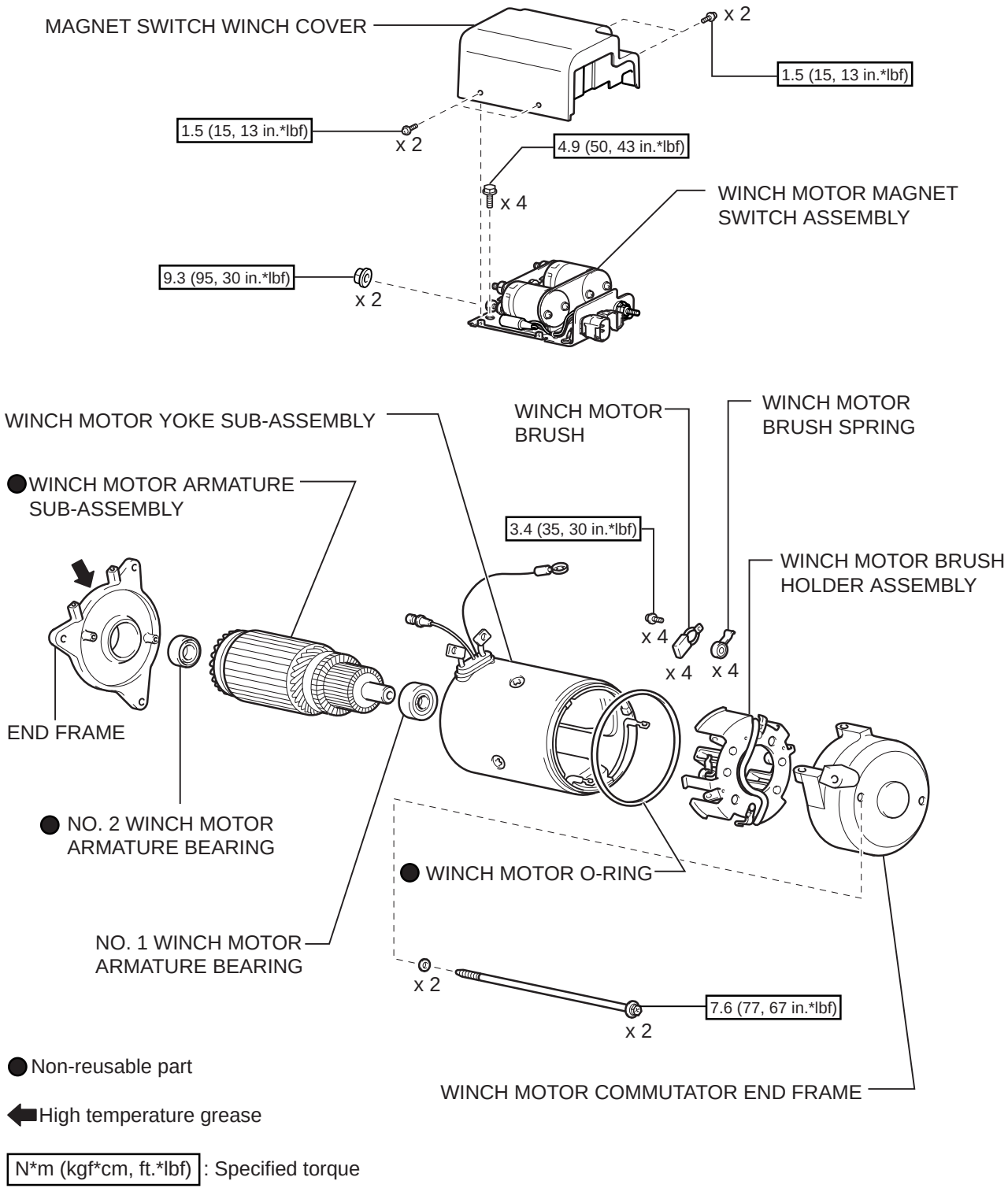
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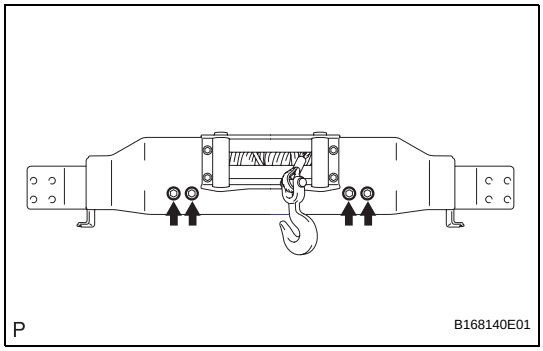
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REMOVAL

1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

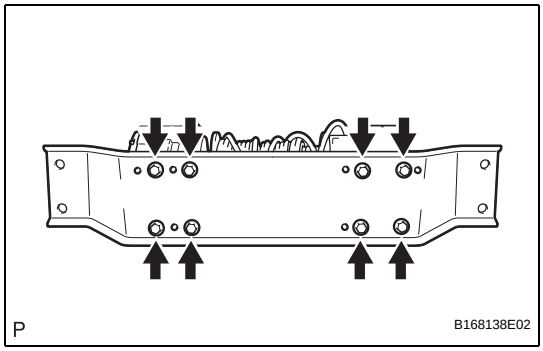
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DISASSEMBLY

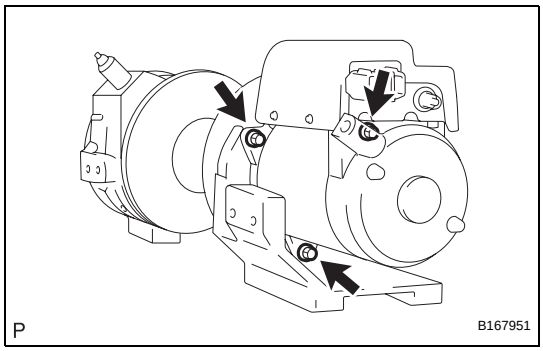


1. REMOVE WINCH MOTOR ASSEMBLY

(a) Remove the 4 bolts and member.

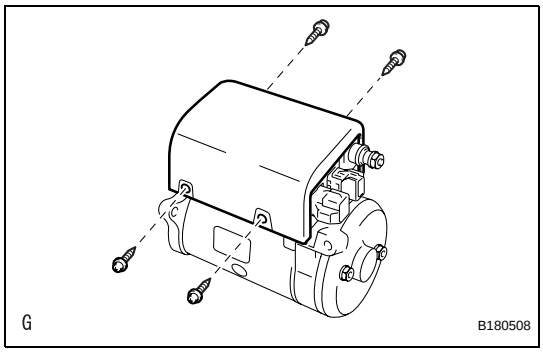


(b) Remove the 8 bolts and winch base.



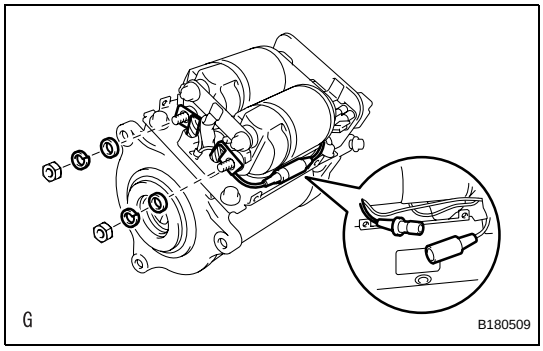
(c) Remove the 3 bolts and winch motor.

[Added]



2. REMOVE MAGNET SWITCH WINCH COVER

(a) Remove the 4 screws and cover.



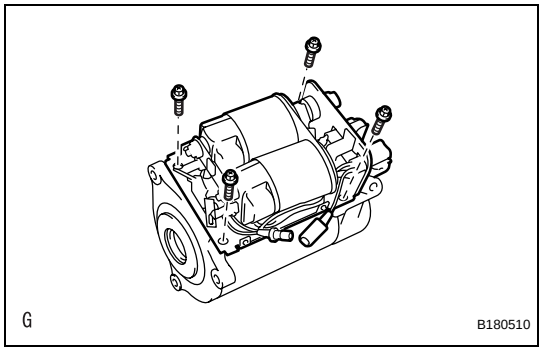
3. REMOVE WINCH MOTOR MAGNET SWITCH ASSEMBLY

(a) Disconnect the connector.

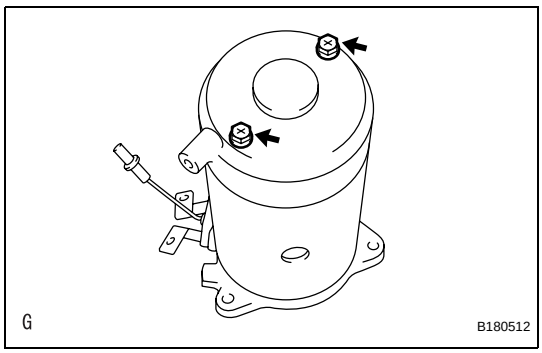
(b) Remove the 2 nuts, 2 spring washers, 2 washers and wire harness.

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(c) Remove the 4 bolts and magnet switch from the motor.

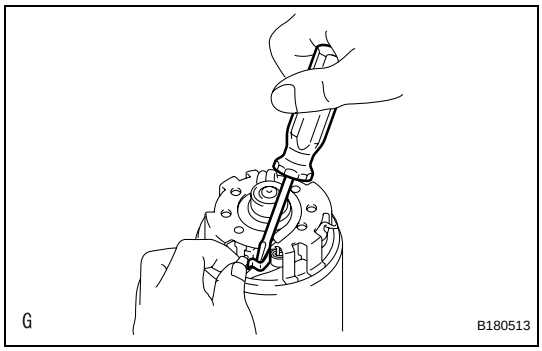


4. REMOVE WINCH MOTOR COMMUTATOR END FRAME

(a) Remove the 2 bolts and commutator end frame.

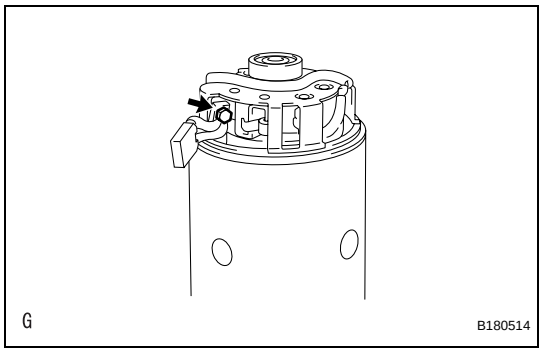
5. REMOVE WINCH MOTOR O-RING

(a) Remove the O-ring.

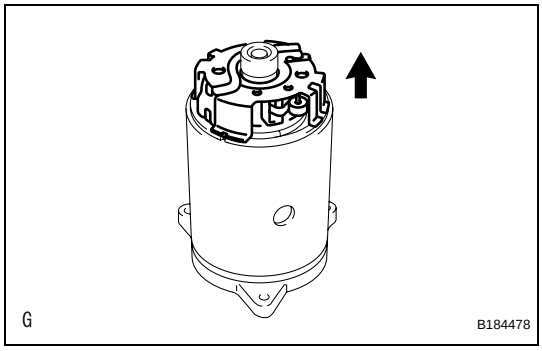


6. REMOVE WINCH MOTOR BRUSH

(a) Using a screwdriver, pry the bush spring forward and pull the brush out of the holder.



(b) Remove the bolt and brush from the brush holder.
HINT:
Use the same procedures to remove the 3 remaining brushes.

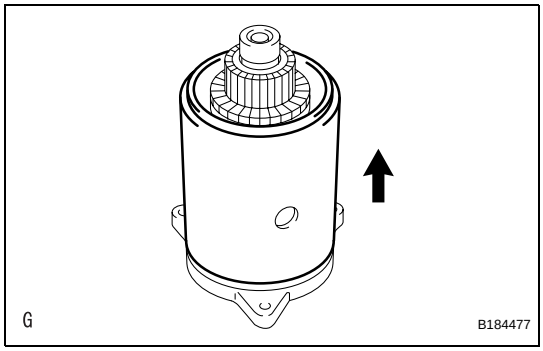


7. REMOVE WINCH MOTOR BRUSH HOLDER ASSEMBLY

(a) Remove the brush holder in the direction of the arrow shown in the illustration.

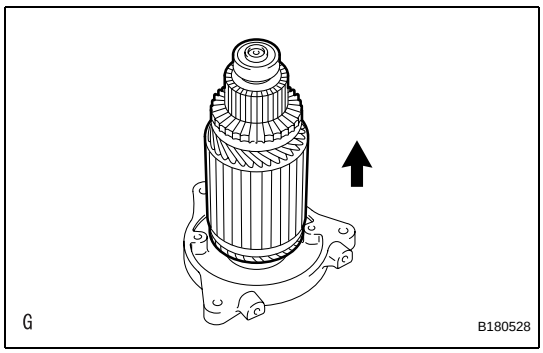
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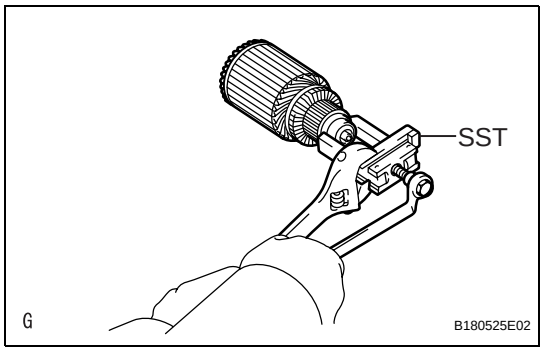
8. REMOVE WINCH MOTOR YOKE SUB-ASSEMBLY

(a) Remove the yoke in the direction of the arrow shown in the illustration.



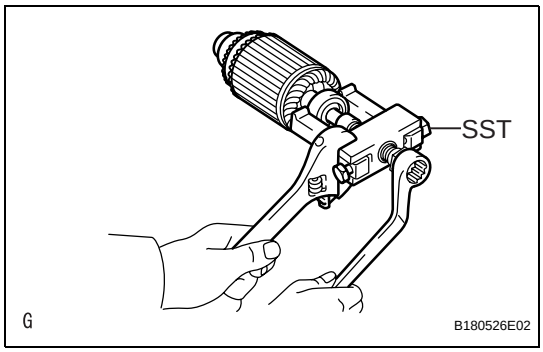
9. REMOVE WINCH MOTOR ARMATURE SUB-ASSEMBLY

(a) Remove the armature in the direction of the arrow shown in the illustration.



10. REMOVE NO. 1 WINCH MOTOR ARMATURE BEARING

(a) Using SST, remove the bearing.
SST 09286-46011

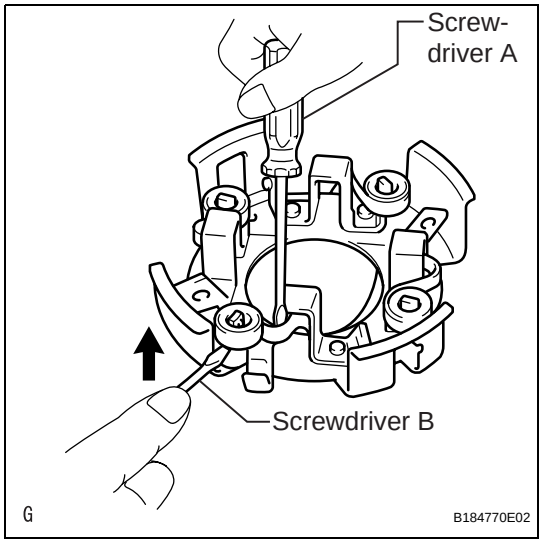


11. REMOVE NO. 2 WINCH MOTOR ARMATURE BEARING

(a) Using SST, remove the bearing.
SST 09628-62011

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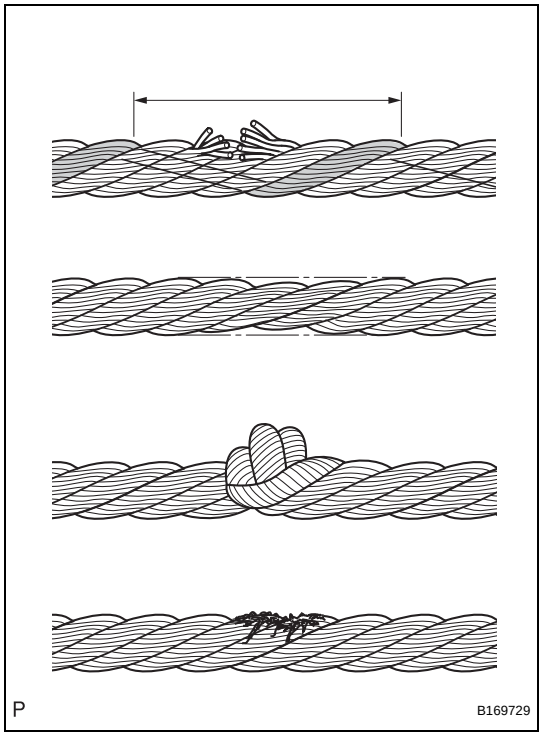
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12. REMOVE WINCH MOTOR BRUSH SPRING

(a) Insert a screwdriver, labeled A, as shown in the illustration and pry the spring forward, then move the spring in the direction of the arrow shown in the illustration with a screwdriver, labeled B, to remove it from the holder.

INSPECTION

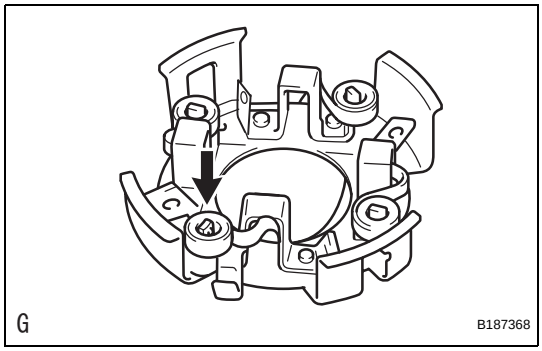


1. INSPECT WINCH WIRE

(a) Inspect the wire for the following damage: 1) areas where several strands are severed; 2) areas where the diameter is less than 7.5 mm (0.295 in.); 3) kinks; 4) corrosion; and 5) fraying. If the wire is damaged, replace it with a new one.

[Added]

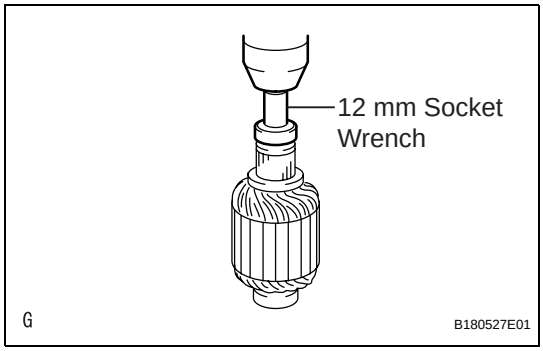
REASSEMBLY



1. INSTALL WINCH MOTOR BRUSH SPRING

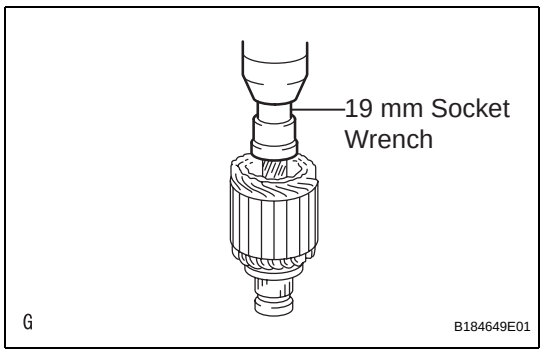
(a) Install the brush spring as shown in the illustration.

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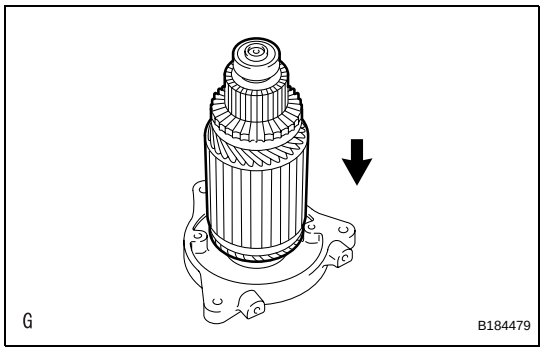
2. INSTALL NO. 1 WINCH MOTOR ARMATURE BEARING

(a) Using a 12 mm socket wrench and press, press in a new bearing.



3. INSTALL NO. 2 WINCH MOTOR ARMATURE BEARING

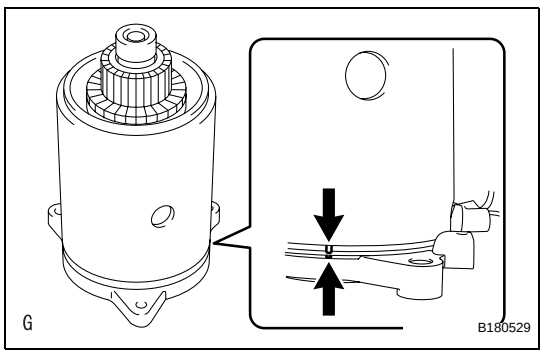
(a) Using a 19 mm socket wrench and press, press in a new bearing.



4. INSTALL WINCH MOTOR ARMATURE SUB-ASSEMBLY

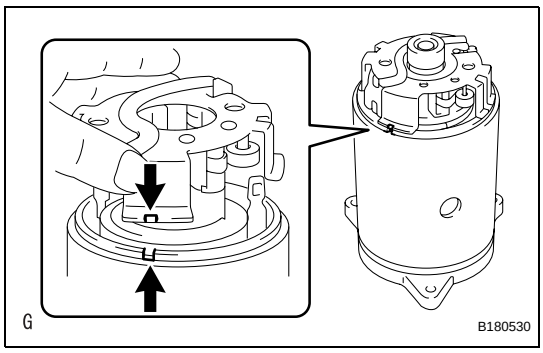
(a) Apply high temperature grease to the inside of the end frame bushing.

(b) Install the armature to the end frame.



5. INSTALL WINCH MOTOR YOKE SUB-ASSEMBLY

(a) Align the alignment marks and install the yoke to the end frame.

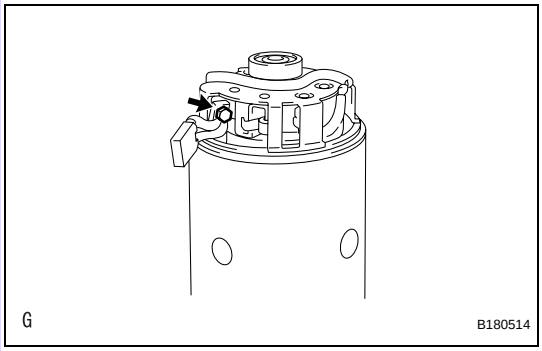


6. INSTALL WINCH MOTOR BRUSH HOLDER ASSEMBLY

(a) Align the alignment marks and install the brush holder to the yoke.

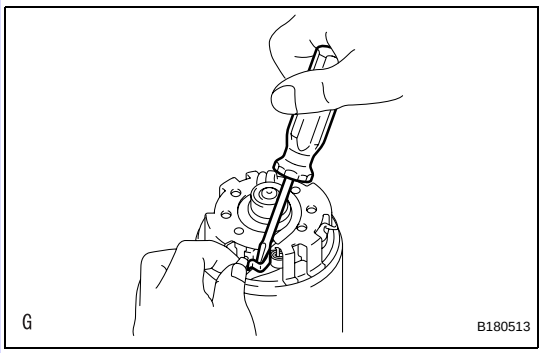
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7. INSTALL WINCH MOTOR BRUSH

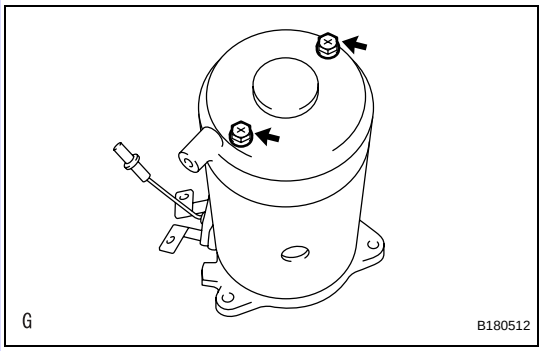
(a) Install the brush with the bolt.
Torque: 3.4 N*m (35 kgf*cm, 30 in.*lbf)



(b) Using a screwdriver, pry the brush spring forward and insert the brush into the holder as shown in the illustration, then remove the screwdriver from the spring.
HINT:
Use the same procedures to install the 3 remaining brushes.

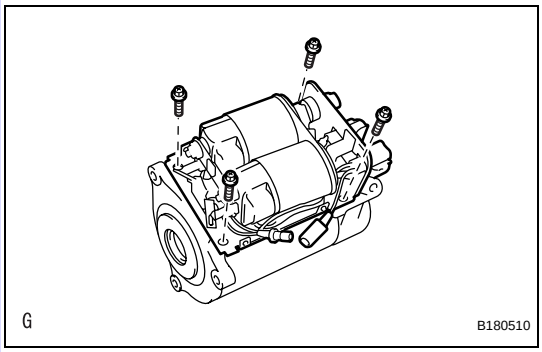
8. INSTALL WINCH MOTOR O-RING

(a) Install a new O-ring to the yoke.



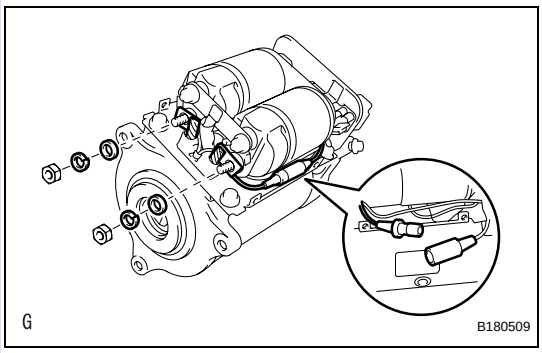
9. INSTALL WINCH MOTOR COMMUTATOR END FRAME

(a) Install the end frame with the 2 bolts.
Torque: 7.7 N*m (79 kgf*cm, 69 in.*lbf)



10. INSTALL WINCH MOTOR MAGNET SWITCH ASSEMBLY

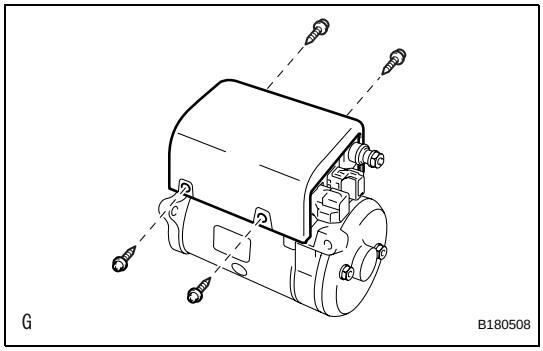
(a) Install the switch to the motor with the 4 bolts.
Torque: 4.9 N*m (50 kgf*cm, 43 in.*lbf)



(b) Install the wire harness with the 2 washers, 2 spring washers and 2 nuts.
Torque: 9.3 N*m (95 kgf*cm, 82 in.*lbf)

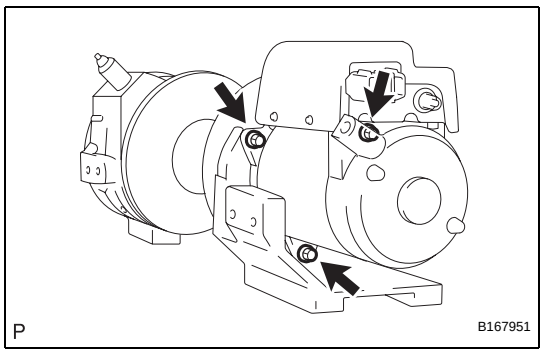
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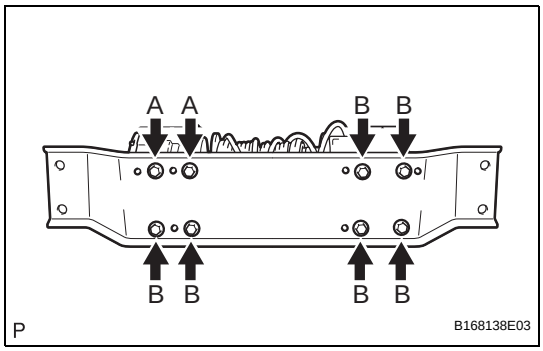
11. INSTALL MAGNET SWITCH WINCH COVER

(a) Install the cover with the 4 screws.
Torque: 1.5 N*m (15 kgf*cm, 13 in.*lbf)

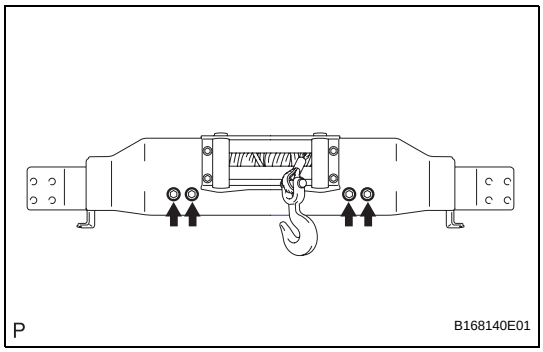


12. INSTALL WINCH MOTOR ASSEMBLY

(a) Install the winch motor with the 3 bolts.
Torque: 15.7 N*m (160 kgf*cm, 12 ft.*lbf)



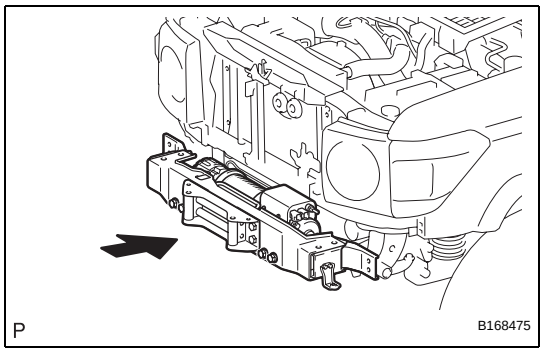
(b) Install the winch base with the 8 bolts.
Torque: for bolt A
32.3 N*m (330 kgf*cm, 24 ft.*lbf)
for bolt B
58.8 N*m (600 kgf*cm, 43 ft.*lbf)



(c) Install the member with the 4 bolts.
Torque: 21.6 N*m (220 kgf*cm, 16 ft.*lbf)

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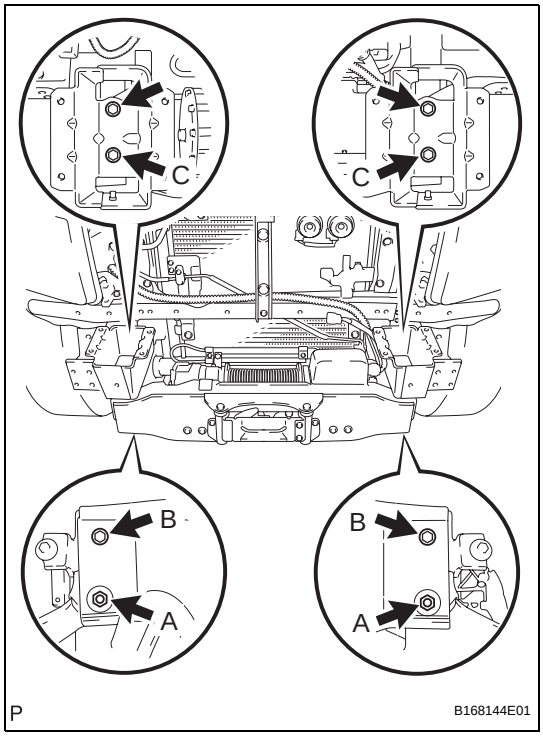
INSTALLATION



1. INSTALL WINCH ASSEMBLY

(a) Using a crane or equivalent, install the winch assembly to the vehicle.
CAUTION:
Be careful as the winch assembly is very heavy.

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(d) Install the mounting bracket with the 2 bolts and 2 nuts.
Torque: for nut A
60 N*m (612 kgf*cm, 44 ft.*lbf) [Corrected]

(e) Install the 4 bolts.
Torque: for bolt B
20 N*m (205 kgf*cm, 15 ft.*lbf)
for bolt C
120 N*m (1224 kgf*cm, 89 ft.*lbf) [Corrected]

4. **INSTALL FRONT BUMPER REINFORCEMENT PLATE SUB-ASSEMBLY (See page)**
5. **INSTALL FRONT BUMPER BRACKET SUB-ASSEMBLY RH (See page)**
6. **INSTALL FRONT BUMPER BRACKET SUB-ASSEMBLY LH (See page)**
7. **INSTALL FRONT BUMPER COVER (See page)**
8. **INSTALL FRONT VALANCE PANEL (See page)**
9. **INSTALL RADIATOR GRILLE (See page)**
10. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**

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