

FOREWORD

This manual has been prepared to provide information for the construction, operation and other technical details of SUBARU vehicles.

Read this manual thoroughly and make the most of it to give better service to your customers and improve your knowledge of vehicle maintenance.

For information on sections that remain unchanged, refer to the 15MY to 18MY new car information.

All information, illustration and specifications contained in this manual are based on the latest product information available at the time of publication approval.

GENERAL DESCRIPTION
ENGINE
TRANSMISSION
CHASSIS
BODY

1.GENERAL DESCRIPTION

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General Description

1-1 General Description

A: MODEL LINEUP

Body	Type	Destination	Destination code	Engine	Driving method	Grade	Transmission
Sedan	VA	U.S., Canada	C0 U4	2.5 L high-power turbo	AWD	STI TYPE RA	6MT

B: DESCRIPTION OF MODEL CLASSIFICATION CODE

1. VIN

JF1VA3Z6#J9#####

The starting and ending brackets () are stop marks.

#: varies depending on the vehicle models.

Digit	Meaning	Details
1 to 3	Manufacturer of body area	JF1: Passenger vehicle manufactured by SUBARU CORPORATION
4	Car line	V: WRX
5	Body classification	A: Sedan
6	Displacement classification	3: 2.5 L AWD high-power turbo 4-CYLINDERS GASOLINE 310HP
7	Grade	Z: STI TYPE RA + Key Less Access + RECARO
8	Restraint	6: Manual belt, dual airbag, side airbag (in seat back), curtain airbag (in roof) and driver knee airbag
9	Check digit	X or 0 — 9
10	Model year	J: 2018MY
11	Transmission type	9: Full-time AWD 6 speed MT (Gunma main plant)
12 to 17	Serial number	800001 to 899999

2. VEHICLE TYPE CLASSIFICATION

VAFDYJH

Digit	Meaning	Details
1	Series	V: WRX
2	Body type	A: Sedan
3	Total engine displacement/Drive system	F: 2.5 L AWD high-power turbo
4	Model year	D: 2018MY
5	Destination	Y: North America, Canada
6	Grade	J: STI TYPE RA
7	Transmission, fuel feed system	H: MFI high-power turbo 6 speed MT AWD

3. ENGINE

EJ257XG6LB

Digit	Meaning	Details
1 to 2	Engine type	EJ: 4-cylinder
3 to 4	Displacement	25: 2.5 L
5	Fuel feed system	7: MFI- high-power turbo
6	Emission control	A: North America (Tire3/LEV III)
7	Transmission	G: 6MT
8 to 10	Detailed specifications	Used when ordering parts. For details, refer to the parts catalog.

General Description

4. TRANSMISSION

TY856UW6AB

Digit	Meaning	Details
1	Transmission code	T: Transmission
2	Standard transmission system	Y: Full-time AWD MT center differential
3 to 4	Distance between gear centers	85: From main shaft to drive pinion 85 mm (3.35 in)
5	Type series	6: 6 MT
6	Transmission specifications	U: Full-time AWD single range 6MT with driver's control center differential
7	Mounted engine	W: 2.5 L DOHC turbo
8 to 10	Detailed specifications	Used when ordering parts. For details, refer to the parts catalog.

5. REAR DIFFERENTIAL

Classification	Reduction ratio	LSD
H5	3.545	Torque sensing

1-2 Major Modifications

Based on the WRX STI model equipped with the EJ25 engine, the WRX STI TYPE RA special model has improved driving performance thanks to increased engine power and new sports components.

1. ENGINE

- Increased engine power (305 HP → 310 HP)
- Modified ECM
- Modified air intake system components
- Modified pistons and cylinder block
- Modified exhaust system components
- Modified spark plugs

2. TRANSMISSION

Modified gear ratio

3. CHASSIS

- Modified gear shift lever
- Modified front and rear shock absorbers
- Modified steering wheel
- Modified front and rear brake calipers
- Modified power steering system components

4. BODY

- Dedicated TYPE RA exterior
- Dedicated TYPE RA interior

2.ENGINE

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Engine Description

2-1 Engine Description

A: GENERAL DESCRIPTION

The intake and exhaust components have been redesigned to reduce airflow resistance. Dedicated spark plugs and an ECM have been adopted to increase engine power by 5 HP.

In addition, the piston and cylinder block rigidity has been increased to accommodate the increase in engine power.

B: CHARACTERISTICS

	TYPE RA	Other than TYPE RA
E/G type	EJ25	
Output	310 HP / 6,000 rpm	305 HP / 6,000 rpm
Torque	393 N•m / 4,000 to 5,200 rpm	393 N•m / 4,000 rpm
Spark plug	NGK: ILFR7H	NGK: SILFR6A

2-2 Fuel Injection

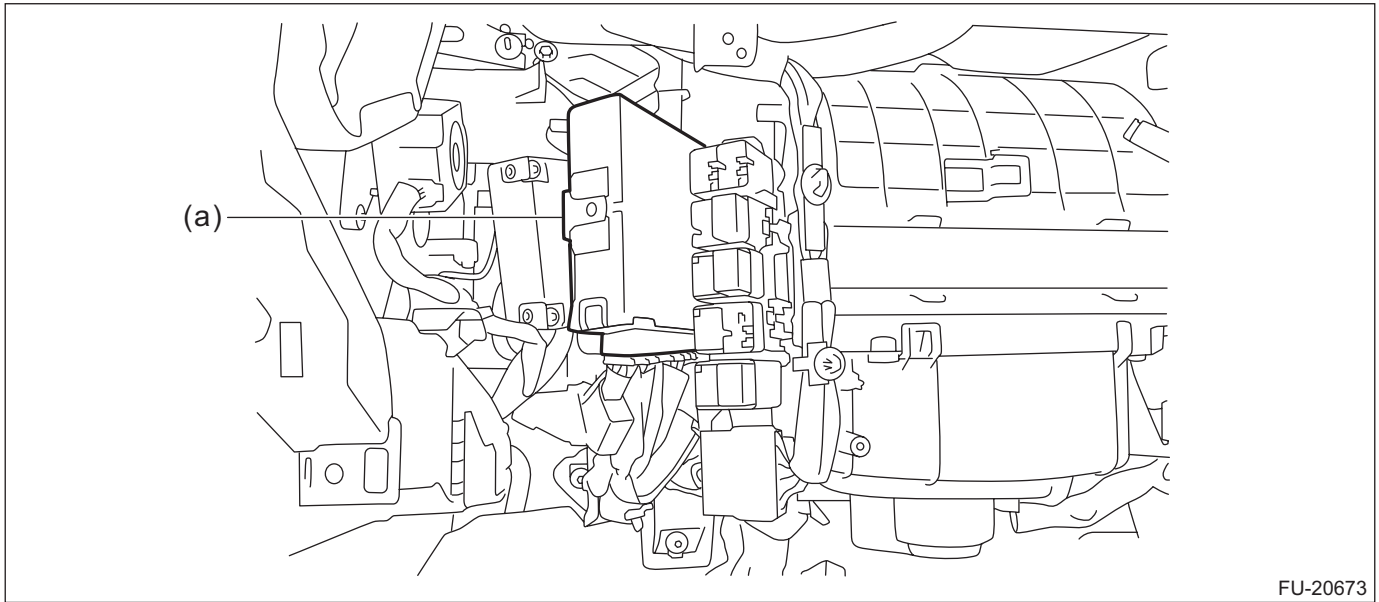
A: GENERAL DESCRIPTION

- The ECM has been modified.
- The mass air flow and intake air temperature sensor harness has been modified.

B: DETAILS

1. ECM

The ECM has been modified to accommodate the increase in engine power.



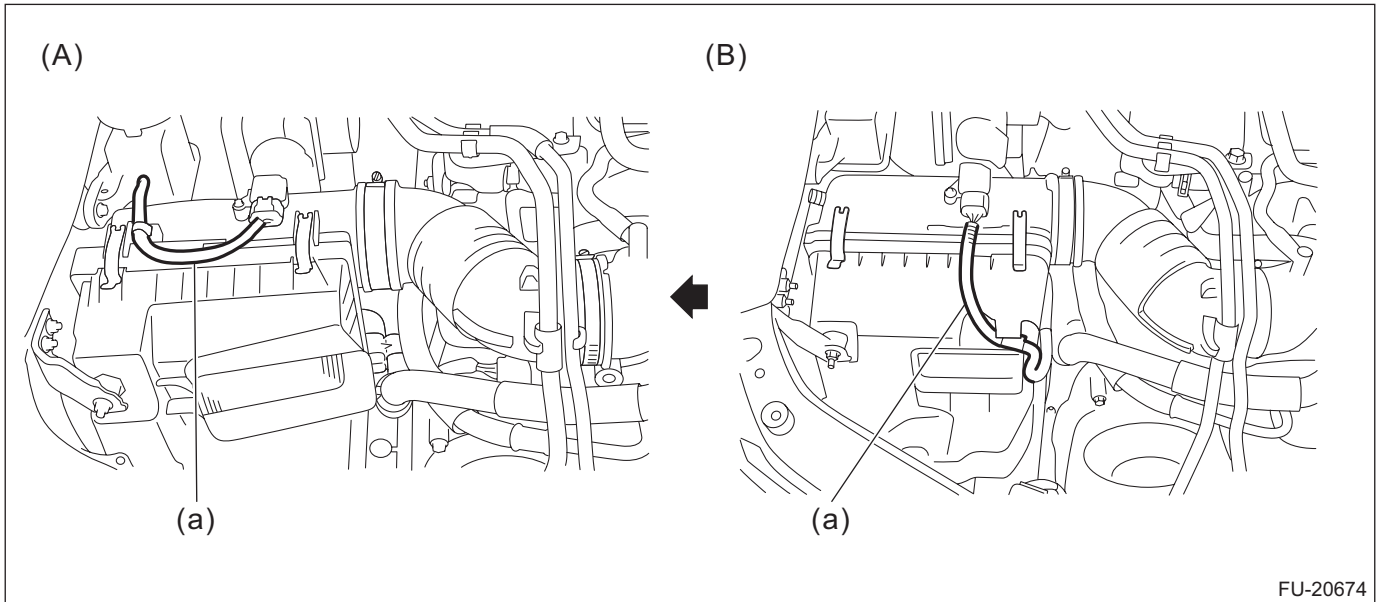
FU-20673

(a) ECM

Fuel Injection

2. MASS AIR FLOW AND INTAKE AIR TEMPERATURE SENSOR

The mass air flow and intake air temperature sensor harness has been modified to accommodate the modified air intake system components.



(A) TYPE RA

(B) Other than TYPE RA

(a) Harness

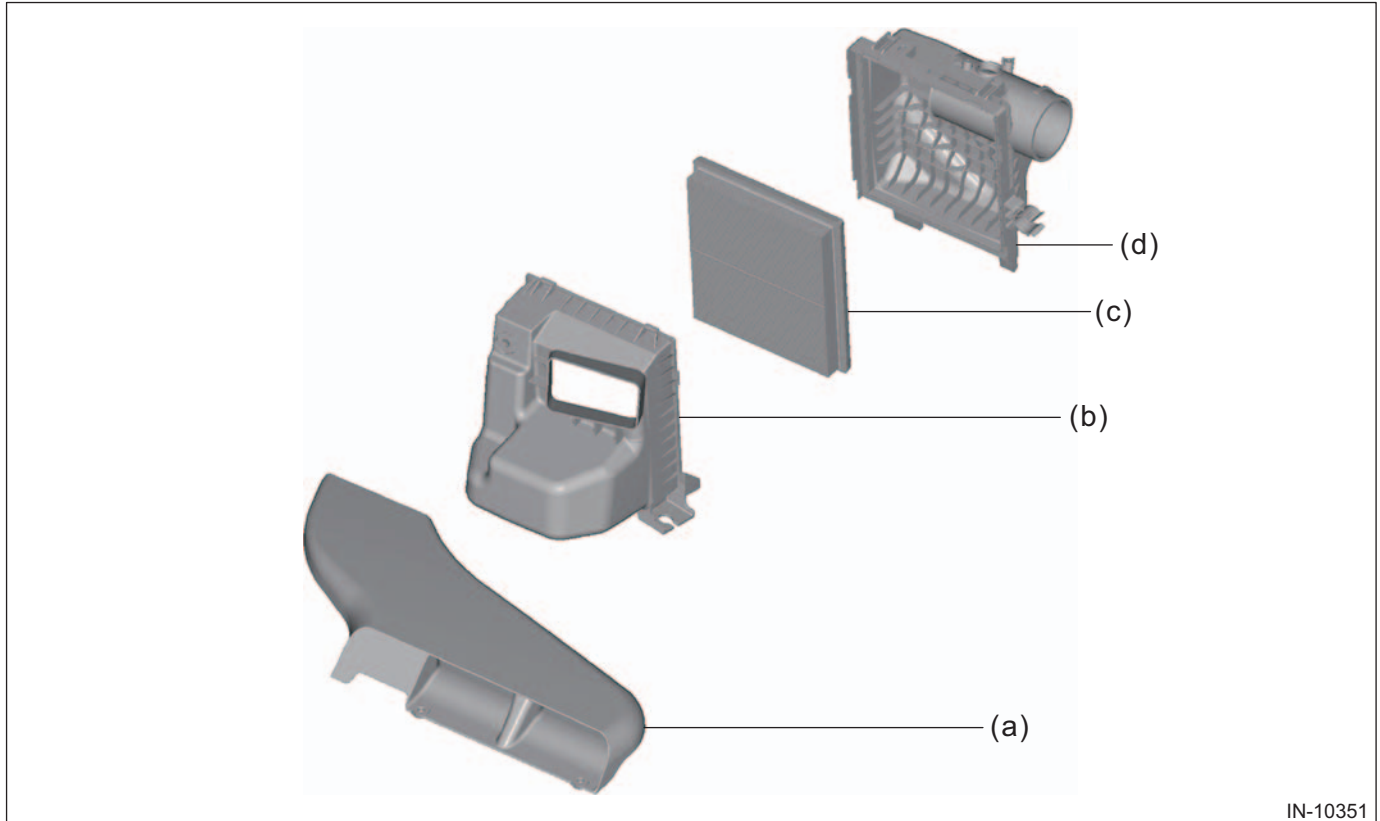
2-3 Intake

A: GENERAL DESCRIPTION

The air intake system components have been modified.

B: DETAILS

- The air intake duct design has been modified to reduce intake resistance.
- The air cleaner element has been modified to reduce airflow resistance.
- The air cleaner case has been modified to accommodate the above changes.



IN-10351

- (a) Air intake duct
- (b) Air cleaner case (front)

- (c) Air cleaner element
- (d) Air cleaner case (rear)

2-4 Mechanical

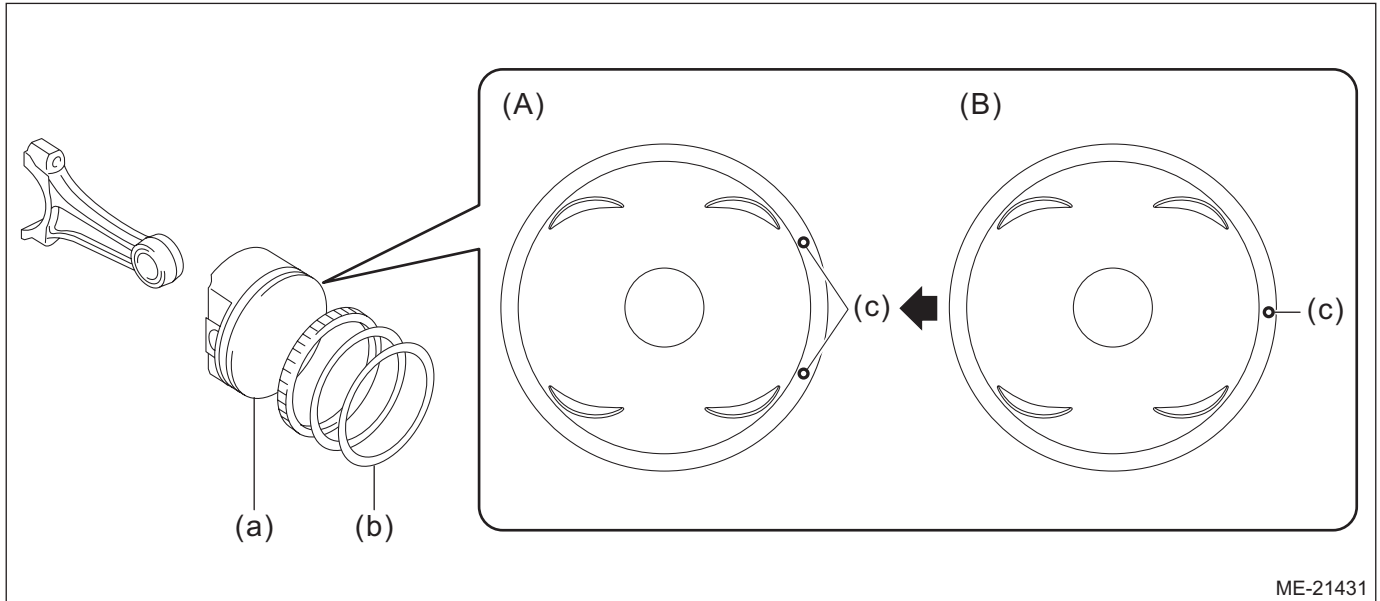
A: GENERAL DESCRIPTION

- The pistons have been modified.
- The cylinder block rigidity has been increased.
- The exhaust valve has been modified.

B: DETAILS

1. PISTON

- Dedicated pistons have been adopted to accommodate the increase in engine power.
- Dedicated top rings have been adopted to accommodate the increase in engine power.



(A) TYPE RA

(a) Piston

(b) Top ring

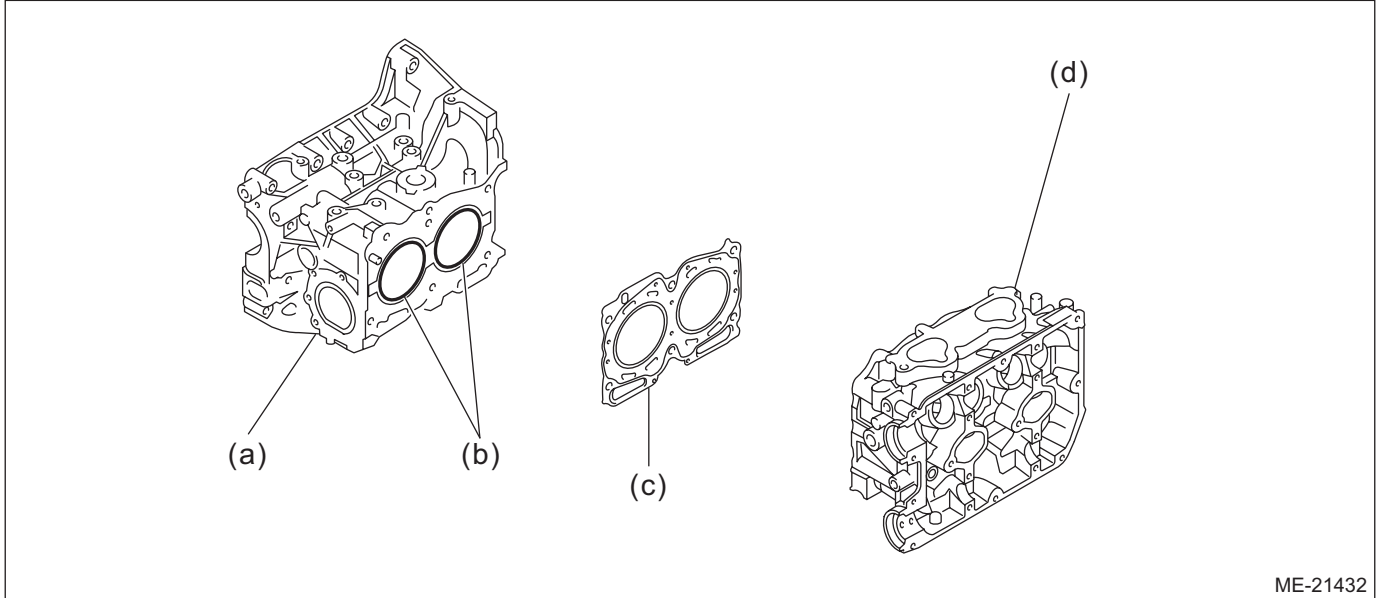
(B) Other than TYPE RA

(c) Crown surface identification mark

2. CYLINDER BLOCK, CYLINDER HEAD GASKETS, AND CYLINDER HEADS

The following parts have been modified to accommodate the increase in engine power.

- Cylinder block (cylinder liner)
- Cylinder head gasket
- Cylinder head



ME-21432

- (a) Cylinder block
(b) Cylinder liner

- (c) Cylinder head gasket
(d) Cylinder head

3. EXHAUST VALVE

An exhaust valve filled with metallic sodium has been adopted to accommodate the increase in engine power.

Exhaust

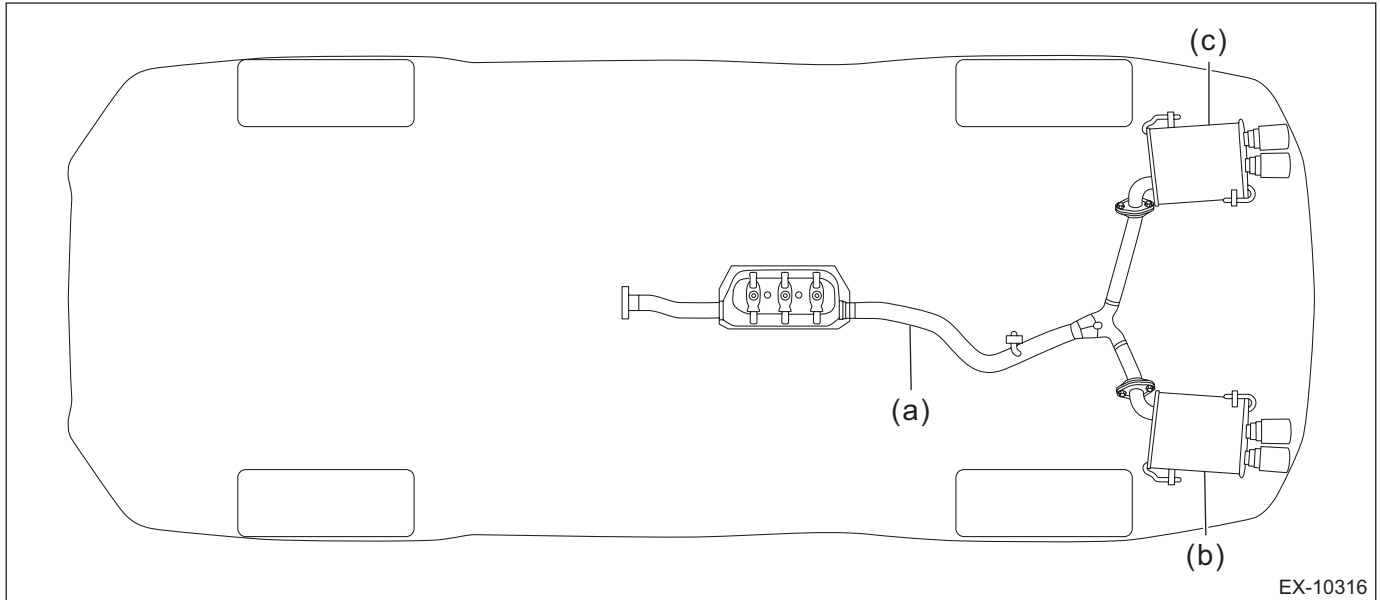
2-5 Exhaust

A: GENERAL DESCRIPTION

The exhaust system components have been modified.

B: DETAILS

The rear exhaust pipe and muffler have been modified to reduce exhaust airflow resistance.



- (a) Rear exhaust pipe
- (b) Muffler LH

- (c) Muffler RH

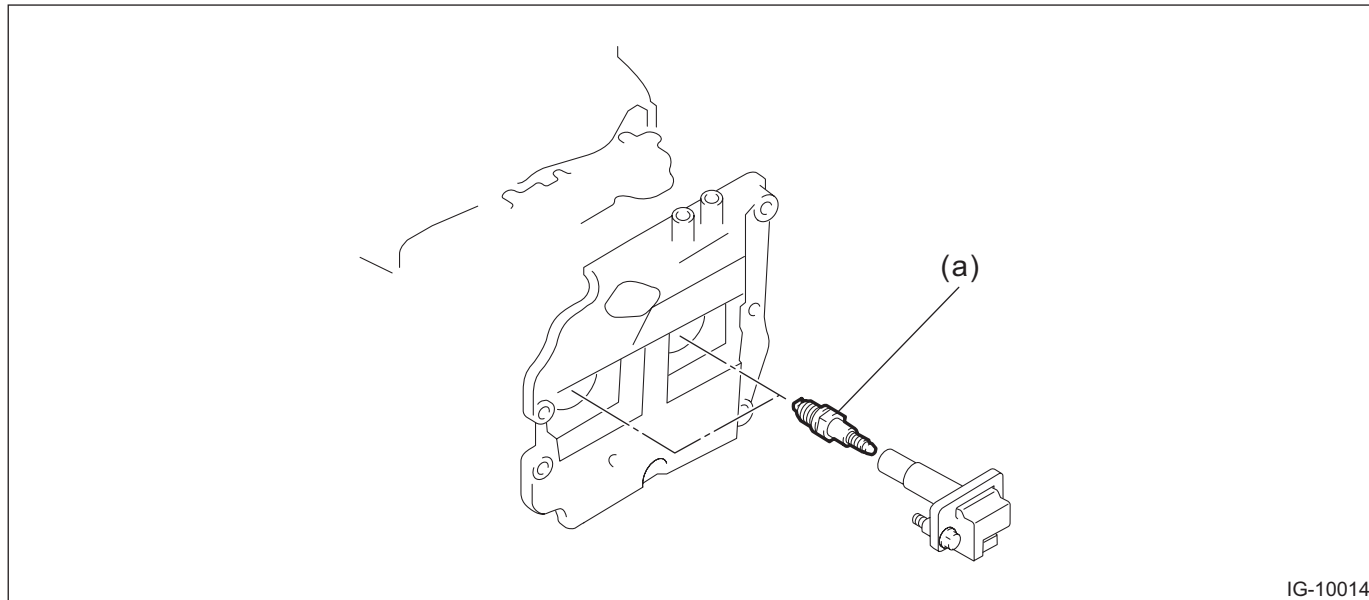
2-6 Ignition

A: GENERAL DESCRIPTION

The spark plugs have been modified.

B: DETAILS

Cold type spark plugs have been adopted to accommodate the increase in engine power.



IG-10014

(a) Spark plug

3.TRANSMISSION

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3-1 Manual Transmission

A: GENERAL DESCRIPTION

The gear ratio of the 3rd gear has been modified.

B: DETAILS

The 3rd gear has been changed to a low geared type to accommodate the increase in engine power.

(Gear ratio 1.521 → 1.590)

4.CHASSIS

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4-1 Overview of Chassis

Driving performance was improved and overall body weight reduced thanks to the adoption of Bilstein shock absorbers and BBS forged alloy wheels.

In addition, the combination of the gold colored alloy wheels with the dedicated silver Brembo brake calipers gives the vehicle an appearance that shows off the high performance of the TYPE RA.

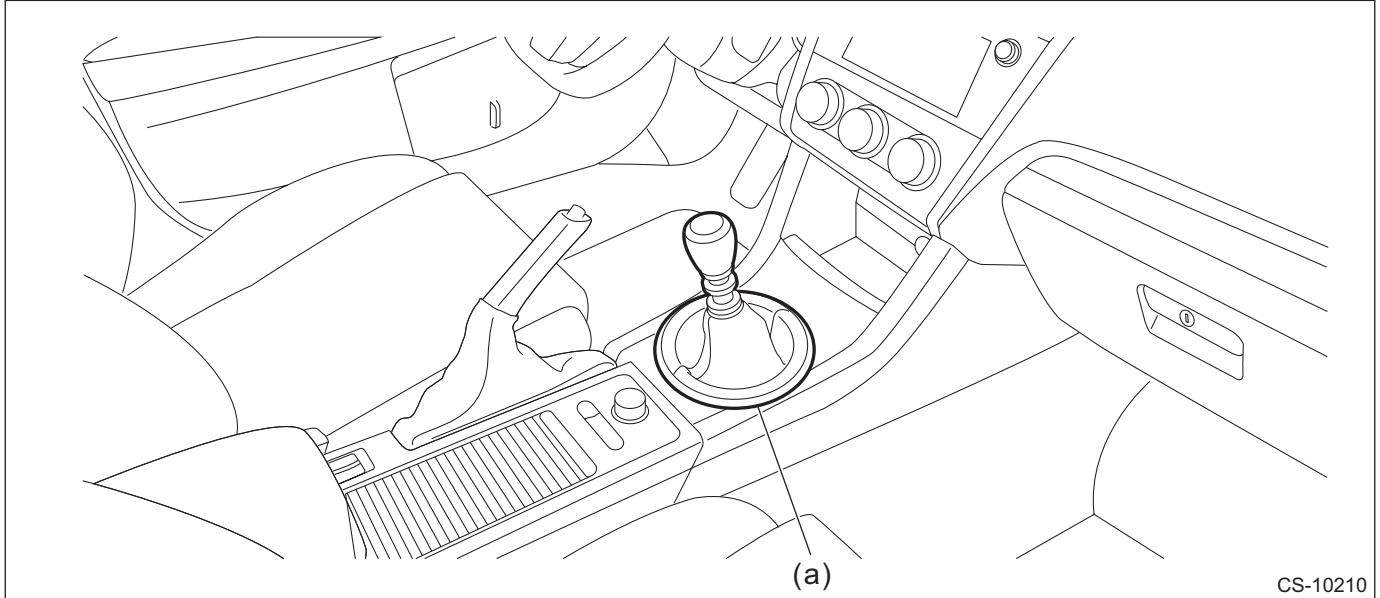
4-2 Control System

A: GENERAL DESCRIPTION

The gear shift lever has been modified.

B: DETAILS

A short stroke gear shift lever was adopted to give the vehicle more sporty controls.



CS-10210

(a) Gear shift lever

4-3 Suspension System

A: GENERAL DESCRIPTION

The shock absorber has been modified.

B: DETAILS

Bilstein shock absorbers have been adopted to improve driving performance.

- Front: Inverted type shock absorbers
- Rear: Upright mono-tube type shock absorbers

4-4 Wheel and Tire System

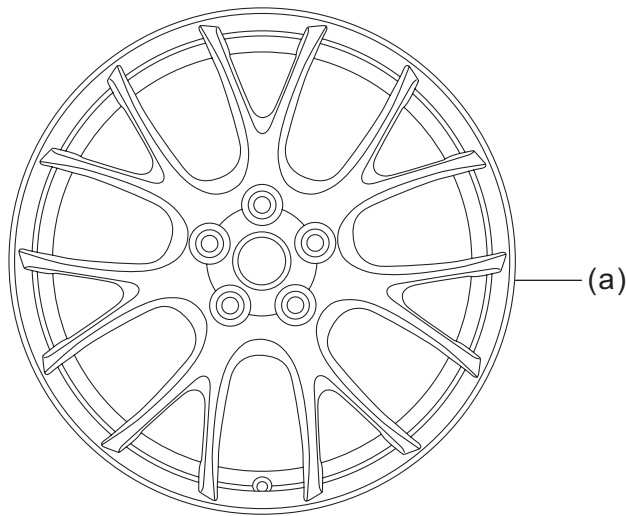
A: GENERAL DESCRIPTION

- The wheels have been modified.
- A puncture repair kit has been adopted.

B: DETAILS

1. WHEELS

To reduce the overall weight of the vehicle body, BBS forged alloy wheels (19 × 8 1/2J gold colored) have been adopted.



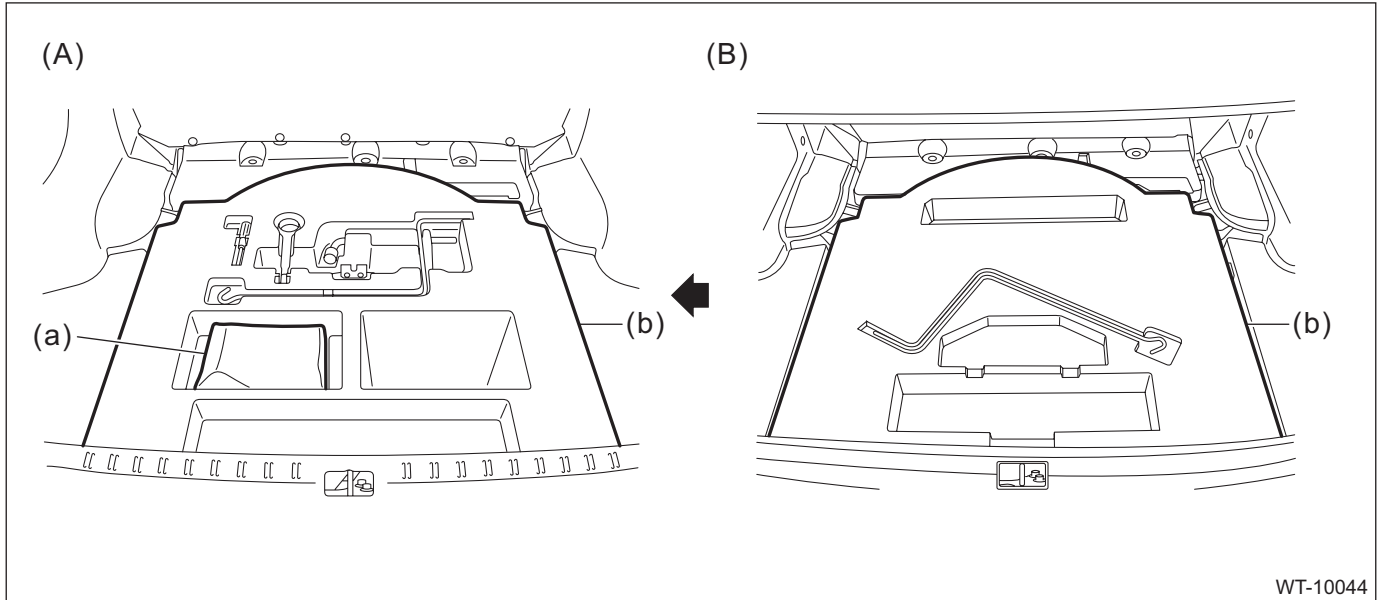
WT-10043

(a) Alloy wheel

Wheel and Tire System

2. PUNCTURE REPAIR KIT

- To reduce the overall weight of the vehicle body, the spare wheel has been replaced with a puncture repair kit.
- The shape of the multibox in the trunk room has been modified to accommodate the new puncture repair kit.



- (A) TYPE RA
(a) Puncture repair kit

- (B) Other than TYPE RA
(b) Multibox

Brakes

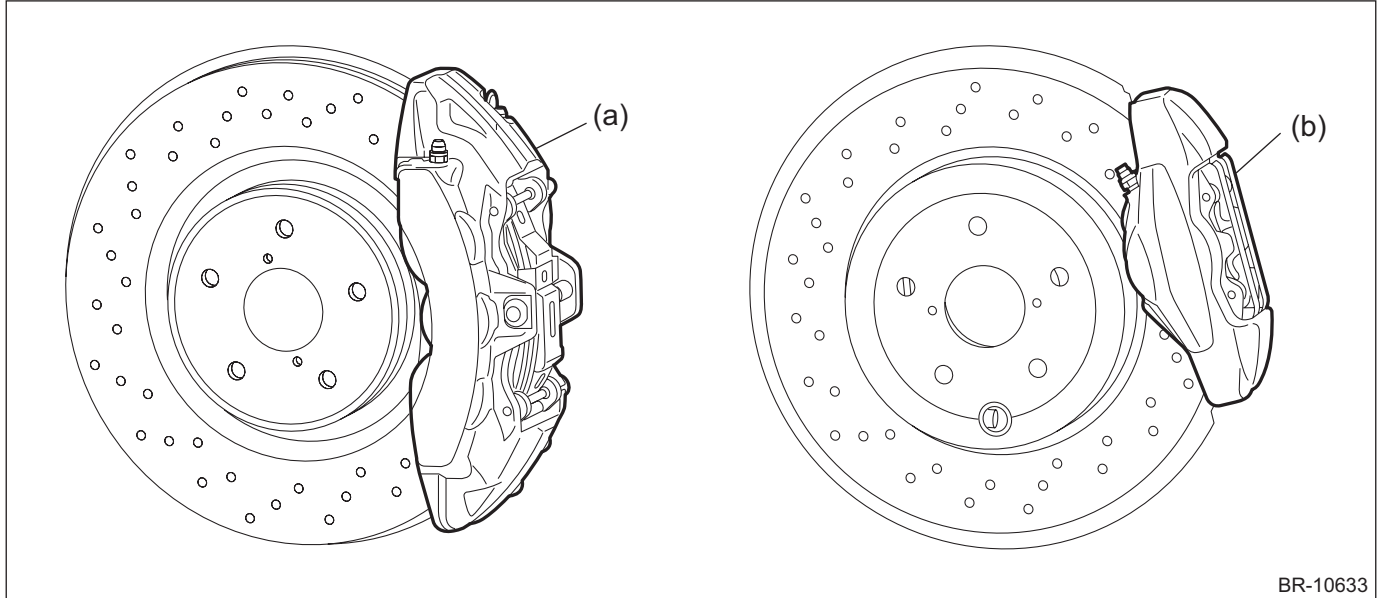
4-5 Brakes

A: GENERAL DESCRIPTION

The brake caliper color has been modified.

B: DETAILS

The brake caliper color has been changed to silver to highlight the use of Brembo brake calipers.



(a) Front brake caliper

(b) Rear brake caliper

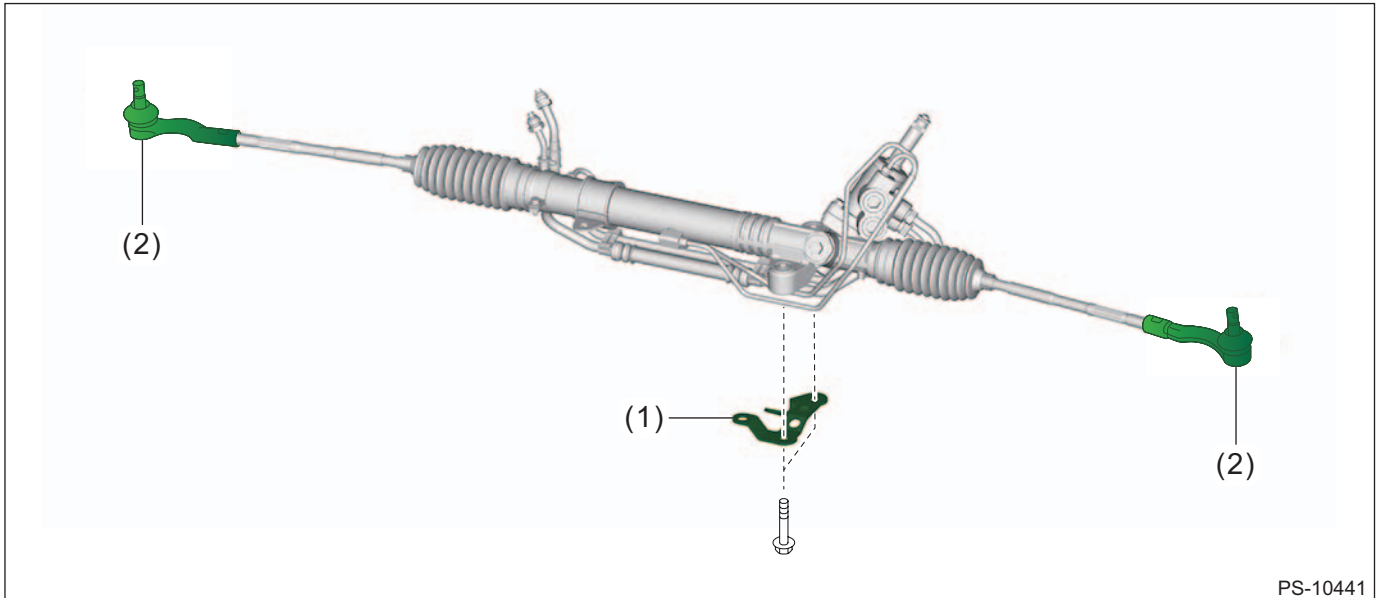
4-6 Power Steering System

A: GENERAL DESCRIPTION

- The stiffener has been modified.
- Tie rod end has been modified.

B: DETAILS

The stiffener and tie rod end have been modified to improve steering response.



(1) Stiffener

(2) Tie rod end

5.BODY

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5-1 Exterior

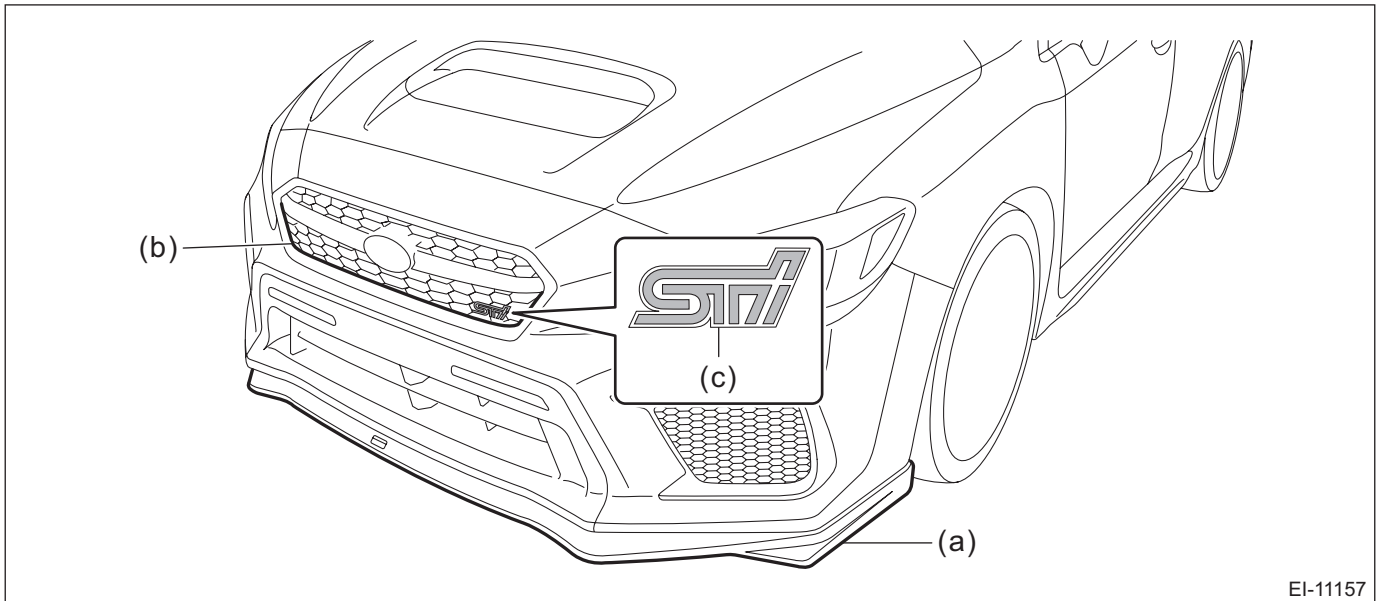
A: GENERAL DESCRIPTION

A special exterior has been chosen to show off the high performance of the TYPE RA. In addition, the adoption of dry carbon fiber sports components improved driving performance and reduced the overall weight of the vehicle body.

B: DETAILS

1. FRONT BUMPER AND FRONT GRILLE

- A front under spoiler has been added to the front bumper.
- A cherry red painted stripe has been added to the front grille.
- The STI ornament on the front grille has been changed to cherry red.

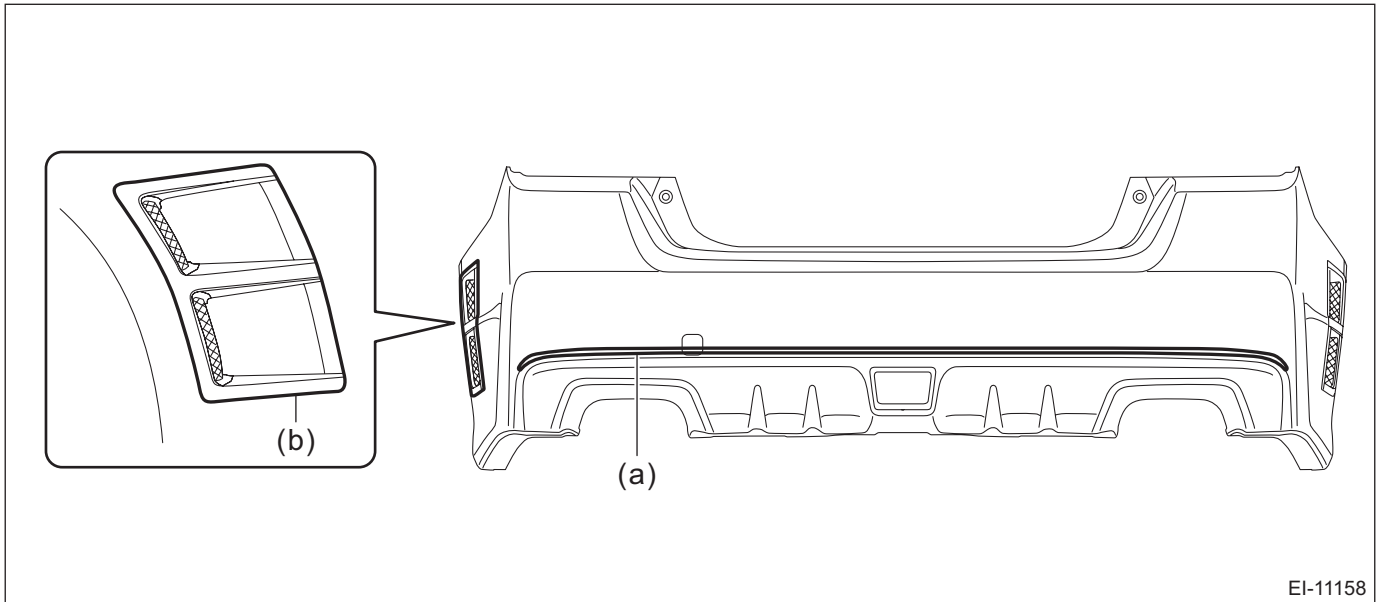


- (a) Front under spoiler
(b) Painted stripe

- (c) STI ornament

2. REAR BUMPER

- A cherry red stripe has been added to the rear bumper.
- Air outlet ducts have been added to both sides of the rear bumper.

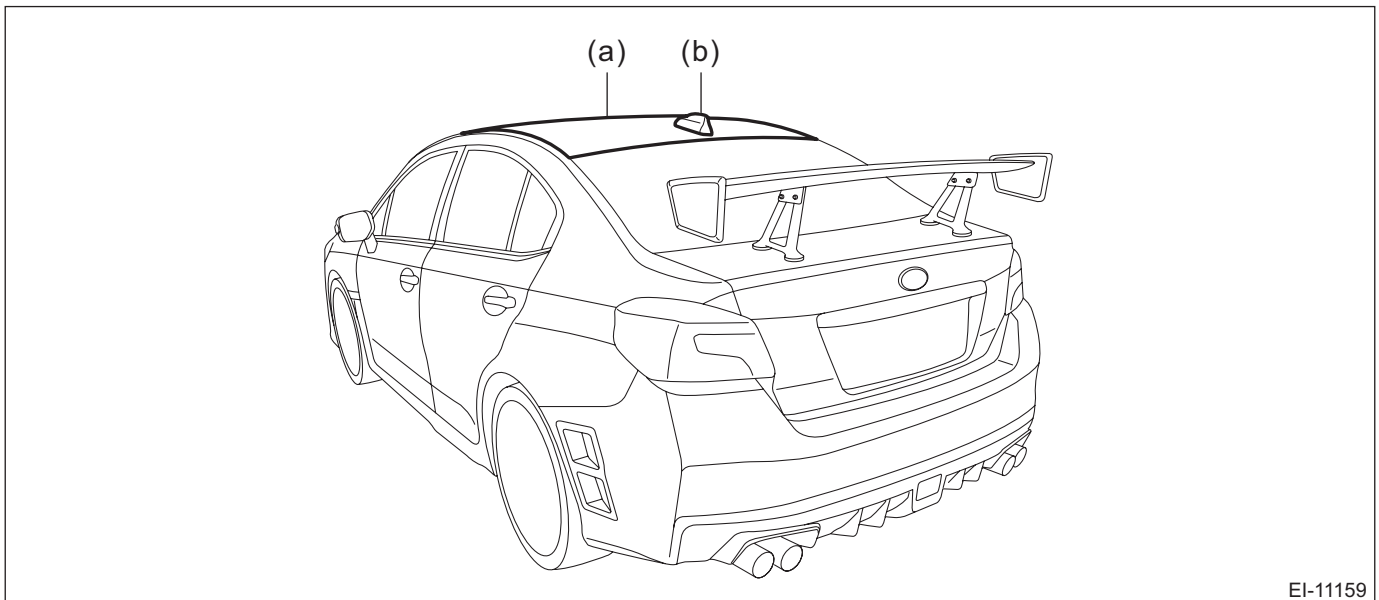


(a) Stripe

(b) Air outlet duct

3. ROOF PANEL

- To reduce the overall weight of the vehicle body, the roof panel material has been changed to dry carbon fiber.
- The roof carrier mounting mechanism and roof molding have been removed in order to change the roof panel structure, reduce the overall vehicle body weight, and improve the appearance.
- The shark fin antenna color has been changed from the body color to a crystal black silica color.

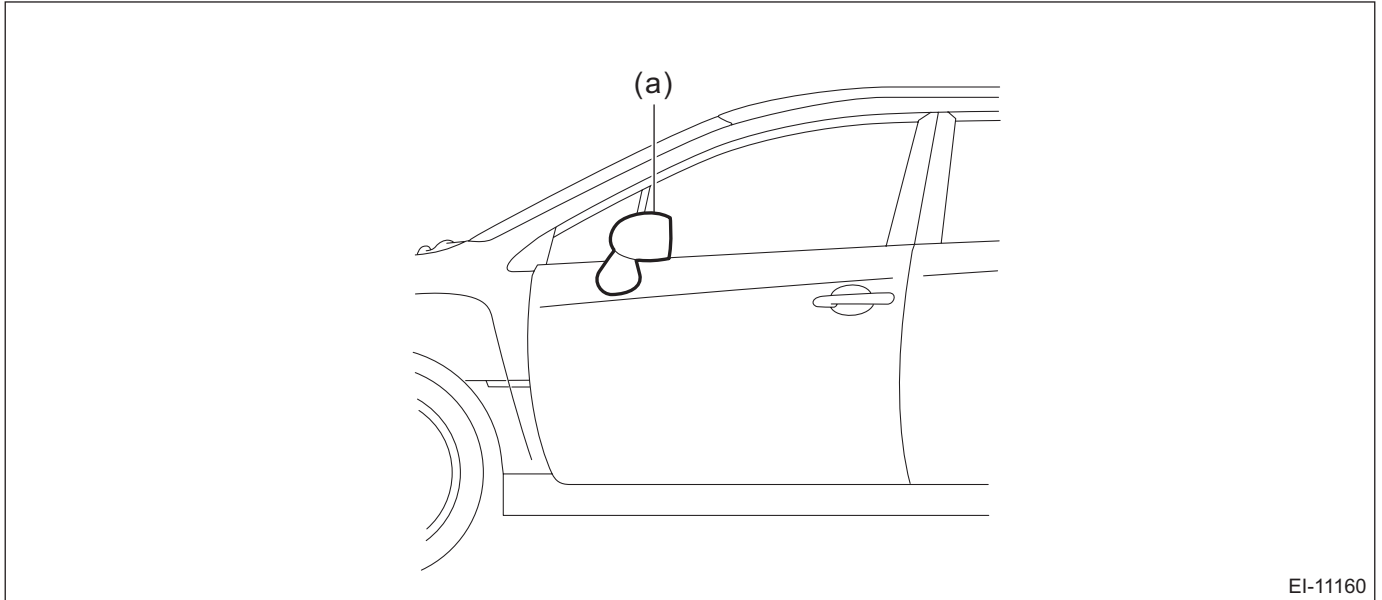


(a) Roof panel

(b) Shark fin antenna

4. OUTER MIRROR

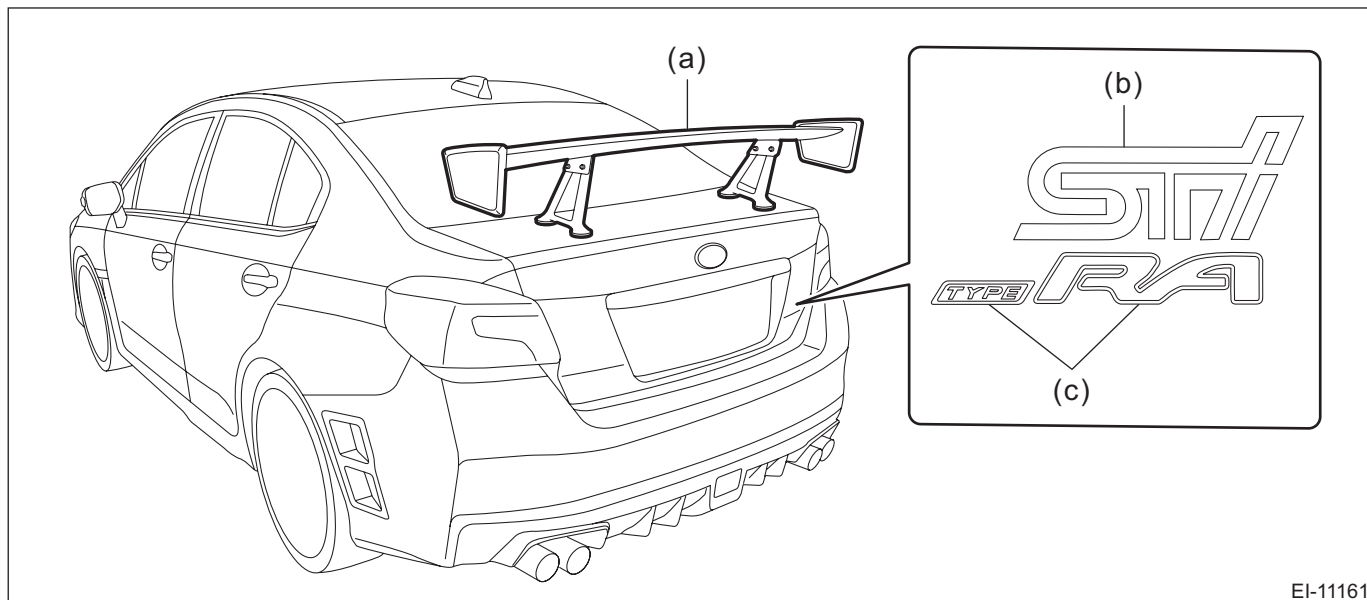
The outer mirror color has been changed from the body color to a crystal black silica color.



(a) Outer mirror

5. TRUNK LID AND REAR SPOILER

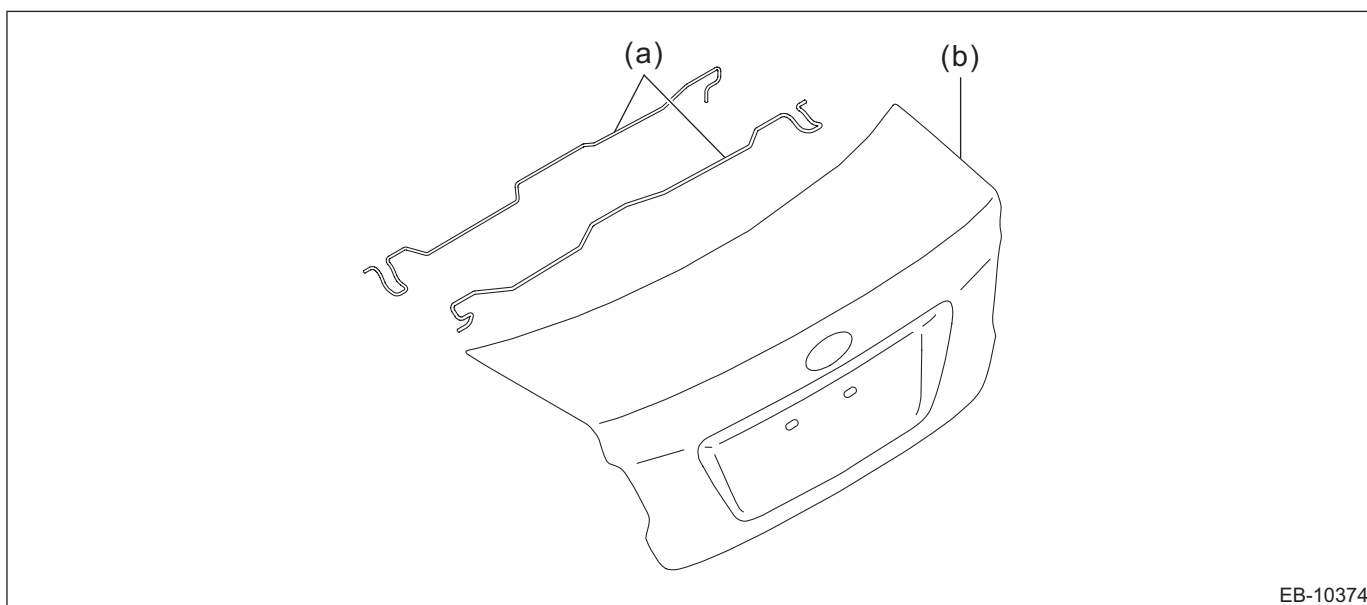
- A large dry carbon fiber rear spoiler has been adopted to improve driving performance and reduce the overall weight of the vehicle body.
- A special trunk lid with mounting holes to accommodate the new large rear spoiler has been adopted.
- The STI ornament on the trunk lid has been changed to cherry red.
- A TYPE RA ornament has been installed on the trunk lid.



- (a) Large rear spoiler
(b) STI ornament

- (c) TYPE RA ornament

- A dedicated torsion bar has been adopted to accommodate the large rear spoiler.



- (a) Torsion bar

- (b) Trunk lid

5-2 Interior

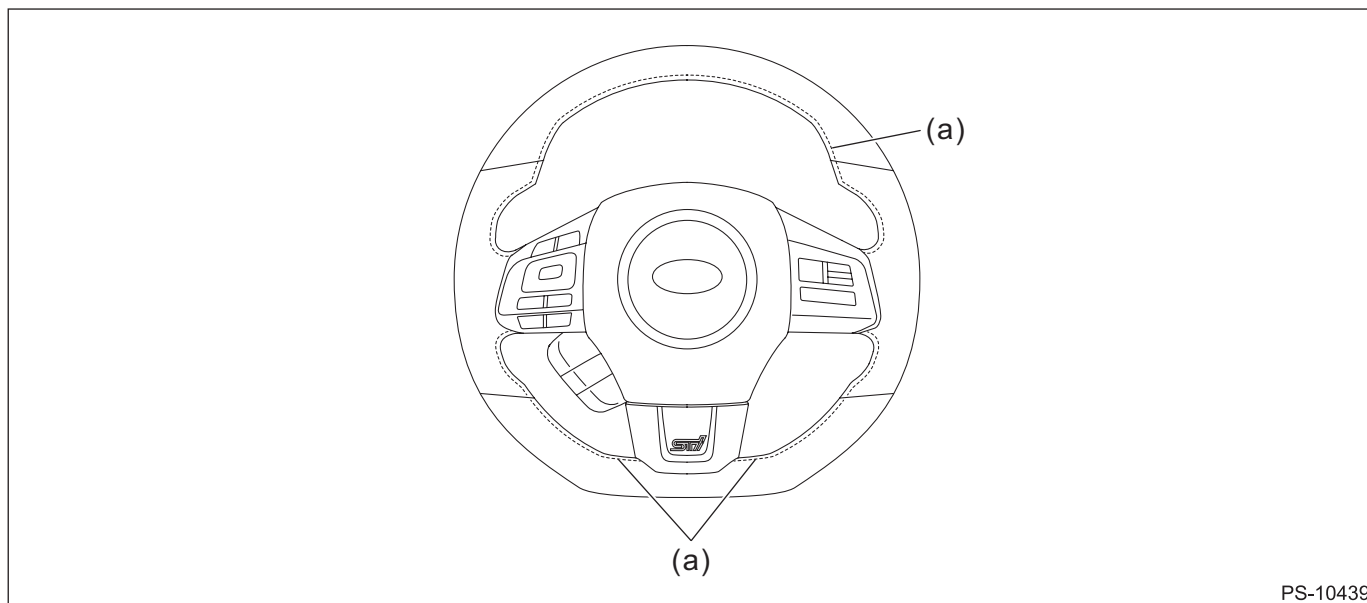
A: GENERAL DESCRIPTION

An dedicated interior that enhances the special feeling of owning a limited production vehicle has been adopted.

B: DETAILS

1. STEERING WHEEL

The steering wheel covering has been changed to Ultrasuede® with red stitching.

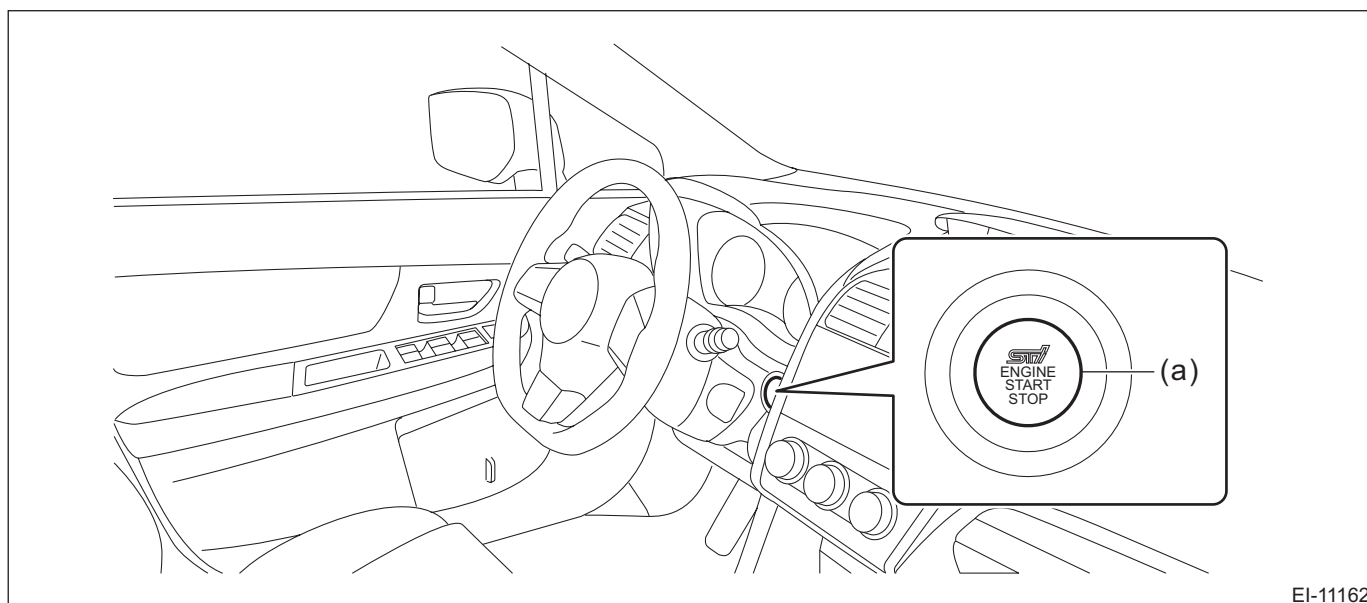


PS-10439

(a) Stitching

2. PUSH BUTTON START SWITCH

The push button start switch color has been changed to red and the STI logo has been added.



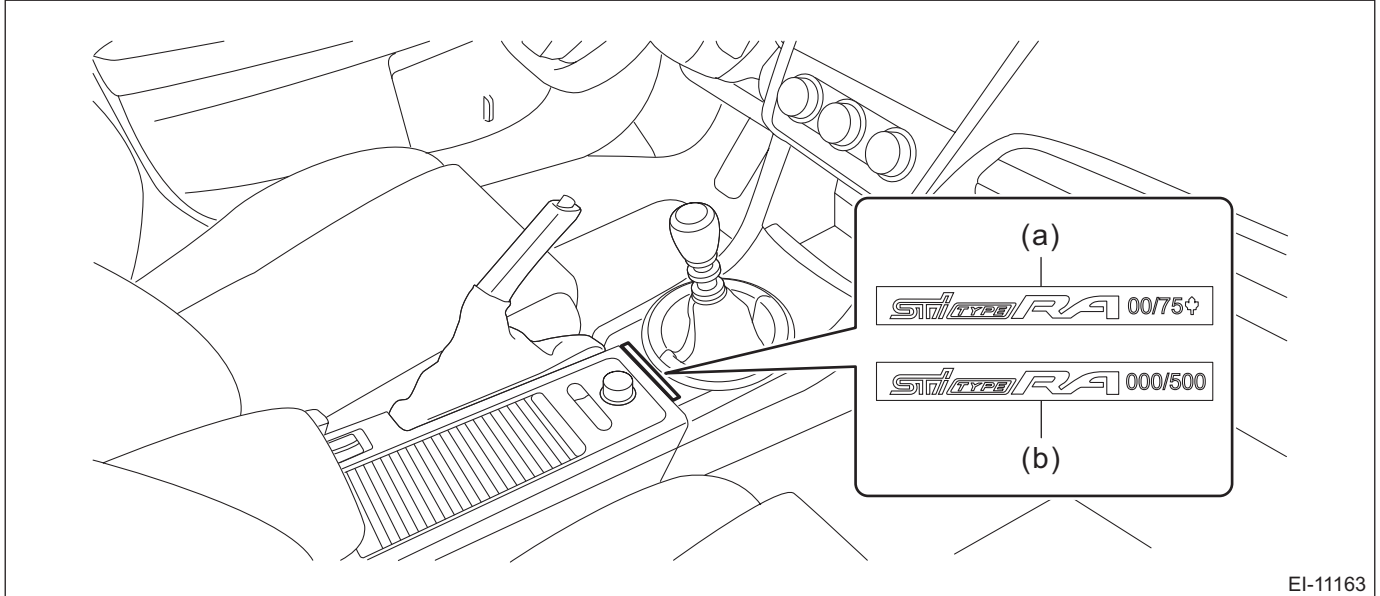
EI-11162

(a) Push button start switch

Interior

3. CENTER CONSOLE

A serial number plate has been added behind the gear shift lever.

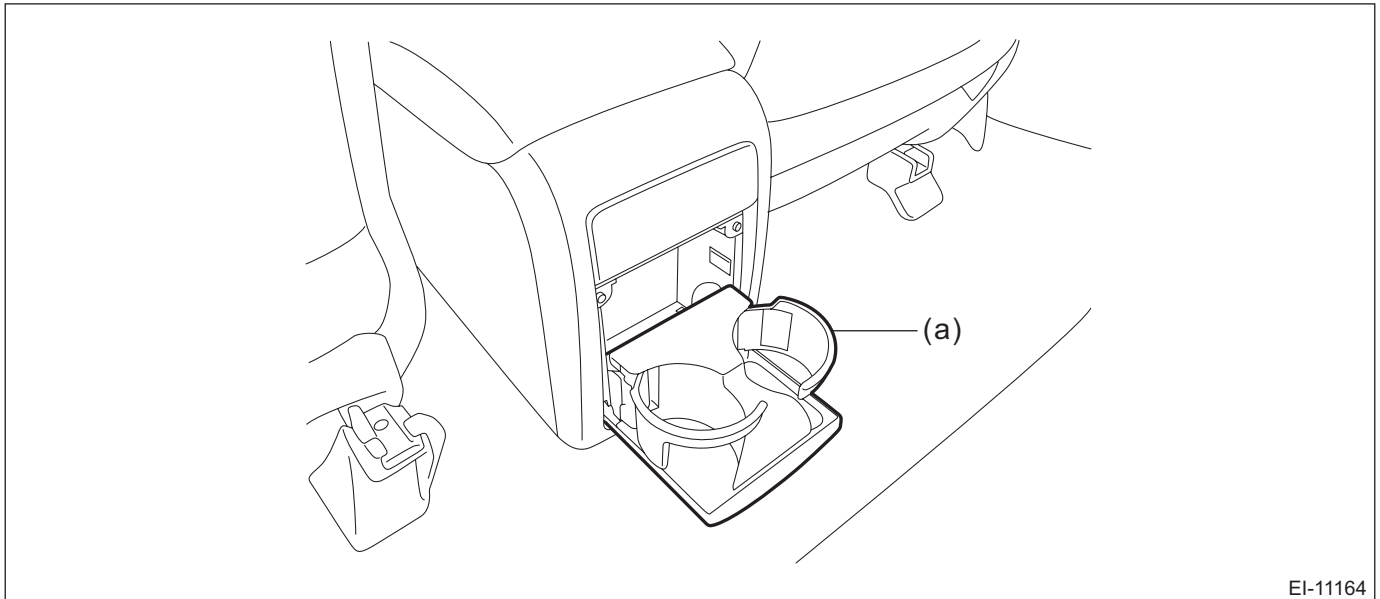


(a) Serial number plate (C0 models)

(b) Serial number plate (U4 models)

4. REAR CONSOLE

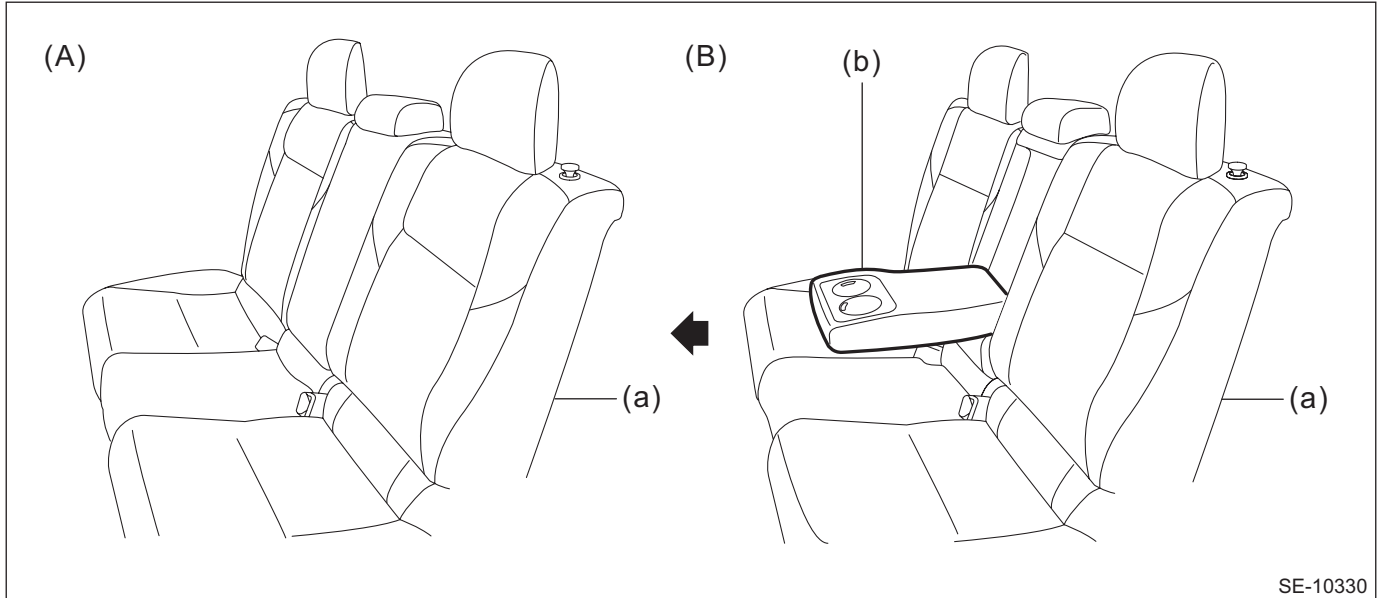
A rear seat cup holder has been added to the rear console.



(a) Cup holder

5. REAR SEAT

Rear seats without armrests have been adopted to reduce the overall weight of the vehicle body.



(A) TYPE RA
(a) Rear seat

(B) Other than TYPE RA
(b) Armrest