



INSTALLATION MANUAL

Installation must be done by a professional.

Read this manual prior to the installation.

Always have access to this manual as well as a factory service manual.

※ Make sure the vehicle is applicable to this kit.

NAME OF PRODUCT	GT SUPERCHARGER SYSTEM
PART NUMBER	12001-AT009
APPLICATION	<ul style="list-style-type: none"> • TOYOTA 86 (DBA-ZN6) 2012/4~ • SUBARU BRZ (DBA-ZC6) 2012/3~
ENGINE	FA20
REMARKS	<ul style="list-style-type: none"> ○ HKS will not be responsible for any and all damages to the vehicle's engine or other supplemental devices through the use of this product. ○ This kit (12001-AT009) includes the HKS GT Supercharger System Complete Kit base warranty. If the product is used under the following conditions, the warranty will be void.
	Conditions/Usage That Voids Warranty
	The maximum RPM limit is changed by replacing the supercharger pulley.
	The maximum RPM limit is changed by modifying the ECU data.
	<ul style="list-style-type: none"> ○ The pulley related to the belt layout such as crank pulley must be a stock pulley. ○ Modifications of the radiator support, alternator bracket, etc. are required. ○ Fuel and ignition settings are required. If neglected, the engine may be damaged.
	<p>When using with Flash Editor, the factory data of the exhaust system are as follows: CAT: SUPER MANIFOLD with CATALYZER GT-SPEC (33005-AT005) Exhaust System: LEGAMAX Sports (w/ Mid pipe) (32018-AT041)</p> <ul style="list-style-type: none"> ○ Engine oil's viscosity must be higher than 40. ○ Maintenances of the belts, traction fluid, etc. are required. Refer to the instruction manual for more details.

REVISION OF MANUAL

Rev. Number	Date	Manual Number	Details
3-3.01	2014/5	E04215-T59040-00	1 st Edition
3-3.02	2014/10	E04215-T59041-00	Instruction added.
3-3.03	2015/3	E04215-T59042-00	Instruction added.
3-3.04	2016/1	E04215-T59043-00	Parts list revised.
3-3.05	2017/4	E04215-T59044-00	Parts list revised and Instruction added.

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NOTICE

This manual assumes that you have and know how to use the tools and equipment necessary to safely perform service operations on your vehicle. This manual assumes that you are familiar with typical automotive systems and basic service and repair procedures. Do not attempt to carry out the operations shown in this manual unless these assumptions are correct. Always have access to a factory service manual. To avoid injury, follow the safety precautions contained in the factory service manual.

ATTENTION

- This manual indicates items you need to pay attention to in order to install this product safely and lists precautions to avoid any possible damage and/or accidents.
- This product is an automobile part. Do not use for any other purposes.
- HKS will not be responsible for any damage caused by incorrect installation and/or use, or use after modification and/or dismantling of this product.
- This product was designed for installation on a specific factory vehicle.
- The specifications of this product are subject to change without notice.
- The instructions are subject to change without notice. Make sure to refer to the most recent instructions.

SAFETY PRECAUTIONS

The following precautions for use of this product are to prevent possible accidents and/or injuries and for proper use.



WARNING: Indicates risk of serious injury and/or possible death.



CAUTION: Indicates risk of serious injury and/or possible property damage (i.e. vehicle damage as from use of this product.).

PARTS LIST

No.1

NO.	DESCRIPTIONS	QT	REMARKS
1	GT Supercharger	1	
2	Supercharger Bracket	1	
3	V-ribbed Belt	1	6PK2110
4	Intercooler	1	
5	Suction Pipe	1	
6	Restrictor	1	
7	Suction Pipe Gasket	2	
8	Intercooler Inlet Pipe	1	
9	Intercooler Outlet Pipe No.1	1	
10	Intercooler Outlet Pipe No.2	1	
11	Blow-off Valve	1	
12	Blow-off Valve Gasket	1	
13	Traction Fluid	1	
14	Traction Fluid Tank	1	
15	Traction Fluid Filter	1	
16	Traction Fluid Cooler	1	
17	Intercooler Bracket No.1	1	
18	Intercooler Bracket No.2	1	
19	Intercooler Inlet Pipe Bracket	1	
20	Traction Fluid Filter Bracket	1	
21	Traction Fluid Cooler Bracket No.1	1	
22	Traction Fluid Cooler Bracket No.2	1	
23	Silicone Hose 75mm L83	1	
24	Silicone Hose 75mm L55	2	
25	Silicone Hose 60mm L70	3	
26	Silicone Hose 55mm L43	1	
27	Silicone Hose 50-60mm	1	
28	Silicone Hose 22mm	1	
29	Silicone Hose 12-18mm	1	
30	Traction Fluid Hose 10mm	1	L600
31	Traction Fluid Hose 8mm	1	L2000
32	Hose 10mm	1	L200
33	Hose 4mm	1	L1000
34	Corrugated Tube 15mm	1	L2000
35	Corrugated Tube 10mm	1	L70
36	Oil Level Gauge Clamp	1	
37	Joint Pipe 12mm	1	
38	T-fitting 10mm-4mm-10mm	1	

PARTS LIST

No.2

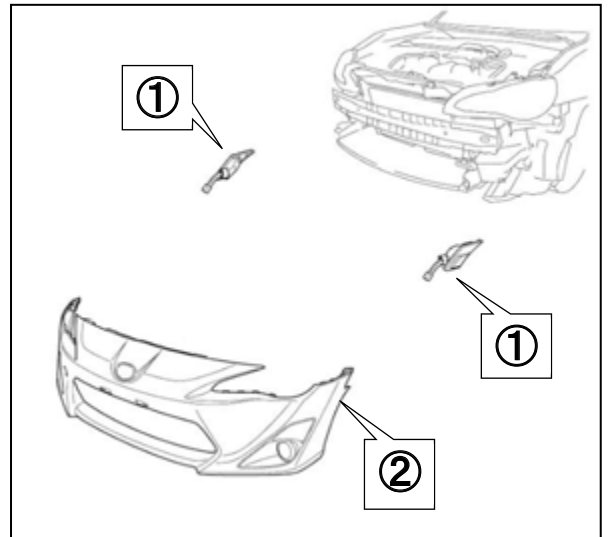
NO.	DESCRIPTIONS	QT	REMARKS
39	Spacer T=5	1	
40	Insulator Rubber	1	
41	Rubber Cap 50mm	1	
42	Rubber Cap 16mm	1	
43	Hose Clamp #48	4	
44	Hose Clamp #40	7	
45	Hose Clamp #36	3	
46	Hose Clamp 26.0mm	2	Mark 260
47	Hose Clamp 23.0mm	1	Mark 230
48	Hose Clamp 18.0mm	2	Mark 180
49	Hose Clamp 15.5mm	6	Mark 155
50	Hose Clamp 13.8mm	3	Mark 138
51	Hose Clamp 13.0mm	6	Mark 130
52	Hose Clamp 11.5mm	3	Mark 115
53	Hose Clamp 6.8mm	2	Mark 68
54	Cap Bolt M10 L45	1	
55	Cap Bolt M8 L125	1	
56	Cap Bolt M8 L85	2	
57	Cap Bolt M8 L20	4	
58	Cap Bolt M6 L50	1	
59	Cap Bolt M6 L18	3	
60	Dish Bolt M8 L30	3	
61	Hexagon Bolt M8 L25	1	
62	Hexagon Bolt M8 L20	5	
63	Hexagon Bolt M6 L20	2	
64	Flange Bolt M6 L20	3	
65	Flat Washer M8	10	
66	Flat Washer M6 Major Dia.	4	
67	Flange Nut M8	4	
68	Flange Nut M6	2	
69	Tie Wrap (M)	9	
70	Installation Manual	1	
71	Operation Manual	1	

1. REMOVAL OF FACTORY PARTS

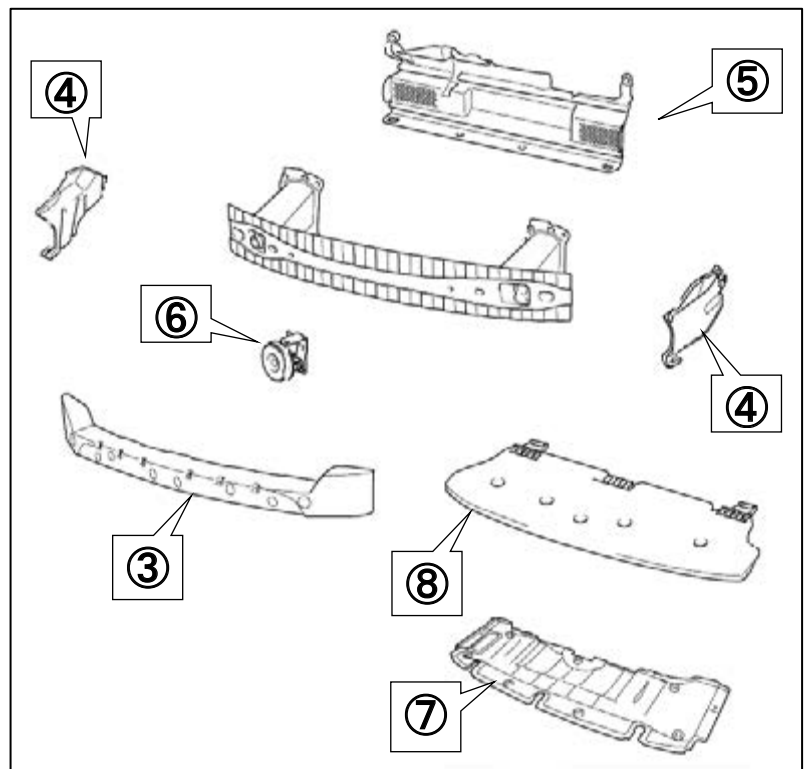
Refer to this instruction manual and the factory service manual to remove the factory parts.

Parts List			
NO.	DESCRIPTIONS	QT	
Refer to the parts list on page 2 to 3.			
P42	Rubber Cap 16mm	1	

- (1) Disconnect the cable from the battery.
- (2) Remove the engine under cover. (Keep it for later use.)
- (3) Remove ①side signal lights from both sides. (Keep them for later user.)
- (4) Remove ②front bumper. (Keep it for later use.)



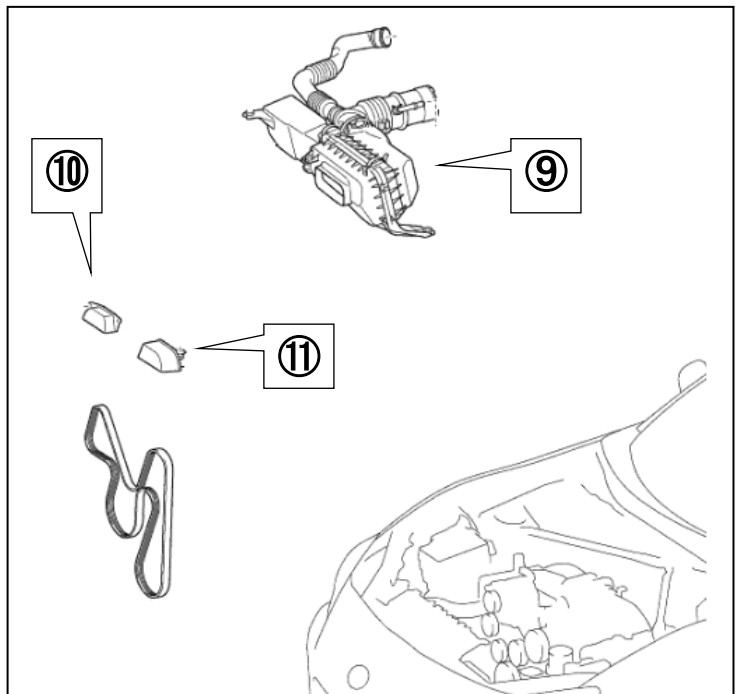
- (5) Remove ③ front bumper energy absorber. (Keep it for later use.)
- (6) Remove ④ front bumper reinforcement from both sides.
- (7) Remove ⑤ radiator cover plate.
- (8) Remove ⑥ horn. (Keep it for later use.)
- (9) Remove ⑦ front bumper cover LWR. (Keep it for later use.)
- (10) Remove ⑧ front bumper bracket. (Keep it for later use.)



(11) Remove ⑨air cleaner case. (Keep it for later use.)

(12) Remove ⑩belt cover.

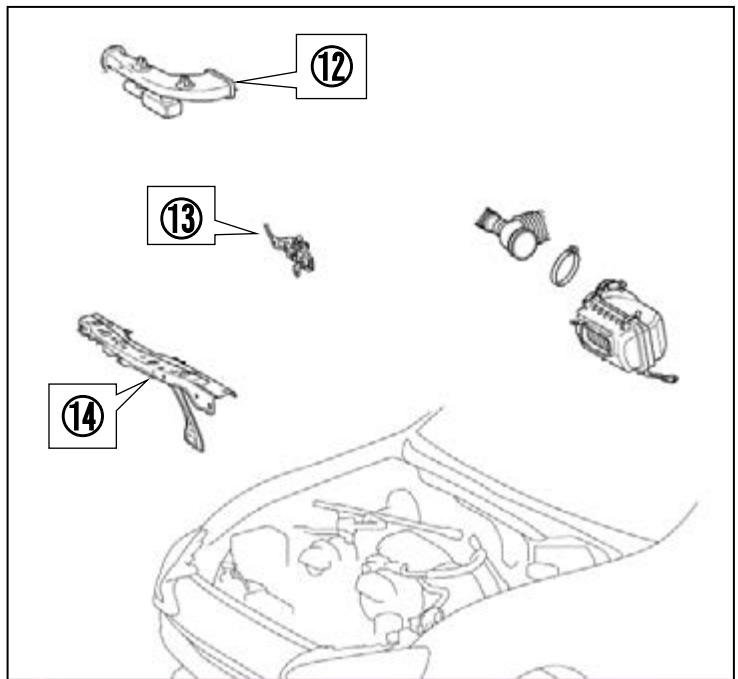
(13) Remove ⑪belt cover. (Keep it for later use.)



(14) Remove ⑫air cleaner duct. (Keep it for later use.)

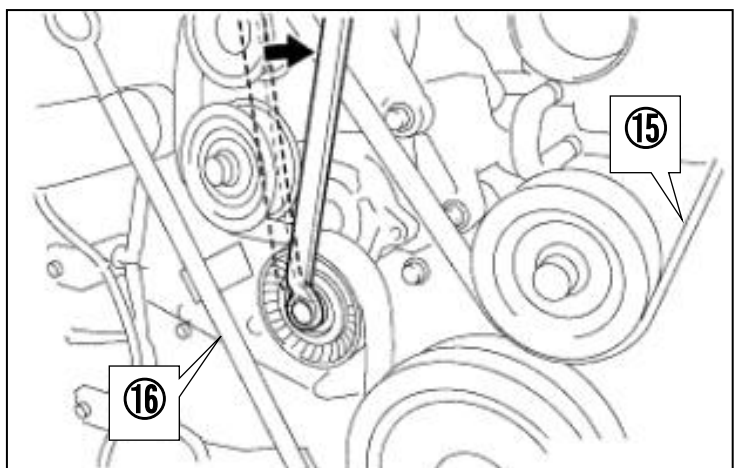
(15) Remove ⑬hood lock from the radiator support. (Keep it for later use.)

(16) Remove ⑭radiator support. (Keep it for later use.)



(17) Hold the tensioner pulley with a tool and rotate the tensioner to the right to lower the tension. Remove ⑮belt.

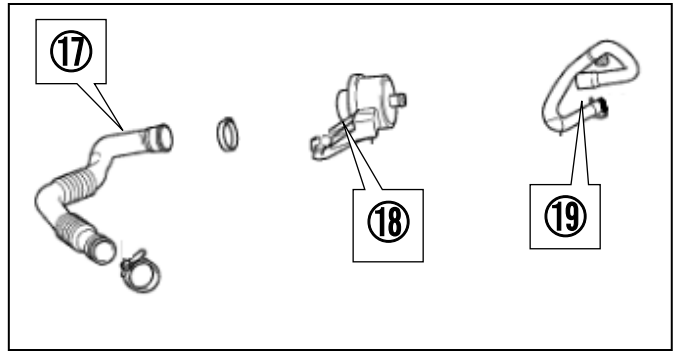
(18) Remove ⑯oil level gauge. (Keep it for later use.)



(19) Remove ⑰air cleaner duct, ⑱chamber, and ⑲hose.

(20) Install Rubber Cap 16mm to the position ⑲ hose was removed.

- P41 Rubber Cap 16mm x 1

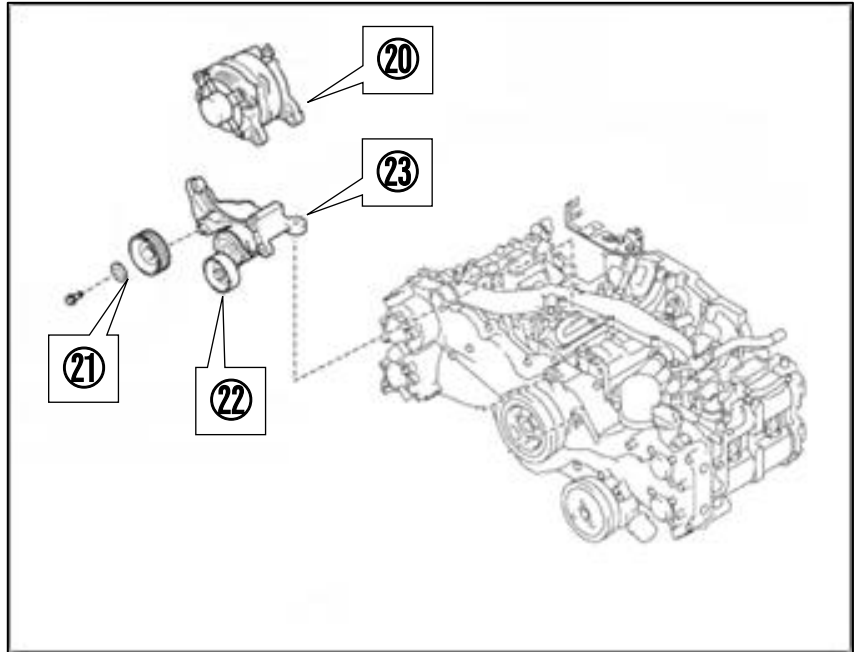


(21) Remove ⑳alternator. (Keep it for later use.)

(22) Remove ㉑idler pulley.

(23) Remove ㉒ auto-tensioner. (Keep it for later use.)

(24) Remove ㉓ alternator bracket. (Keep it for later use.)



(25) Remove ㉔horn. (Keep it for later use.)

(26) Remove ㉕outside temperature sensor. (Keep it for later use.)



2. MODIFICATION & RELOCATION OF FACTORY PARTS

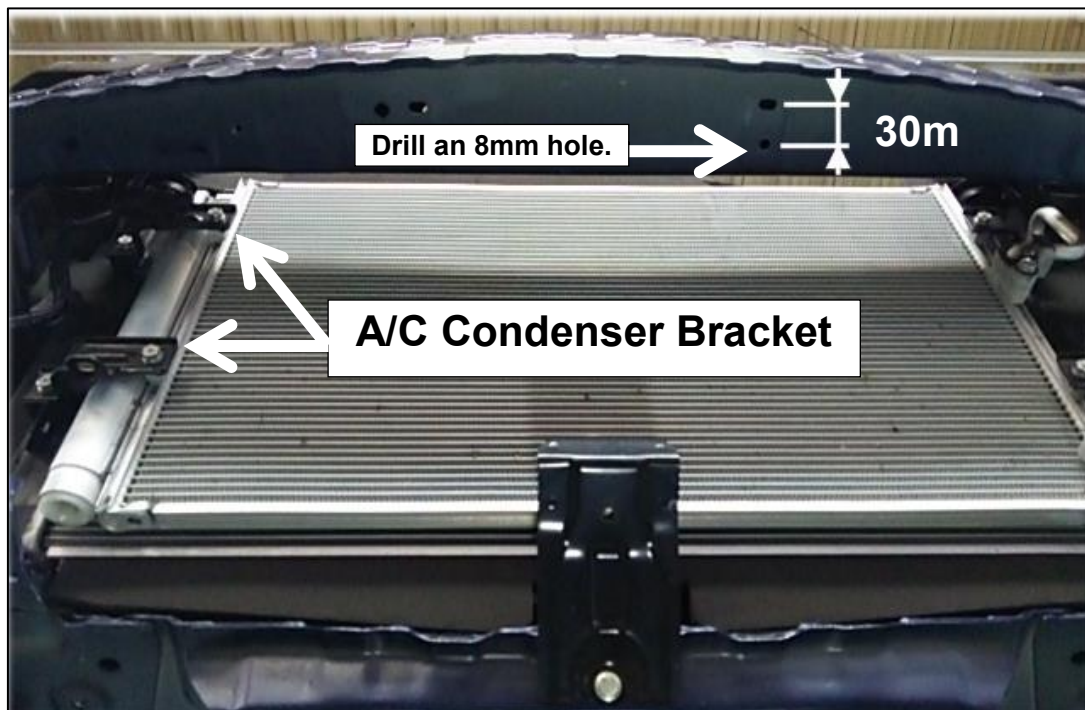
PARTS LIST			
	NO.	DESCRIPTIONS	QT
	P17	Intercooler Bracket No.1	1
	P35	Corrugated Tube 10mm	1
	P41	Rubber Cap 50mm	1
	P48	Hose Clamp 18.0mm	1
	P50	Hose Clamp 13.8mm	1
	P51	Hose Clamp 13.0mm	1
	P52	Hose Clamp 11.5mm	3
	P59	Cap Bolt M6 L=18	2
	P66	Flat Washer M6 Major Dia.	2
	P69	Tie Wrap (M)	2

(1) Remove the A/C condenser bracket on the upper right side. Cut off the shaded area of the bracket shown in the diagram on the right.



(2) Reinstall the A/C condenser bracket modified in 2.(1) to the original position.

(3) Drill an 8mm hole in the front bumper reinforcement in the position indicated in the diagram below.

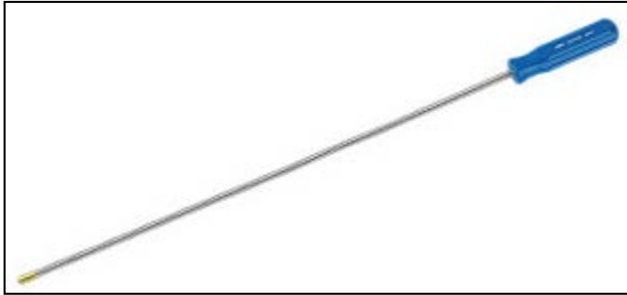


(4) Temporarily install Intercooler Bracket No.1 to the hose made in 2.(3).

- P17 Intercooler Bracket No.1 x 1
- P59 Cap Bolt M6 L=18 x 2
- P66 Flat Washer M6 Major Dia. x 2

NOTE

- For easier installation, use a magnet hand or something similar.
- For easier installation, insert a ball point hexagon wrench from the upper side of the front bumper reinforcement.



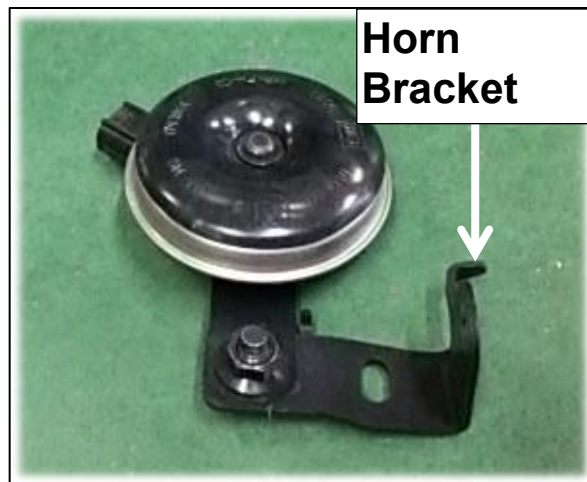
(5) Shave 2mm of the pipe clamp on the A/C condenser of the passenger's side as shown below.

NOTE

- This must be done so the condenser does not come in contact with the traction fluid cooler.



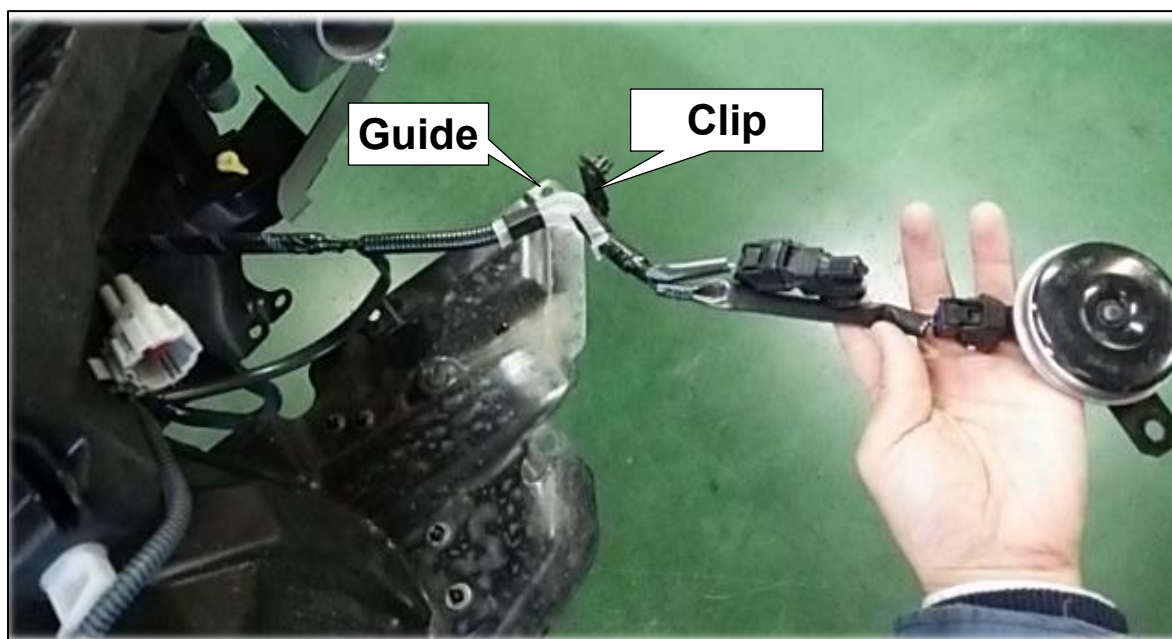
(6) Remove the bracket from ⑥horn removed in 1.(8).



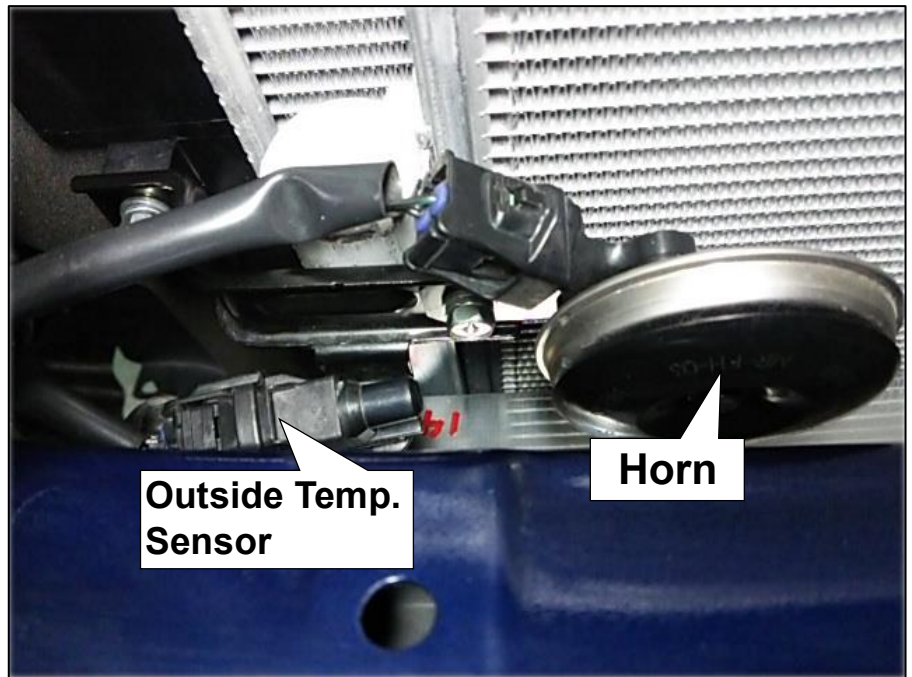
(7) Rotate the horn bracket to the position shown in the diagrams below.



(8) Remove the plastic guide and clip from the horn and outside temperature sensor.



- (9) Install the outside temperature sensor and horn to the A/C condenser bracket install in 2.(2).

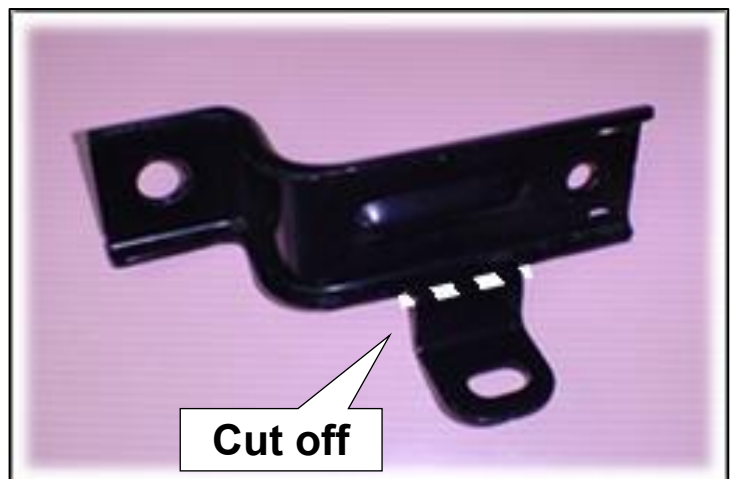


- (10) Cut off the portion of the A/C condenser bracket on the lower right side along the dotted line shown in the diagram on the right.

NOTE

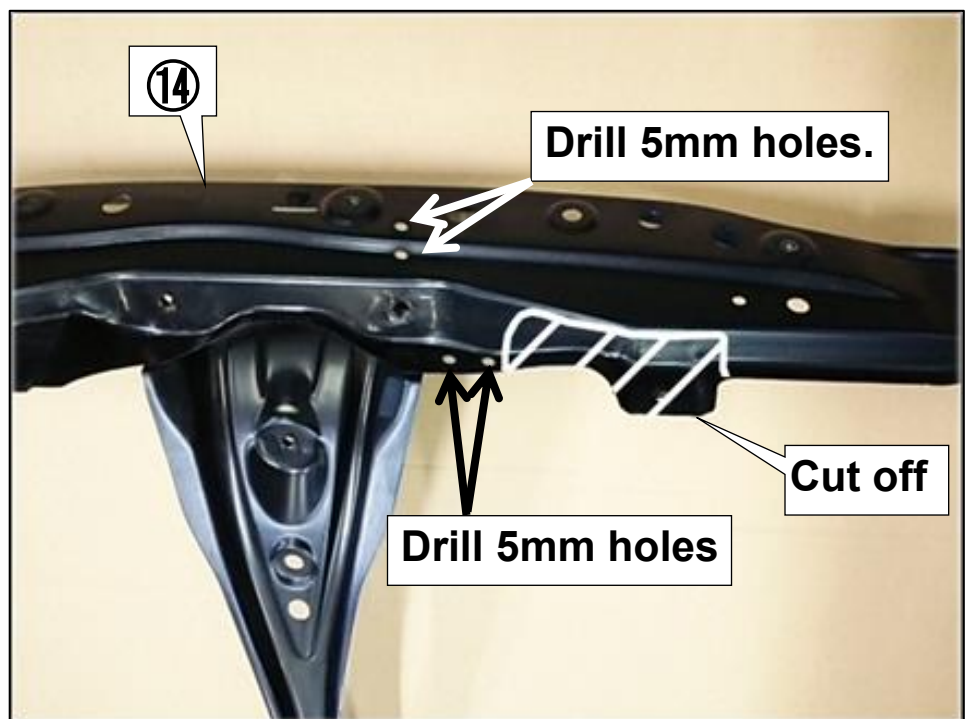
- This modification must be done so the bracket does not come in contact with the intercooler.

- (11) Reinstall the A/C condenser bracket to the original position.

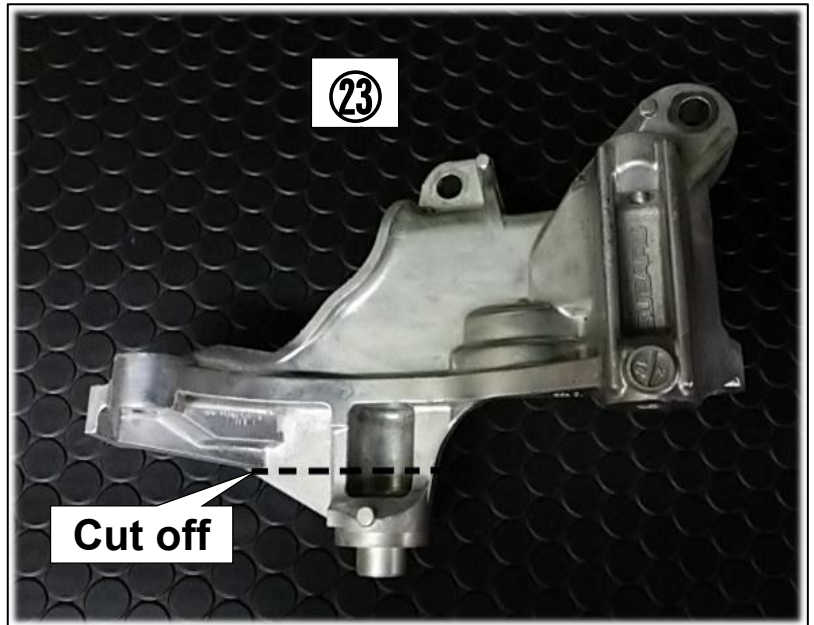


- (12) Cut off the shaded area of the ⑭ radiator support removed in 1.(16) shown in the diagram on the right.

- (13) Drill 4 of 5mm hole in ⑭ radiator support in the positions shown in the diagram on the right.



(14) Cut off the portion of the idler pulley installing part of ②③ alternator bracket in 1.(24) along the dotted line shown in the diagram on the right.



(15) Install ②③ alternator bracket modified in 2.(14) to the engine.

(16) Remove one M10 bolt from ②③ alternator bracket installed in 2.(15) referring to the diagram on the right.

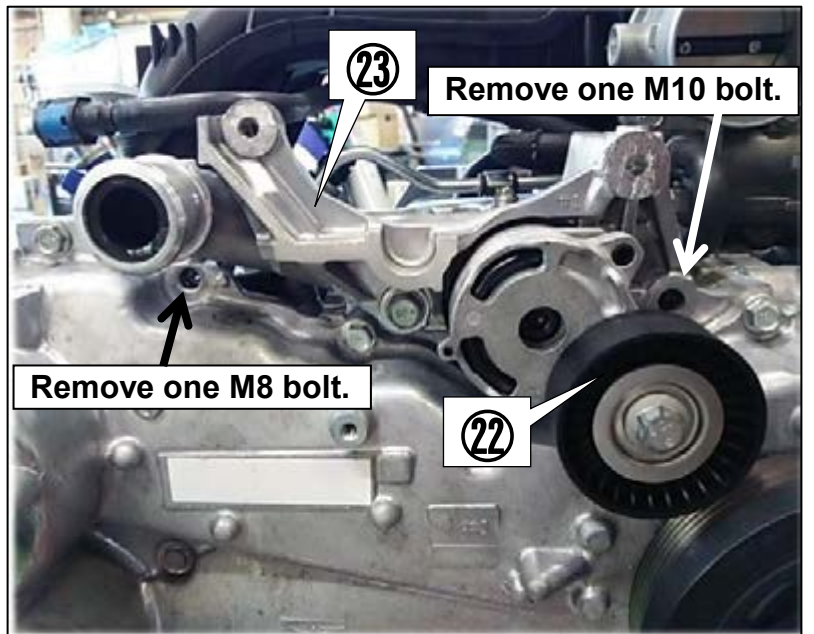
NOTE

◇ Supercharger Bracket will be installed in this position later.

(17) Remove one M8 bolt securing the timing chain cover referring to the diagram on the right.

NOTE

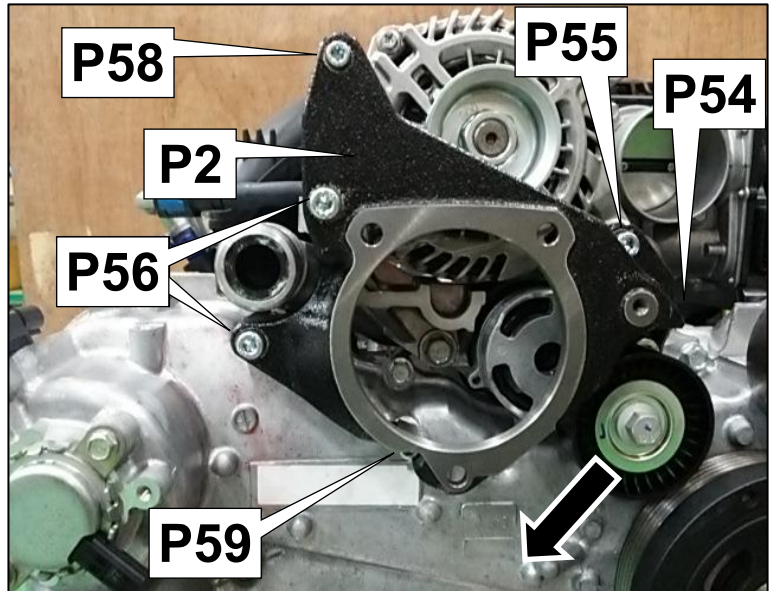
◇ Supercharger Bracket will be installed in this position later.



(18) Temporarily install ②① alternator removed in 1.(21) to ②③ alternator bracket.

(19) Install the Supercharger Bracket to the engine, and stroke the auto tensioner to the direction of arrow. Make sure the auto tensioner strokes and not interfere with the Supercharger Bracket.

- P2 Supercharger Bracket
- P54 Cap Bolt M10 L45 x 1
- P55 Cap Bolt M8 L125 x 1
- P56 Cap Bolt M8 L85 x 1
- P58 Cap Bolt M6 L50 x 1
- P59 Cap Bolt M6 L18 x 1



(20) Remove the Supercharger Bracket from the engine.

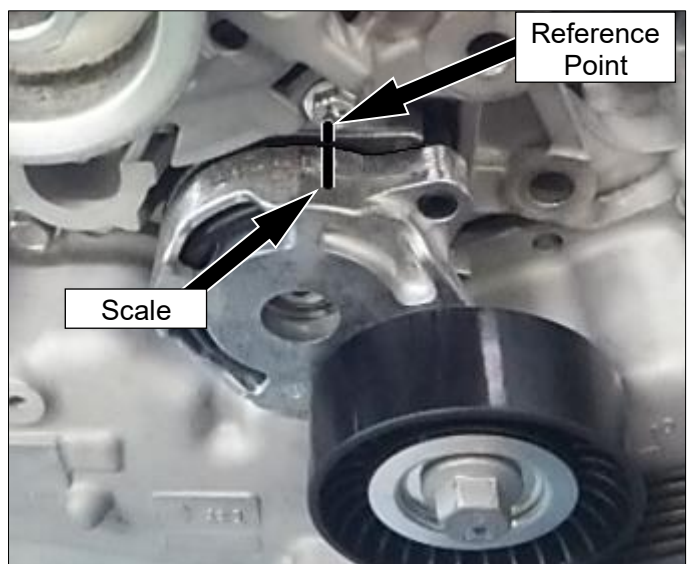
(21) When the supercharger bracket and the auto tensioner interfere, sharpen the position of the circle in the right figure so as not to interfere.



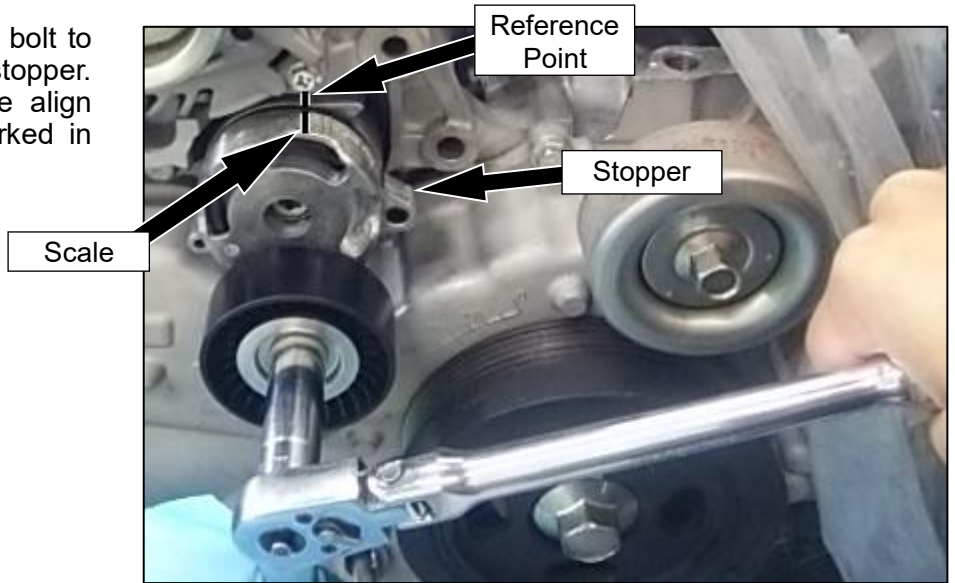
(22) For maintenance purpose, mark two positions on Auto Tensioner circled in the diagram on the right using an oil-based marking pen or a similar pen.

NOTE

- ✧ Mark the reference point on the side secured to the engine. The scale must be marked on the movable side.
- ✧ The diagram on the right shows when Auto Tensioner is fully stroked to the stopper.



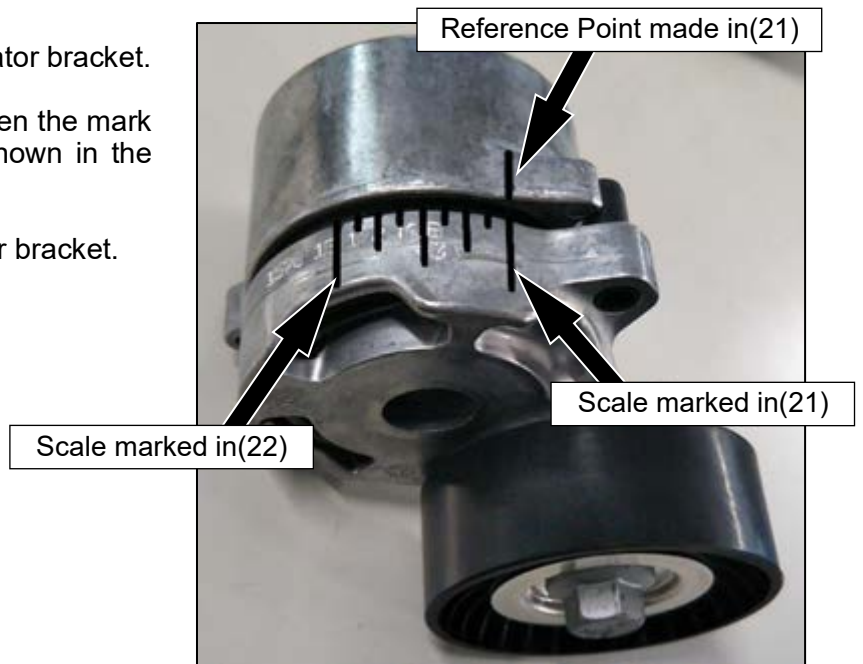
(23) Rotate Auto Tensioner pulley bolt to the right until it stops at the stopper. Mark another position where align with the reference point marked in (18).



(24) Remove Auto Tensioner from the alternator bracket.

(25) Equally divide and mark the area between the mark made in (18) and (19) into 8 parts as shown in the diagram on the right.

(26) Reinstall Auto Tensioner to the alternator bracket.

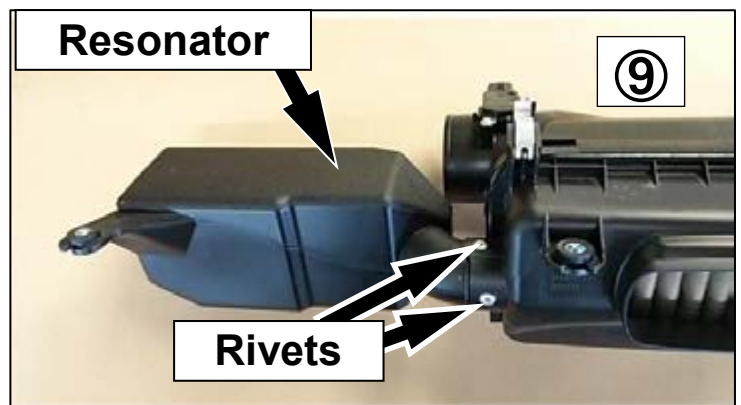


(27) Temporarily install the ⑩ alternator to the ⑬ alternator bracket.

(28) Remove the resonator from ⑨ air cleaner case removed in 1.(11).

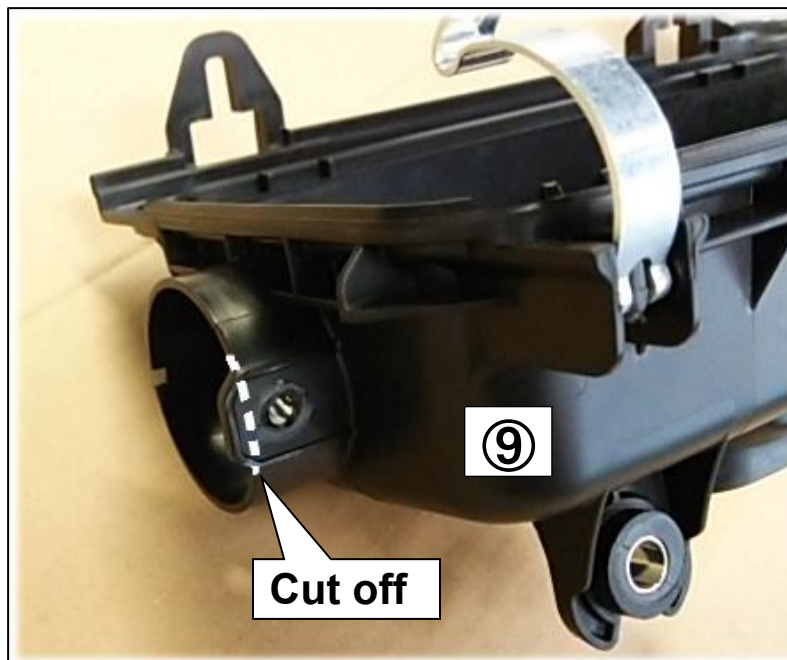
NOTE

✧ Remove 2 rivets using a drill.



※For the vehicle model registered by July, 2016 (Early Model) and the AT vehicle model registered as of August, 2016 (Late Model)

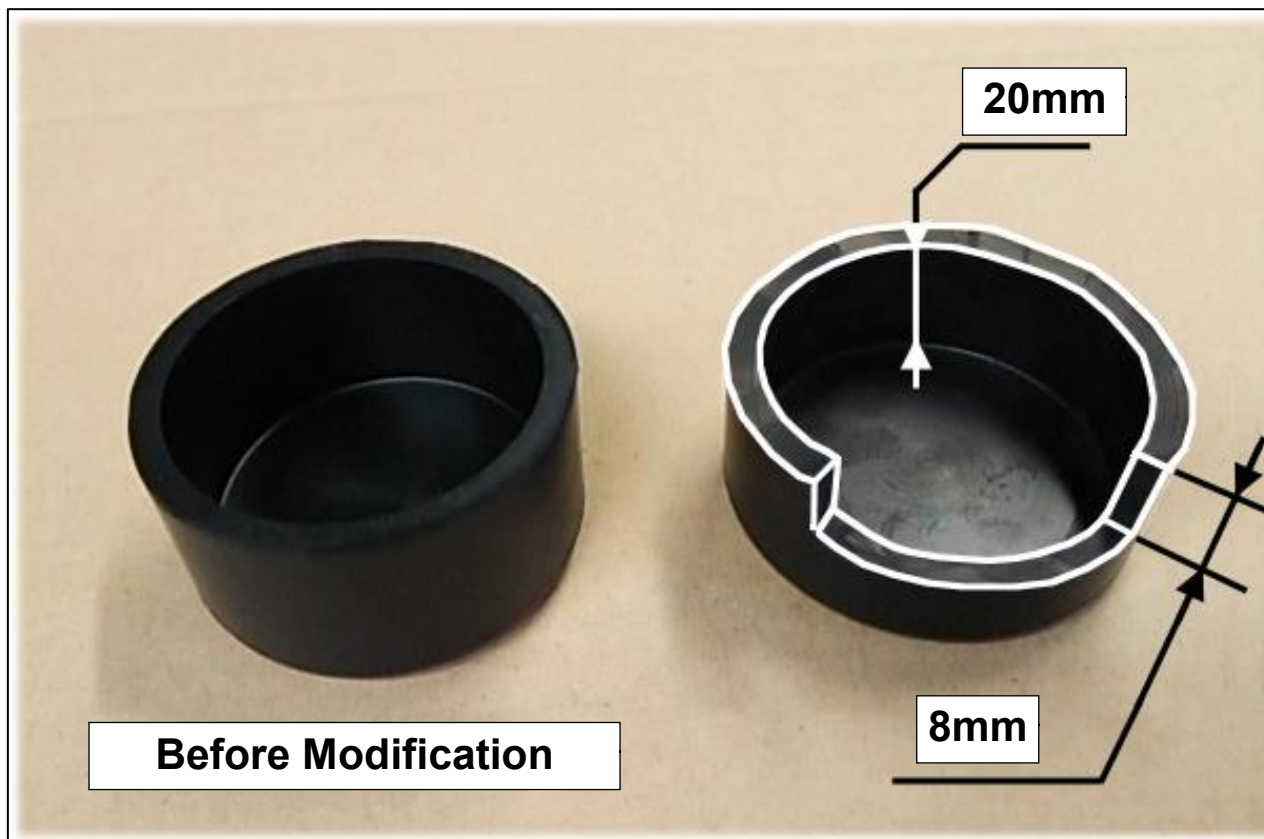
(29) Cut off the portion of ⑨air cleaner case modified in 2.(24) along the dotted line shown in the diagram on the right.



※For the vehicle model registered by July, 2016 (Early Model) and the AT vehicle model registered as of August, 2016 (Late Model)

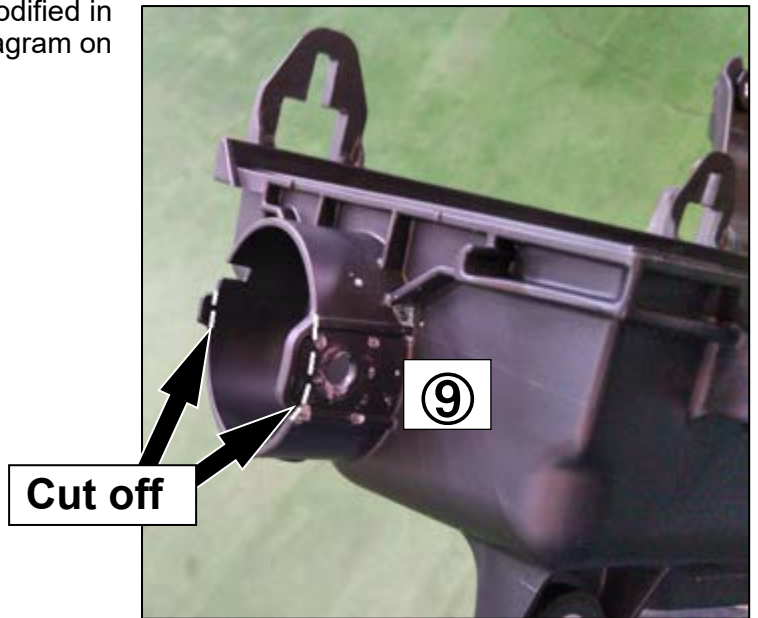
(30) Cut the Rubber Cap 50mm as shown in the diagram below.

- P41 Rubber Cap 50mm x 1



※For the MT vehicle model registered as of August, 2016 (Late Model)

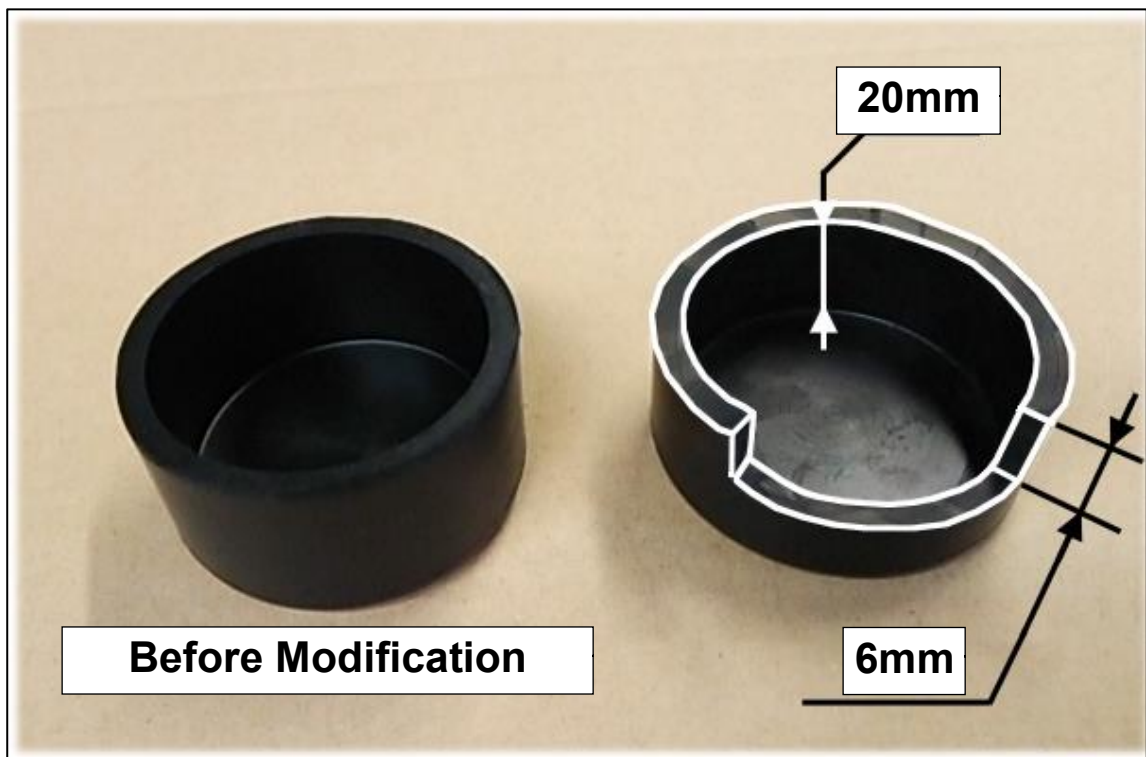
(31) Cut off the portion of ⑨air cleaner case modified in 2.(24) along the dotted line shown in the diagram on the right.



※For the MT vehicle model registered as of August, 2016 (Late Model)

(32) Cut the Rubber Cap 50mm as shown in the diagram below.

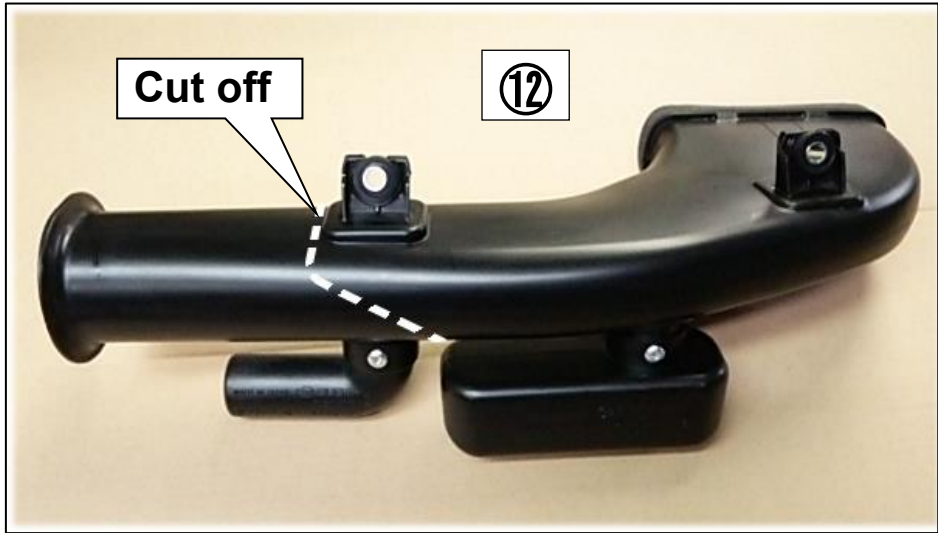
- P41 Rubber Cap 50mm x 1



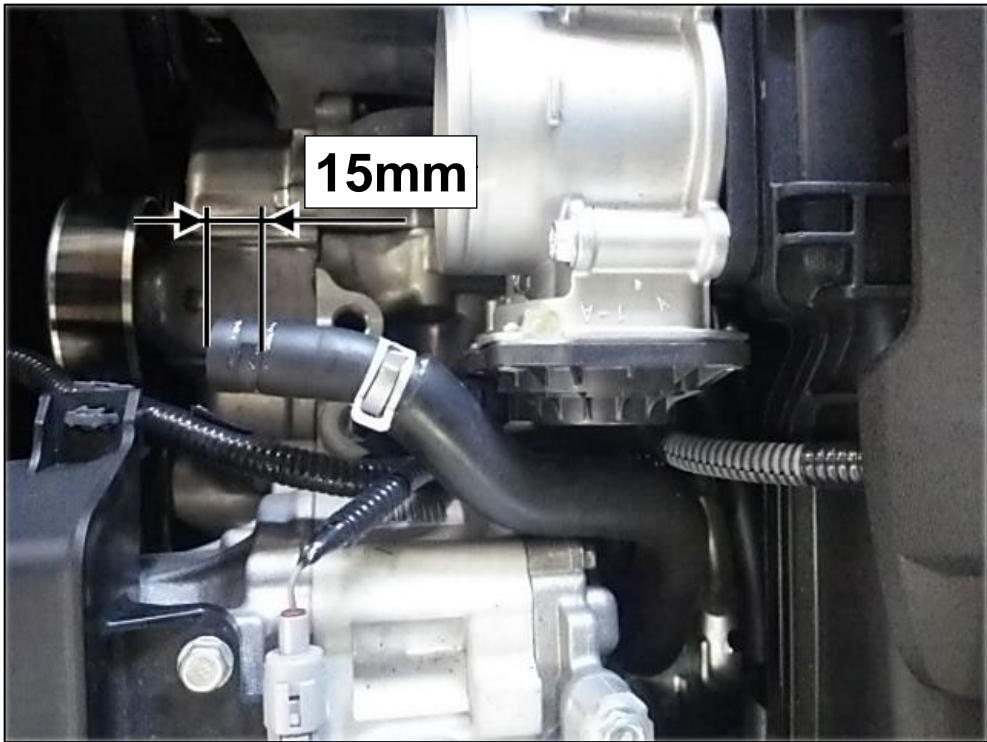
(33) Install the Rubber Cap 50mm modified in 2.(26) or 2.(28) to the position of the air cleaner where the resonator was removed in 2.(20).



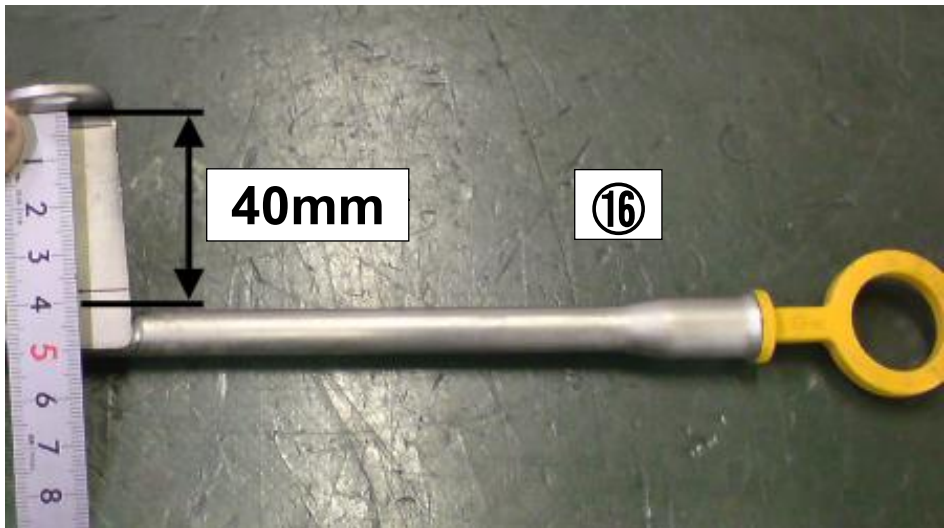
(34) Cut off ⑫ air cleaner duct removed in 1.(14) along the dotted line shown in the diagram below.



(35) Cut the blow-by hose at 15mm from the end as shown in the diagram below.



(36) Cut off ⑯ oil level gauge bracket removed in 1.(18) at 40mm from the part's side as shown in the diagram below.



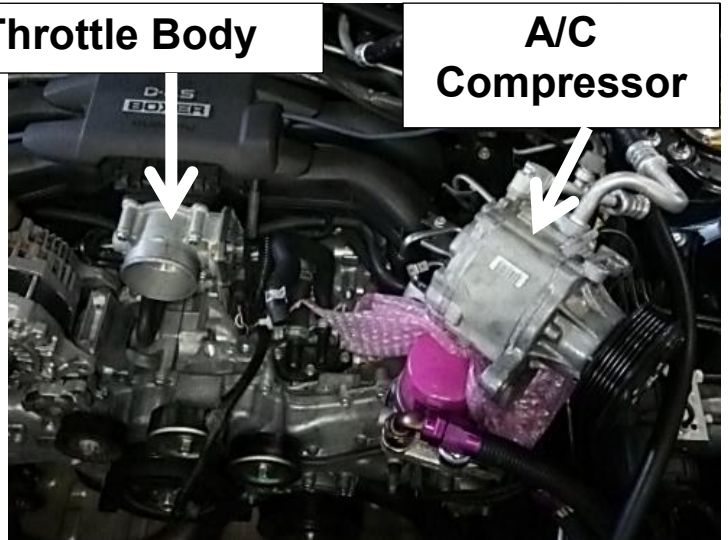
(37) Remove the installation bolt from the compressor. Move the compressor slightly so there is adequate space for installation function under the intake manifold.

NOTE

✧ Do not disconnect the piping.

Throttle Body

A/C Compressor



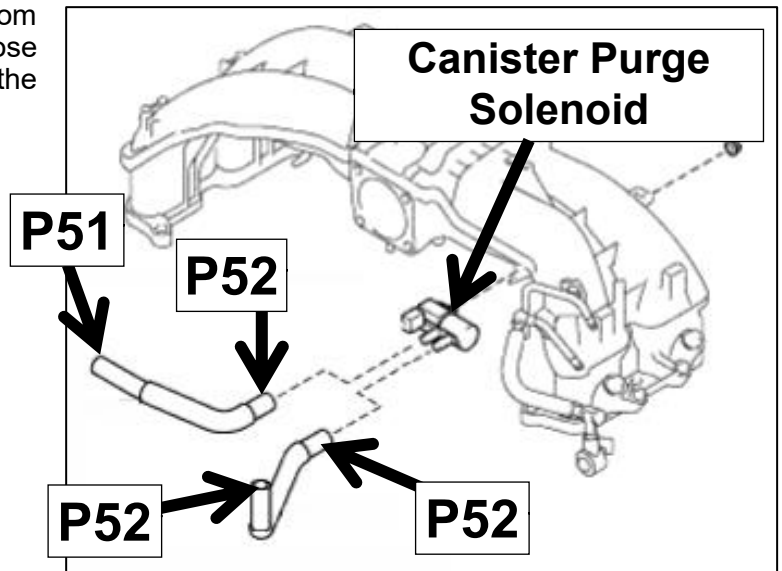
(38) Remove the installation bolt from the throttle body. Move the throttle body slightly so there is adequate space for installation function under the intake manifold.

NOTE

✧ Do not disconnect the water piping.

(39) Remove the canister purge solenoid from the intake manifold. Install the Hose Clamps as shown in the diagram on the right.

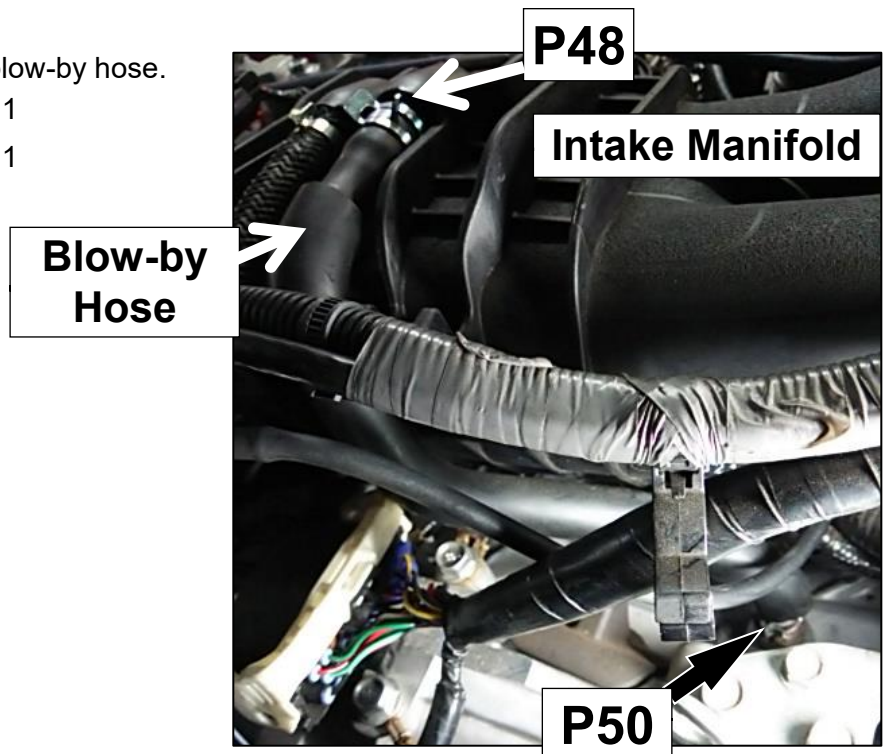
- P51 Hose Clamp 13.0mm x 1
- P52 Hose Clamp 11.5mm x 3



(40) Reinstall the canister purge solenoid. Place the throttle body and A/C compressor back in place.

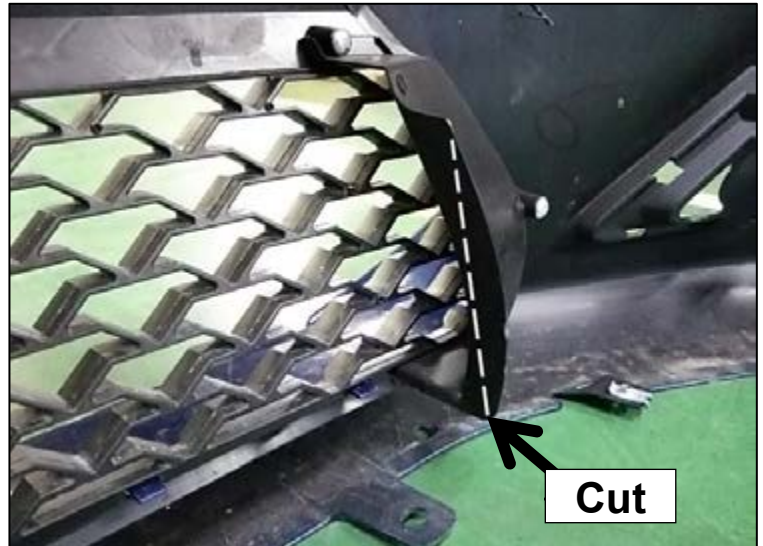
(41) Install the Hose Clamps to the blow-by hose.

- P48 Hose Clamp 18.0mm x 1
- P50 Hose Clamp 13.8mm x 1



※For the vehicle model registered by July, 2016 (Early Model)

(42) Cut the front bumper removed in 1.(4) along the dotted line shown in the diagram on the right.



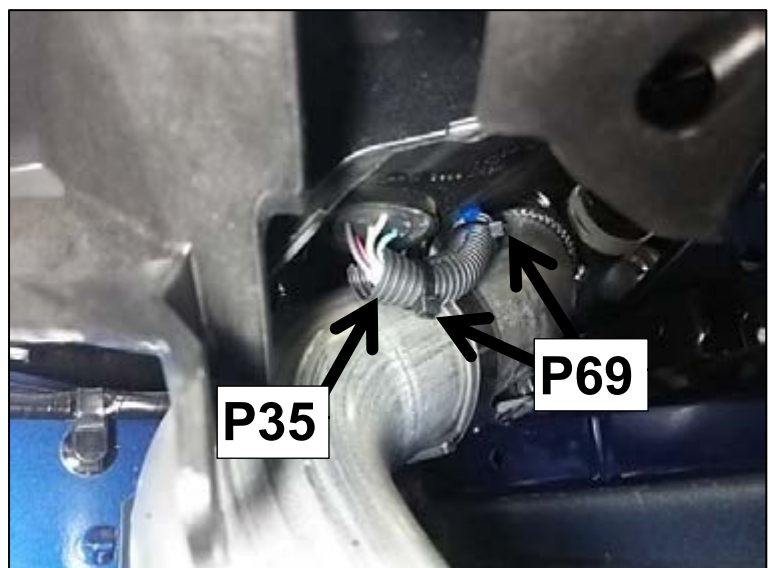
※For the vehicle model registered as of August, 2016 (Late Model)

(43) Cut the right air guide inside the front bumper that was removed in 1.(4) at the position indicated in the diagram on the right to avoid unnecessary contact with the intercooler.



(44) Install the Corrugated Tube 10mm to the harness under the right side of the head light using the Tie Wraps (M).

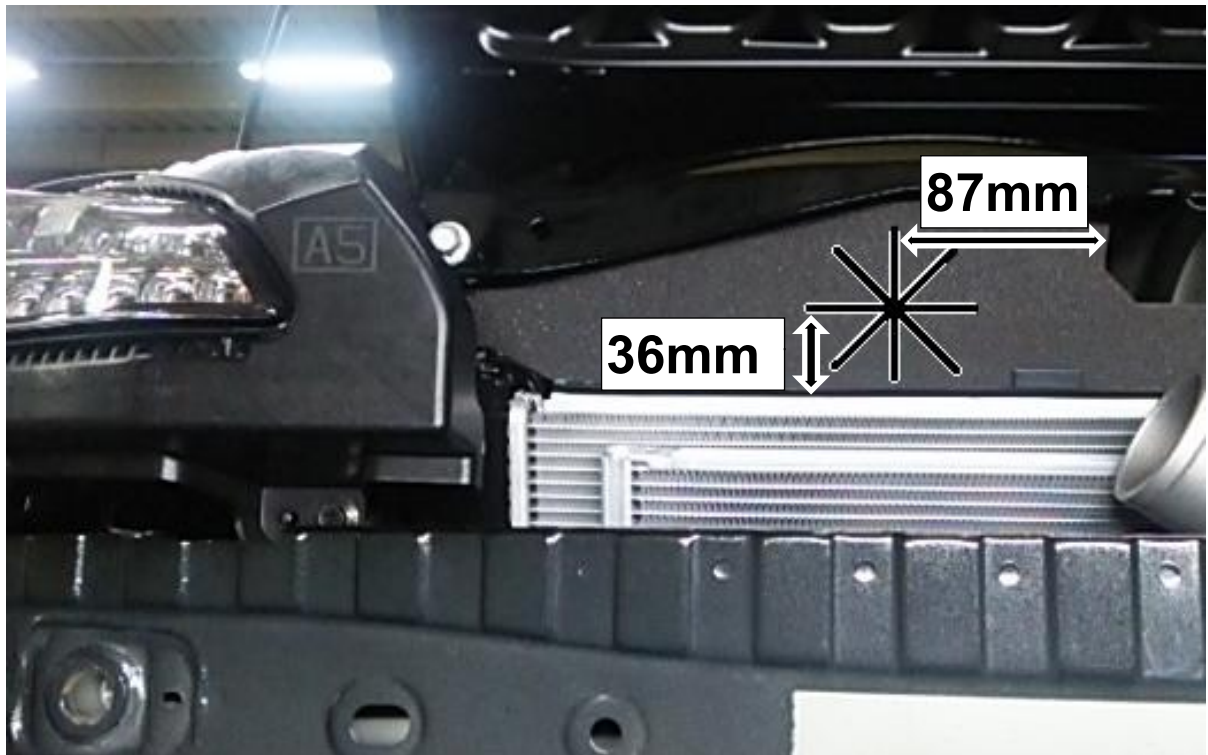
- P35 Corrugated Tube 10mm x 1
- P69 Tie Wrap (M) x 2



(45) Make slits to the sponge as shown in the diagram below to route the intercooler pipe.

NOTE

✧ The diameter of the intercooler pipe is 60mm; therefore, make slits approximately 70-80mm.



3. INSTALLATION OF GT SUPERCHARGER

PARTS LIST



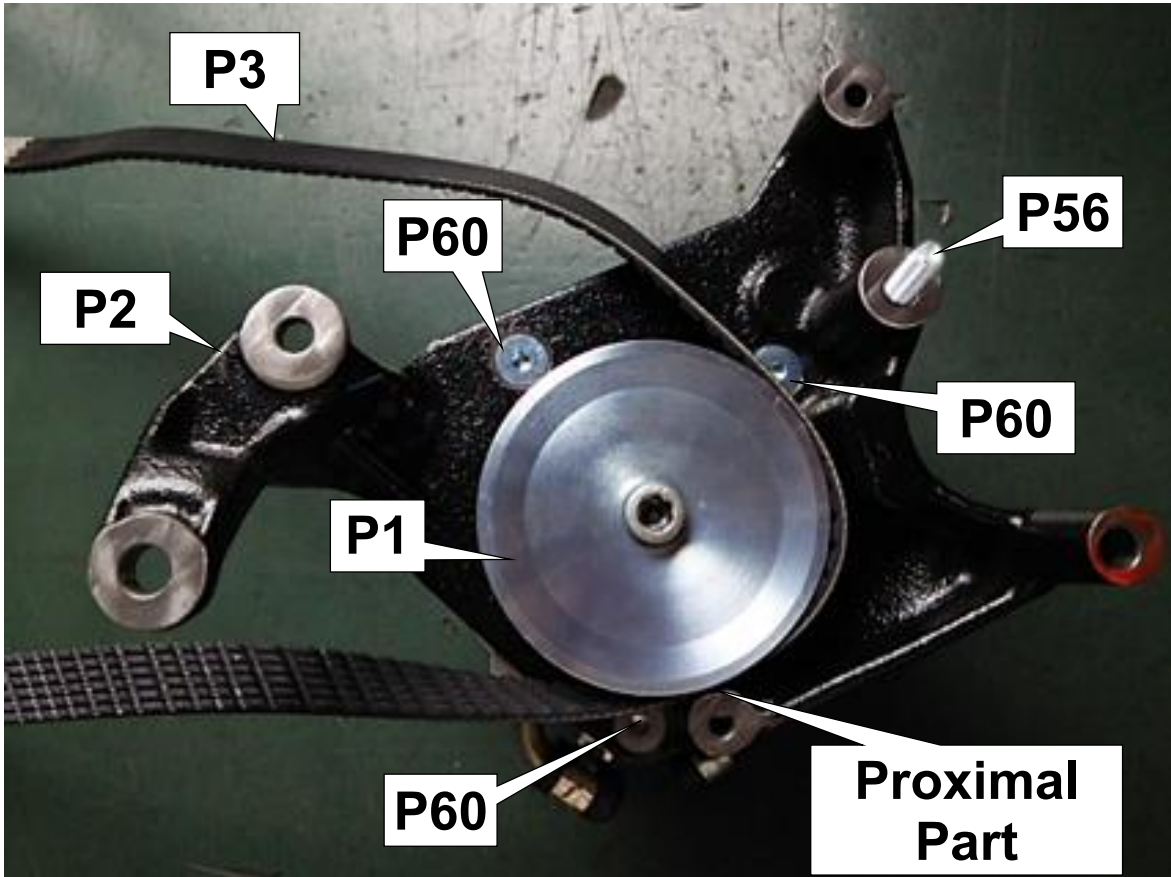
NO	DESCRIPTIONS	QT
P1	GT Supercharger	1
P2	Supercharger Bracket	1
P3	V-ribbed Belt	1
P36	Oil Level Gauge Clamp	1
P53	Cap Bolt M10 L45	1
P55	Cap Bolt M8 L125	1
P56	Cap Bolt M8 L85	2
P58	Cap Bolt M6 L50	1
P59	Cap Bolt M6 L18	1
P60	Dish Bolt M8 L30	3

(1) Temporarily install the Cap Bolt M8 L85 to the Supercharger Bracket.

- P2 S/C Bracket x 1
- P56 Cap Bolt M8 L85 x 1

NOTE

- ◇ The Cap Bolt M8 L85 cannot be installed after GT Supercharger is installed to the Supercharger Bracket.



(2) Temporarily install the GT Supercharger to the Supercharger Bracket.

- P1 GT Supercharger x 1
- P2 S/C Bracket x 1

(3) Wrap the V-rib Belt around the pulley of GT Supercharger.

- P3 V-ribbed Belt x 1



Caution

- Make sure to leave adequate clearance between the pulley and supercharger bracket when installing the V-belt. Failure to do so may the belt may be pinched in a narrow spot resulting in damage to the V-rib belt. (Refer to the diagram above.)

(4) Tighten the Dish Bolt M8 L30 to install the GT Supercharger to the S/C Bracket.

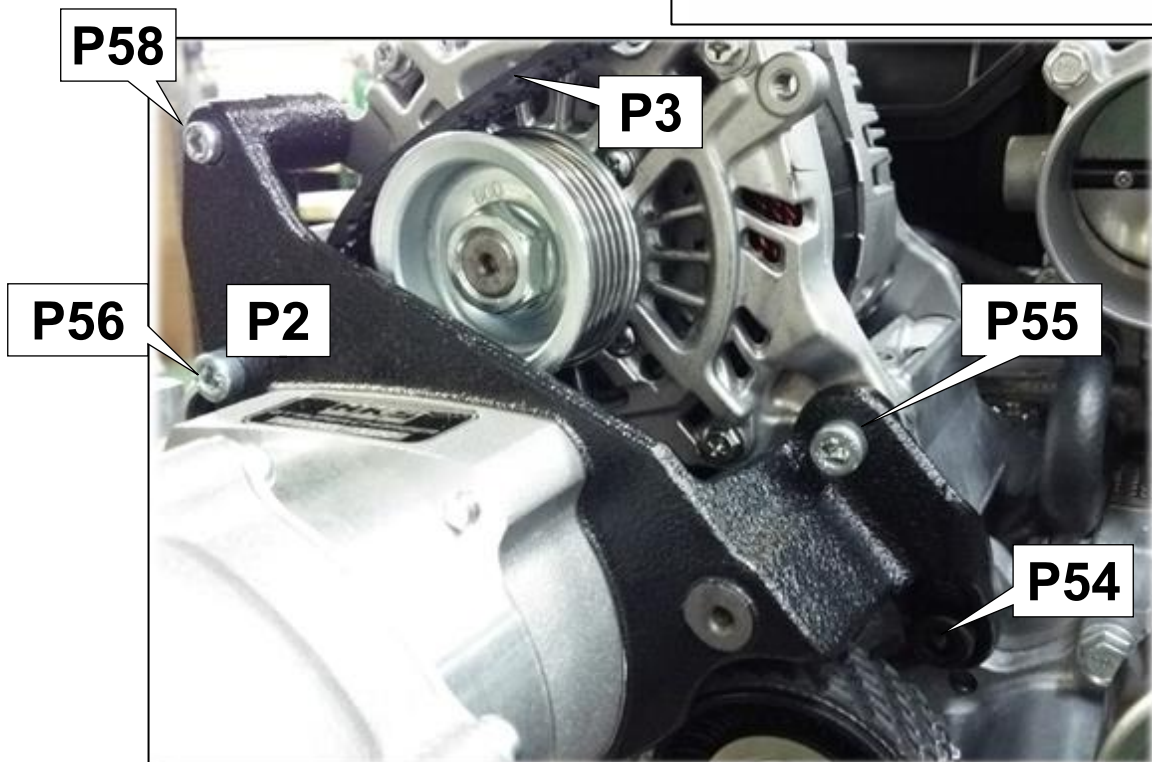
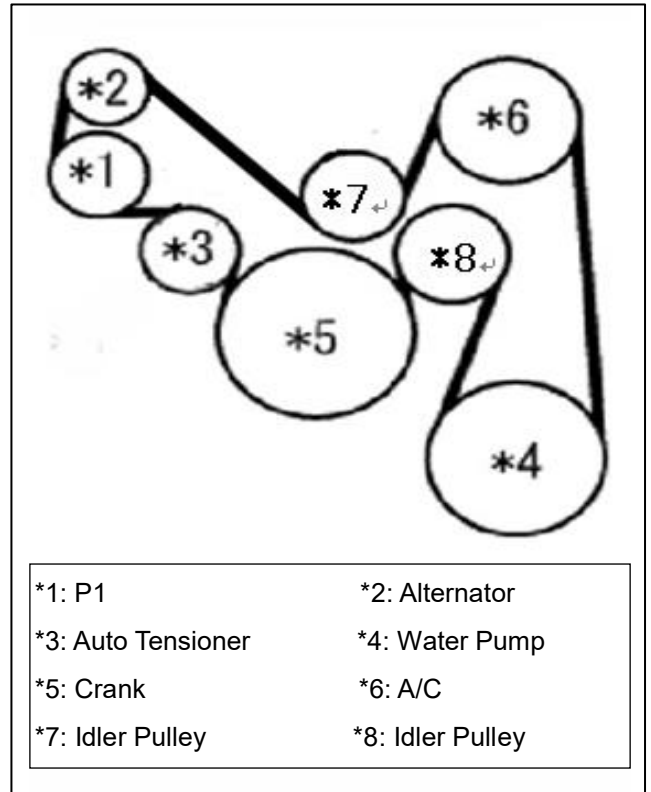
- P60 Dish Bolt M8 L30 x 3

(5) Temporarily install the Supercharger Bracket and V-ribbed Belt to the engine.
 When temporarily installing the V-ribbed Belt, since the V-ribbed Belt is installed after the Supercharger Bracket is tightened, install the belt to the idler pulley except *7.

NOTE

- ✧ When installing the Bolt M6 L18, use a ball point type or short tip type hexagon wrench for easier installation.
- ✧ Unlock the auto tensioner.

- P3 V-ribbed Belt x 1
- P54 Cap Bolt M10 L45 x 1
- P55 Cap Bolt M8 L125 x 1
- P56 Cap Bolt M8 L85 x 1
- P58 Cap Bolt M6 L50 x 1
- P59 Cap Bolt M6 L18 x 1



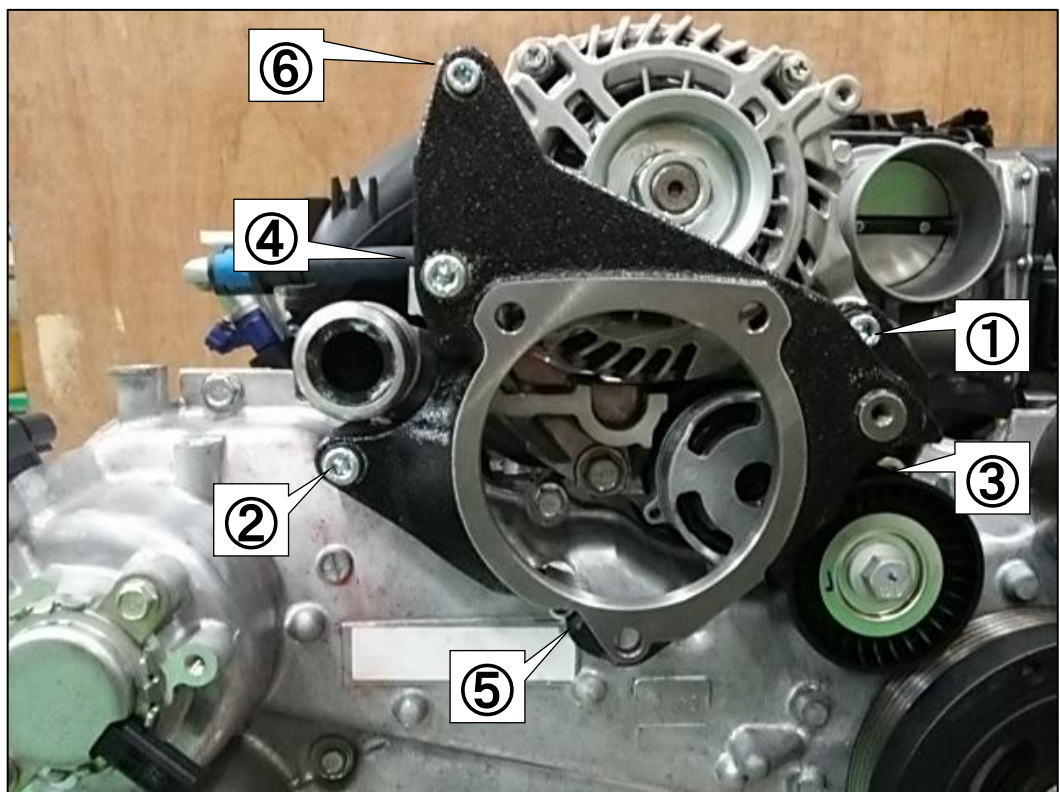


(6) Make sure the V-ribbed Belt is not caught in the Supercharger Bracket or engine. Tighten each cap bolt in several times in the order shown in the diagram below.



Caution

- Do not tighten the cap bolt at once. Tighten them in several times. Improper installation of the bracket may cause misalignment resulting in damage of the belt.
- Tighten the bolts while confirming that the belt is not caught in the belt or any other part of a vehicle. If neglected, it may cause damage of the belt. .

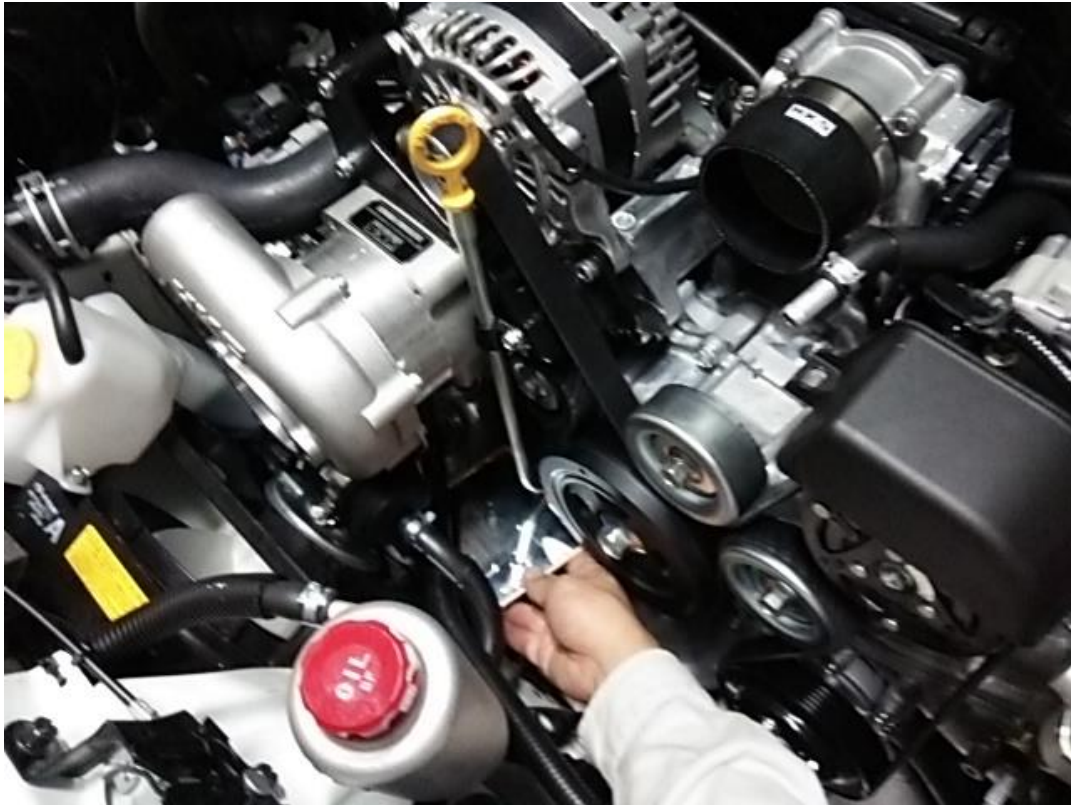


(7) Install the V-ribbed Belt temporarily installed in 3.(5) to *7. Install the V-ribbed Belt to the engine.

- (8) Visually check if the V-ribbed Belt is properly installed using a mirror or similar. Also, rotate the crank pulley to a clockwise direction, and verify the movements.

NOTE

- ✧ Use a mirror or a similar to check the V-ribbed Belt since the lower side of the GT Supercharger's pulley is not easily viewed.



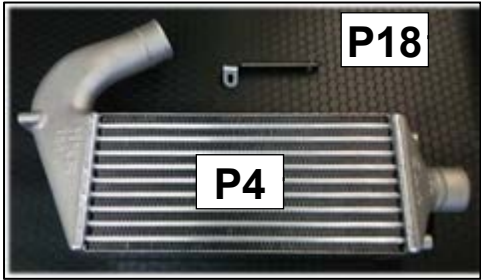
- (9) Install ⑩ oil level gauge modified in 2.(27) to the Supercharger Bracket and engine using the Oil Level Gauge Clamp.

- P36 Oil Level Gauge Clamp x 1



4. INSTALLATION OF INTERCOOLER

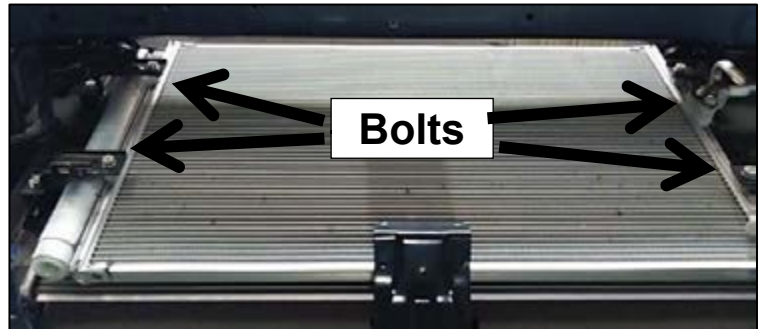
PARTS LIST

	NO	DESCRIPTIONS	QT
	P4	Intercooler	1
	P18	Intercooler Bracket No.2	1
	P57	Cap Bolt M8 L20	4
	P65	Flat Washer M8	4
	P67	Flange Nut M8	1

- (1) Loosen 4 installation bolts of the A/C condenser.

NOTE

- ✧ The clearance between the A/C condenser and front bumper reinforcement can be wider so installation of the intercooler is easier.

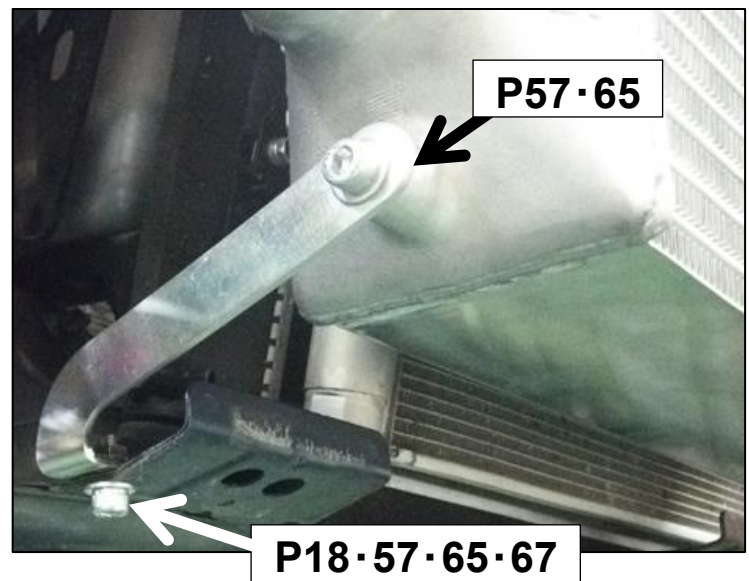
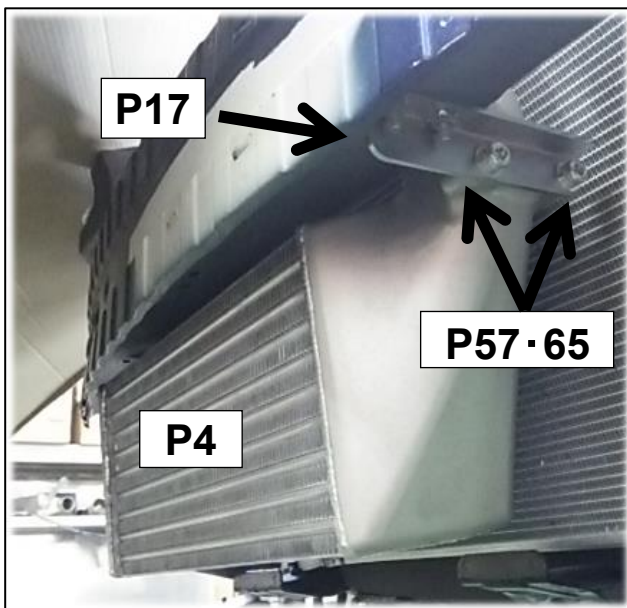


- (2) Temporarily install the intercooler to the vehicle.

- P4 Intercooler x 1
- P18 Intercooler Bracket No.2 x 1
- P57 Cap Bolt M8 L20 x 4
- P65 Flat Washer M8 x 4
- P67 Flange Nut M8 x 1

NOTE

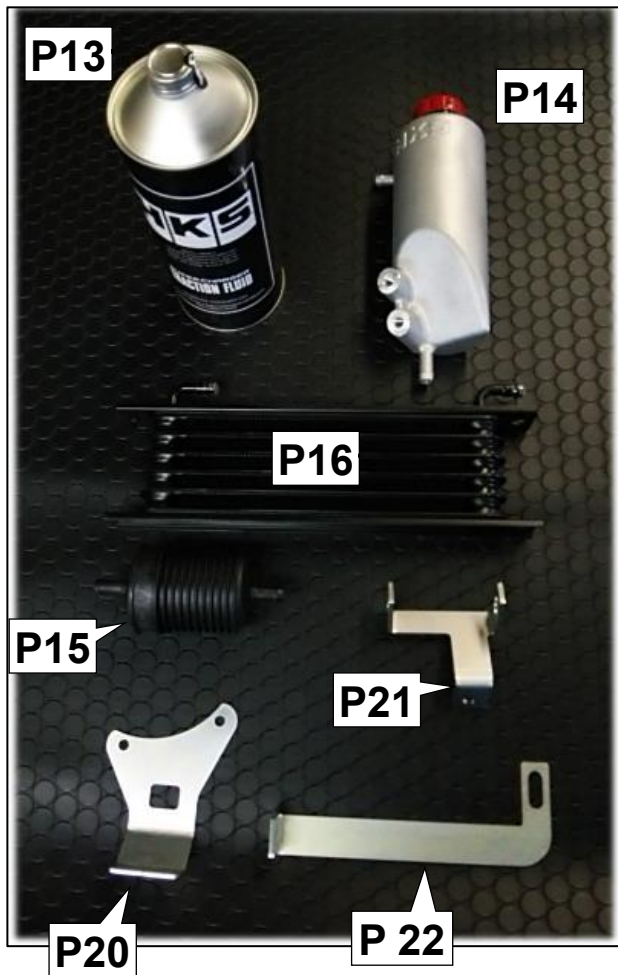
- ✧ Push the A/C condenser to rearward of the vehicle to widen the clearance; then, install the intercooler.



- (3) Make sure the intercooler does not come in contact with any other parts of the vehicle. Tighten all bolts.
- (4) Tighten the installation bolts of the condenser.

5. INSTALLATION OF TRACTION FLUID TANK

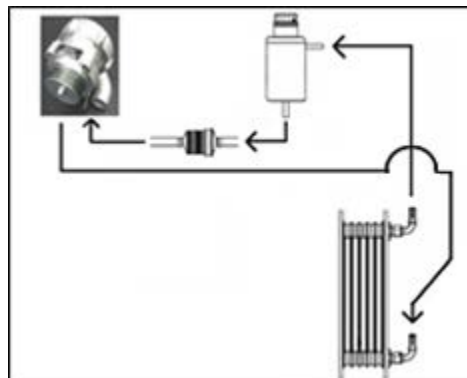
PARTS LIST



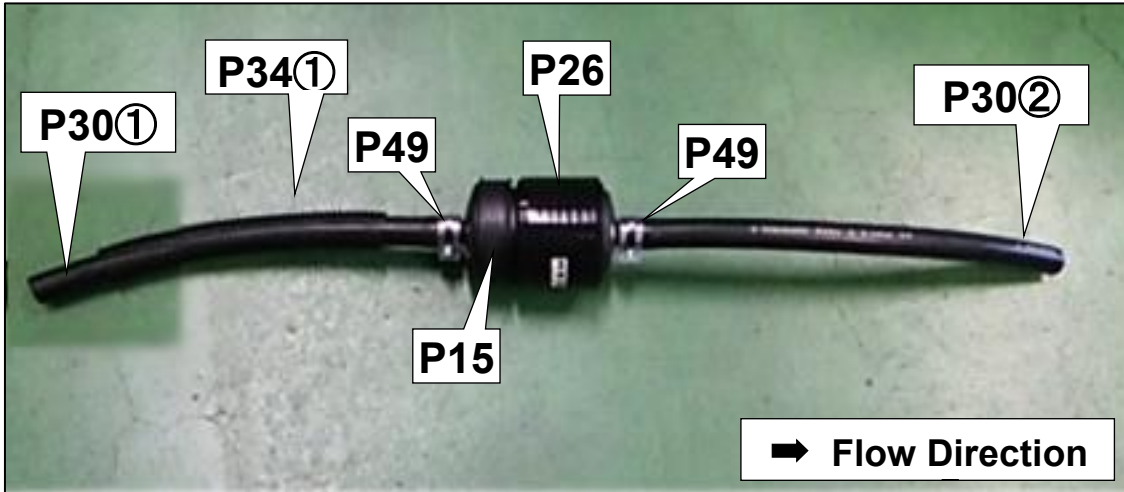
NO	DESCRIPTIONS	QT
P13	Traction Fluid	1
P14	Traction Fluid Tank	1
P15	Traction Fluid Filter	1
P16	Traction Fluid Cooler	1
P20	Traction Fluid Filter Bracket	1
P21	Traction Fluid Cooler Bracket No.1	1
P22	Traction Fluid Cooler Bracket No.2	1
P26	Silicone Hose 55mm L43	1
P30	Traction Fluid Hose 10mm	1
P31	Traction Fluid Hose 8mm	1
P34	Corrugated Tube 15mm	1
P45	Hose Clamp #36	1
P49	Hose Clamp 15.5mm	4
P51	Hose Clamp 13.0mm	4
P62	Hexagon Bolt M8 L20	5
P63	Hexagon Bolt M6 L20	2
P65	Flat Washer M8	5
P66	Flat Washer M6 Major Dia.	2
P67	Flange Nut M8	3
P68	Flange Nut M6	2
P69	Tie Wrap (M)	5

NOTE

- ✧ The Supercharger unit is made with precision components. If any foreign objects should become mixed with the traction fluid, the Supercharger may become damaged. Make sure the hoses and/or fitting ends are covered to prevent foreign objects from getting inside the hoses, tank and/or cooler.
- ✧ Refer to the diagram below for connecting the traction fluid tank, cooler, and supercharger. Make sure to connect all parts properly.



- (1) Cut the Traction Fluid Hose 10mm to ①190mm and ②260mm.
 - P30 Traction Fluid Hose 10mm x 1
- (2) Cut the Corrugated Tube 15mm to ①130mm, ②870mm, and ③680mm.
 - P34 Corrugated Tube 15mm x 1
- (3) Cut the Traction Fluid Hose 8mm to ①940mm and ②750mm.
 - P31 Traction Fluid Hose 8mm x 1
- (4) Install the Silicone Hose 55mm L43 to the Traction Fluid Filter.
 - P15 Traction Fluid Filter x 1
 - P26 Silicone Hose 55mm L43 x 1



- (5) Install the Traction Fluid Hose 10mm ① and ② to the Traction Fluid Filter using the provided Hose Clamp 15.5mm.
 - P49 Hose Clamp 15.5mm x 2

NOTE

- ✧ Make sure to install the traction fluid filter in the correct direction. The arrow on the filter indicates the direction.

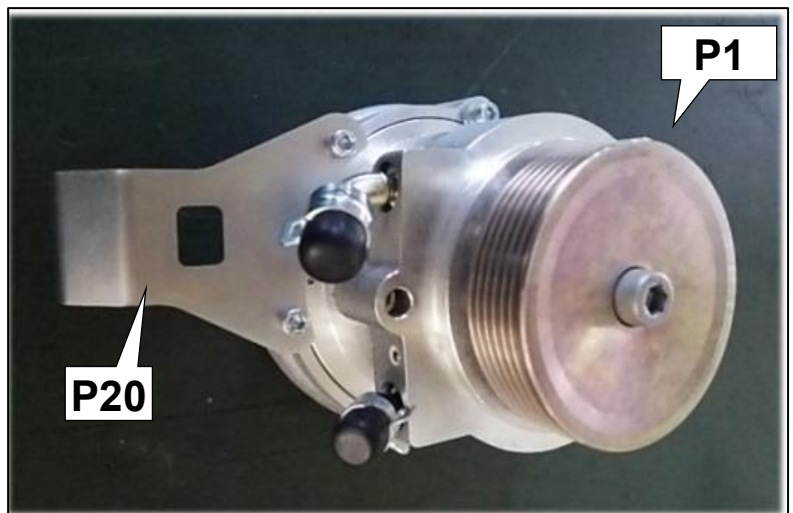
- (6) Install the Corrugated Tube ① to the Traction Fluid Hose 10mm ①.

- (7) Remove 2 of M6 bolts securing the GT Supercharger's compressor. Install the Traction Fluid Filter Bracket.

- P20 Traction Fluid Bracket

NOTE

- ✧ Do not use the major diameter washer securing the compressor housing.

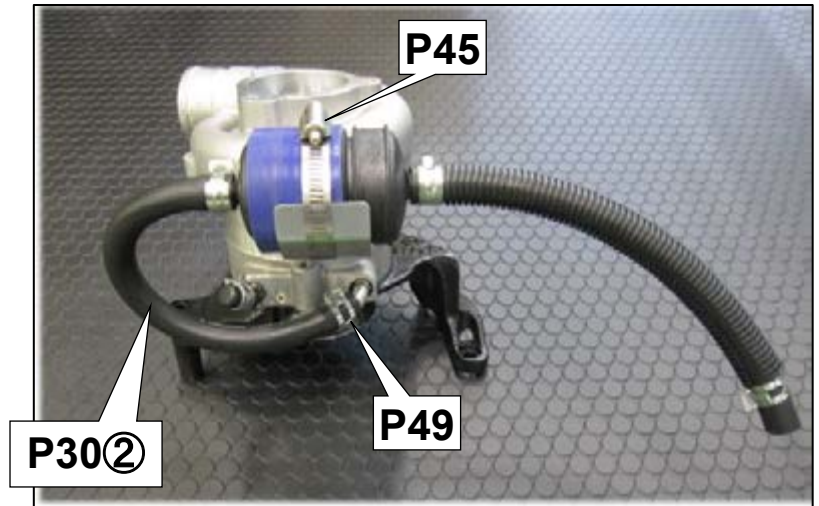


(8) Install the Traction Fluid Filter to the Traction Fluid Filter Bracket.

- P45 Hose Clamp #36 x 1

(9) Install the Traction Fluid Hose 10mm ② to the GT Supercharger.

- P49 Hose Clamp 15.5mm x 1



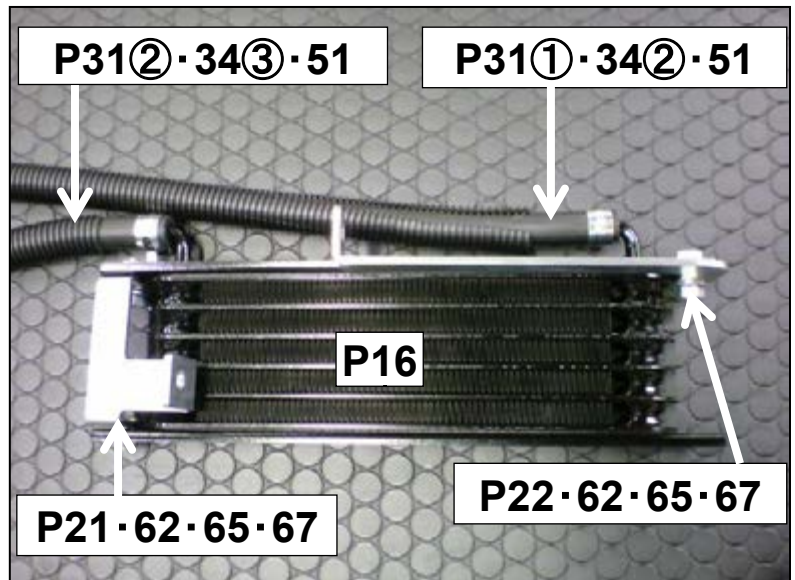
(10) Install the Traction Fluid Hose 8mm ① and ② to the Traction Fluid Cooler.

- P51 Hose Clamp 13.0mm x 2

(11) Install the Corrugated Tube 15mm ② and ③ to the Traction Fluid Hose 8mm ① and ②.

(12) Temporarily install the Traction Fluid Bracket to the Traction Fluid Cooler using the following provided parts.

- P16 Traction Fluid Cooler x 1
- P21 Traction Fluid Bracket No.1 x 1
- P22 Traction Fluid Bracket No.2 x 1
- P62 Hexagon Bolt M8 L20 x 3
- P65 Flat Washer M8 x 3
- P67 Flange Nut M8 x 3



(13) Temporarily install the Traction Fluid Cooler Bracket No.2 to the front bumper reinforcement using the following provided parts.

- P63 Hexagon Bolt M6 L20 x 1
- P66 Flat Washer M6 M. Dia. x1
- P68 Flange Nut M6 x 1



(14) Temporarily install the Traction Fluid Cooler Bracket No.1 to the front bumper reinforcement using the following provided parts.

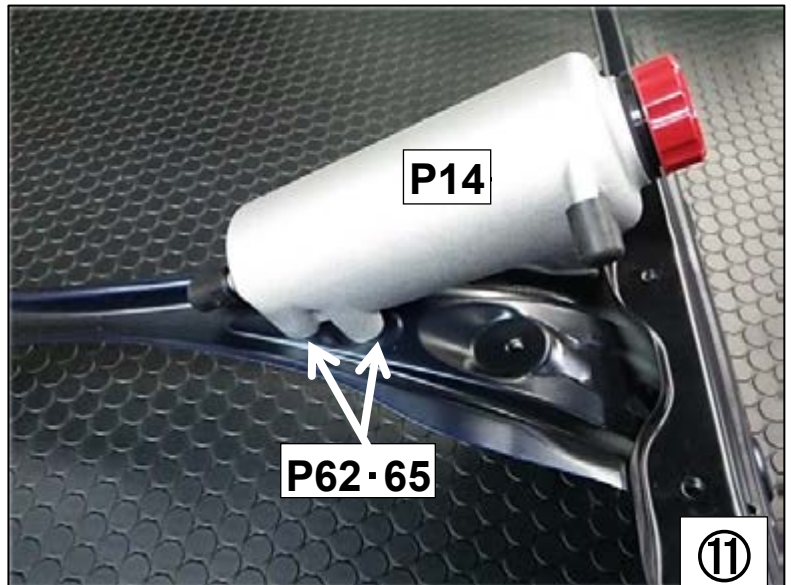
- P63 Hexagon Bolt M6 L20 x 1
- P66 Flat Washer M6 M. Dia. x 1
- P68 Flange Nut M6 x 1

(15) Make sure the installed parts do not come in contact with any other parts of the vehicle. Tighten all bolts temporarily installed in (12), (13), and (14).



(16) Install the Traction Fluid Tank to the ① radiator support modified in 2.(14) using the following provided parts.

- P14 Traction Fluid Tank x 1
- P62 Hexagon Bolt M8 L20 x 2
- P65 Flat Washer M8 x 2



(17) Route the Traction Fluid Hose 8mm ② through the Radiator Support as shown in the diagram on the right. Temporarily install the Radiator Support to the vehicle.

NOTE

- ◇ For easier installation of the intercooler pipe, uplift the Radiator Support. Tighten bolts after installing the intercooler pipe.
- ◇ Route the hose inside of the Radiator Support.



(18) Install the Traction Fluid Hose 8mm ② to the attachment on the upper side of the Traction Fluid Tank.

- P51 Hose Clamp 13.0mm x 1



(19) Secure the Traction Fluid Hose 8mm ② to the Radiator Support in the position shown in the diagram above using the provided Tie Wraps (M). Pass the Tie Wraps through the holes made in 2.(14) and ones originally existed.

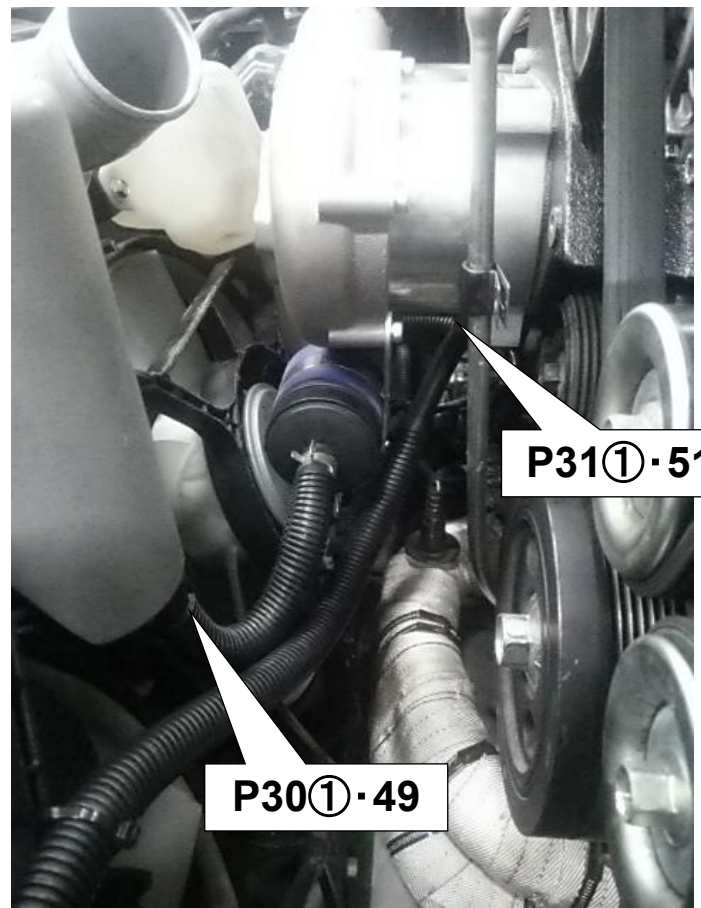
- P69 Tie Wrap (M) x 3

(20) Install the Traction Fluid Hose 9mm ① to the attachment on the lower side of the Traction Fluid Tank.

- P49 Hose Clamp 15.5mm x 1

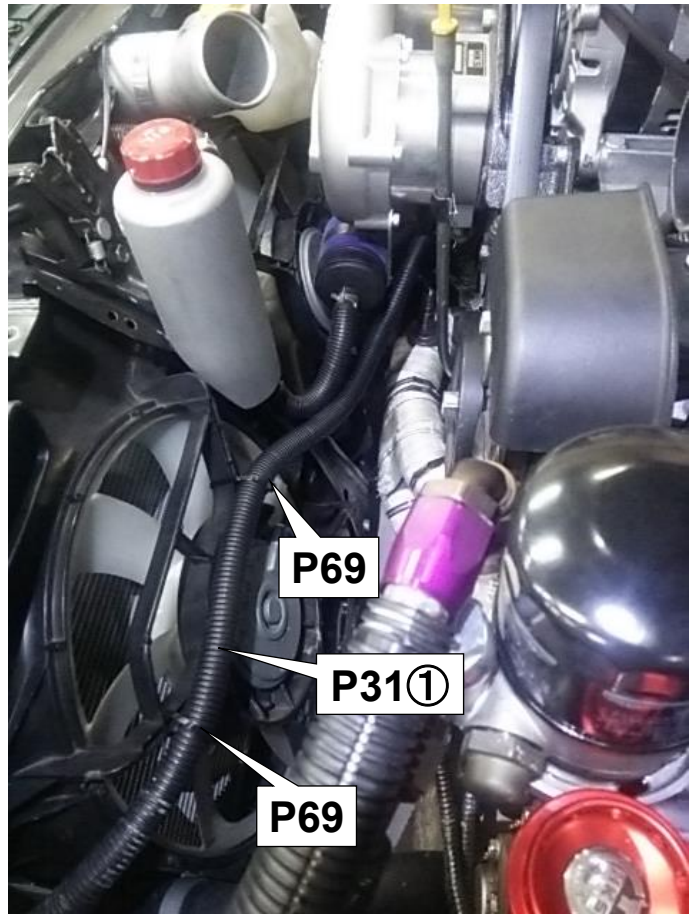
(21) Install the Traction Fluid Hose 8mm ① to the GT Supercharger.

- P51 Hose Clamp 13.0mm x 1



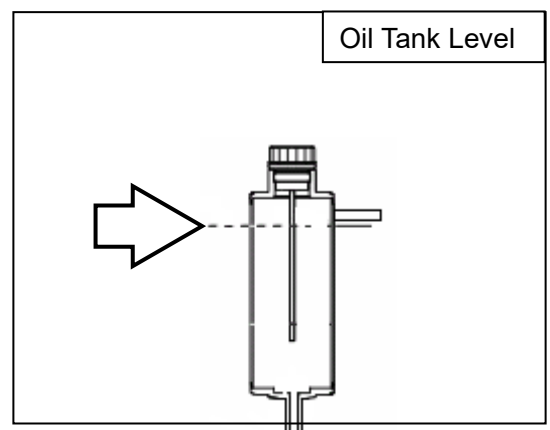
(22) Secure the Traction Fluid Hose 8mm ① to the radiator fan shroud using the provided Tie Wraps (M).

- P69 Tie Wrap (M) x 2



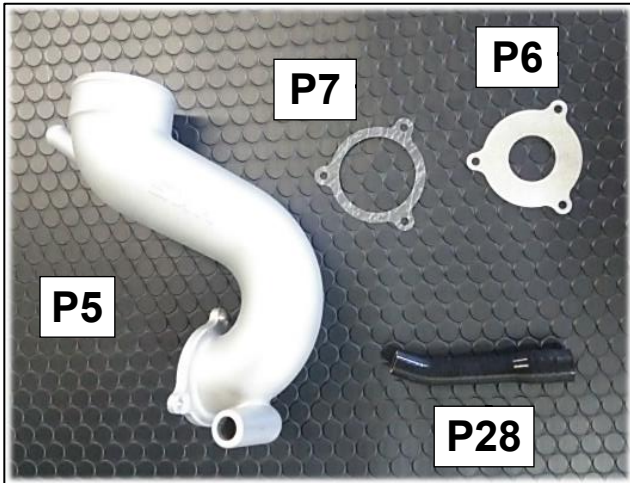
(23) Make sure there are no foreign objects in the Traction Fluid Tank. Add the Traction Fluid up to the dotted line in the diagram. Close the cap properly and securely.

- P13 Traction Fluid x 1



6. INSTALLATION OF SUCTION PIPE

PARTS LIST

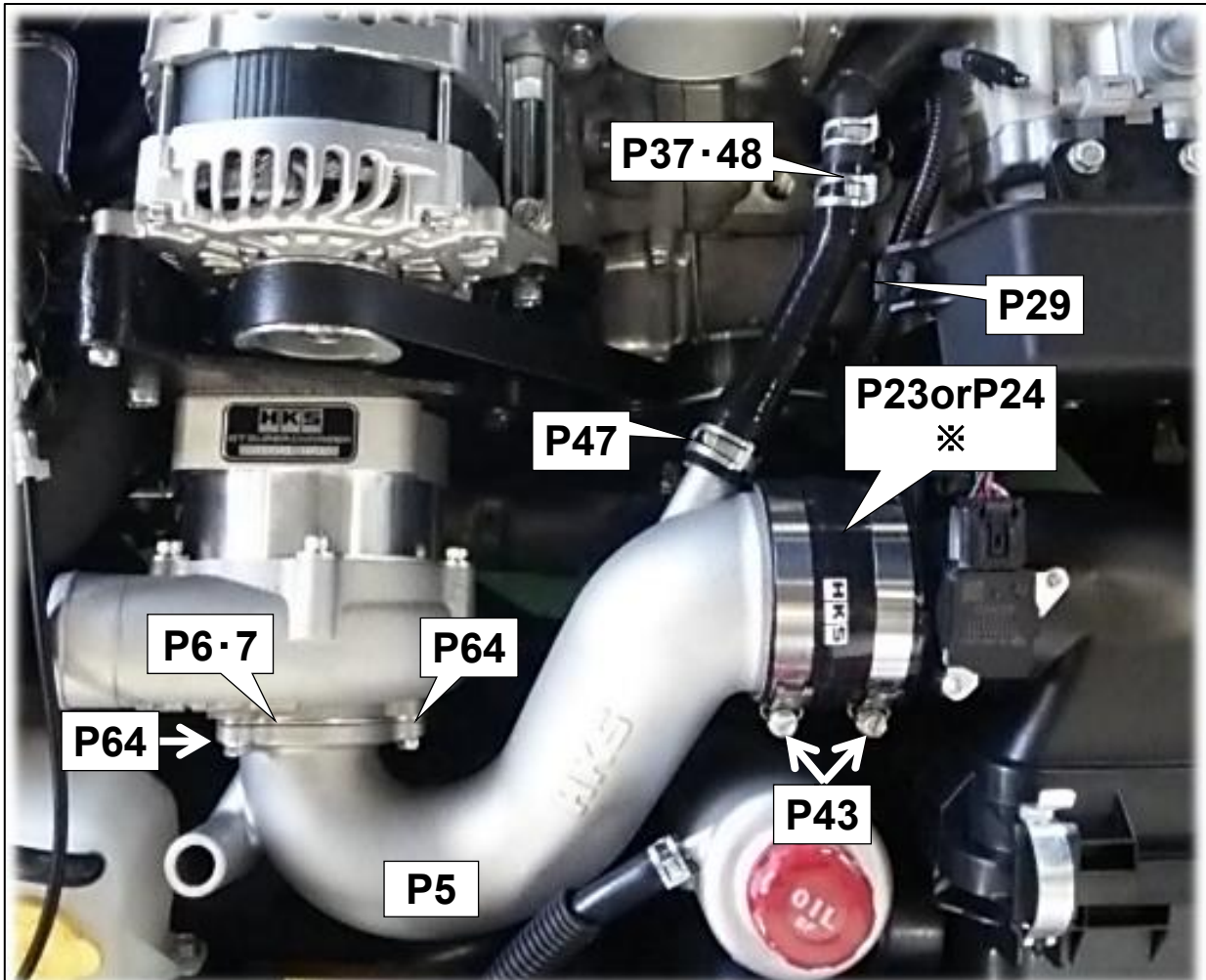


NO	DESCRIPTIONS	QT
P5	Suction Pipe	1
P6	Restrictor	1
P7	Suction Pipe Gasket	2
P23	Silicone Hose 75mm L83	1
P24	Silicone Hose 75mm L55	1
P29	Silicone Hose 12mm-18mm	1
P37	Joint Pipe 12mm	1
P43	Hose Clamp #48	2
P47	Hose Clamp 23.0mm	1
P48	Hose Clamp 18.0mm	1
P64	Flange Bolt M6 L20	3

(1) Temporarily install the air cleaner case modified in 2.(23) to the vehicle.

(2) Install the Suction Pipe and Restrictor to the GT Supercharger and air cleaner case.

- P5 Suction Pipe x 1
- P6 Restrictor x 1
- P7 Suction Pipe Gasket x 2
- P23 Silicone Hose 75mm L83 x 1 ※For a MT vehicle model registered as of August, 2016
- P24 Silicone Hose 75mm L55 x 1 ※For a vehicle model registered before July, 2016, and AT vehicle model registered as of August, 2016
- P43 Hose Clamp #48 x 2
- P64 Flange Bolt M6 L20 x 3



(3) Install the Silicone Hose 12mm-18mm to the Suction Pipe and Blow-by Hose.

- P29 Silicone Hose 12mm-18mm x 1
- P37 Joint Pipe 12mm x 1
- P47 Hose Clamp 23.0mm x 1
- P48 Hose Clamp 18.0mm x 1

(4) Connect the airflow meter connector.

(5) Tighten the bolts on the air cleaner case.

7. INSTALLATION OF INTERCOOLER PIPES

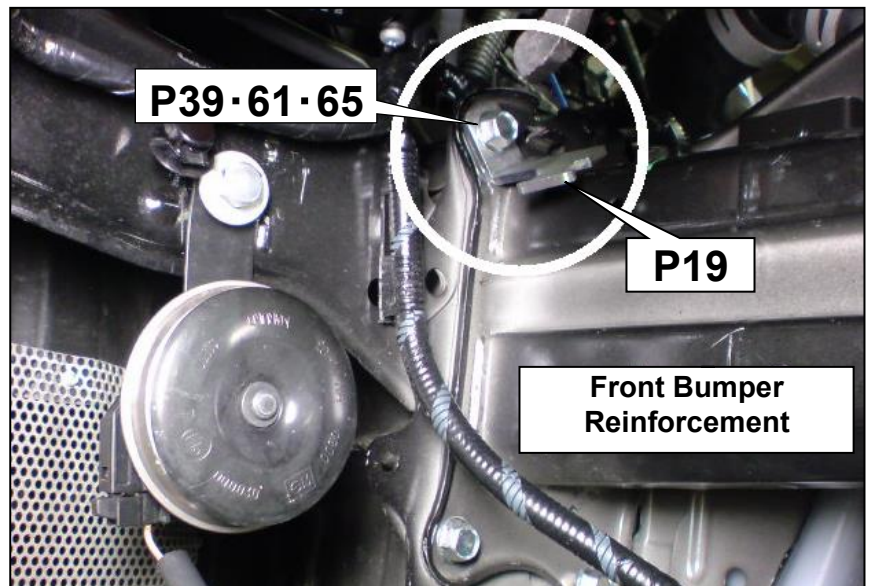
PARTS LIST		
NO	DESCRIPTIONS	QT
P8	Intercooler Inlet Pipe	1
P9	Intercooler Outlet Pipe No.1	1
P10	Intercooler Outlet Pipe No.2	1
P19	Intercooler Inlet Pipe Bracket	1
P24	Silicone Hose 75mm L55	1
P25	Silicone Hose 60mm L70	3
P27	Silicone Hose 50mm-60mm	1
P39	Spacer T=5	1
P40	Insulator Rubber	1
P43	Hose Clamp #48	2
P44	Hose Clamp #40	7
P45	Hose Clamp #36	2
P61	Hexagon Bolt M8 L25	1
P65	Flat Washer M8	1

(1) Temporarily install the Intercooler Inlet Pipe Bracket No.1 to the front bumper reinforcement in the position shown in the diagram on the right.

- P19 I/C Inlet Pipe Bracket x 1
- P39 Spacer T=5 x 1
- P61 Hex Bolt M8 L25 x 1
- P65 Flat Washer M8 x 1

NOTE

- ✧ Insert the Spacer T=5 between the Intercooler Inlet Pipe Bracket and vehicle.



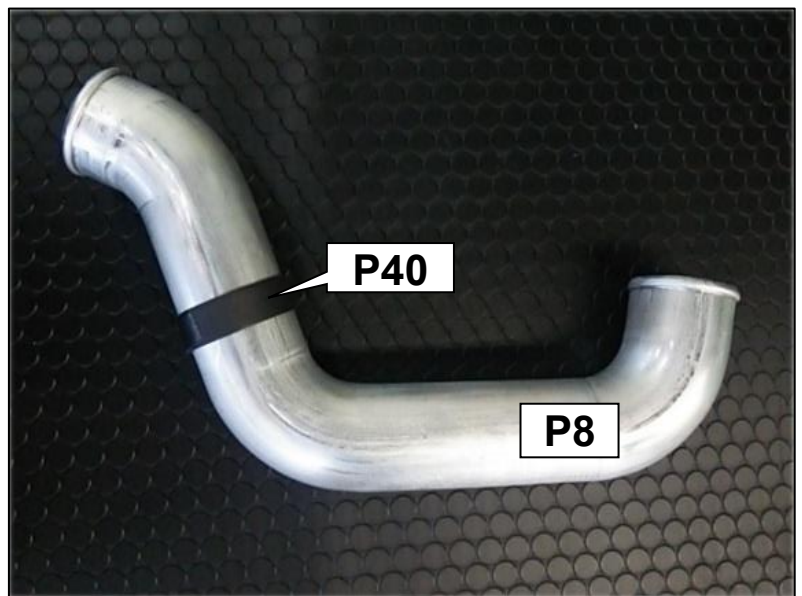
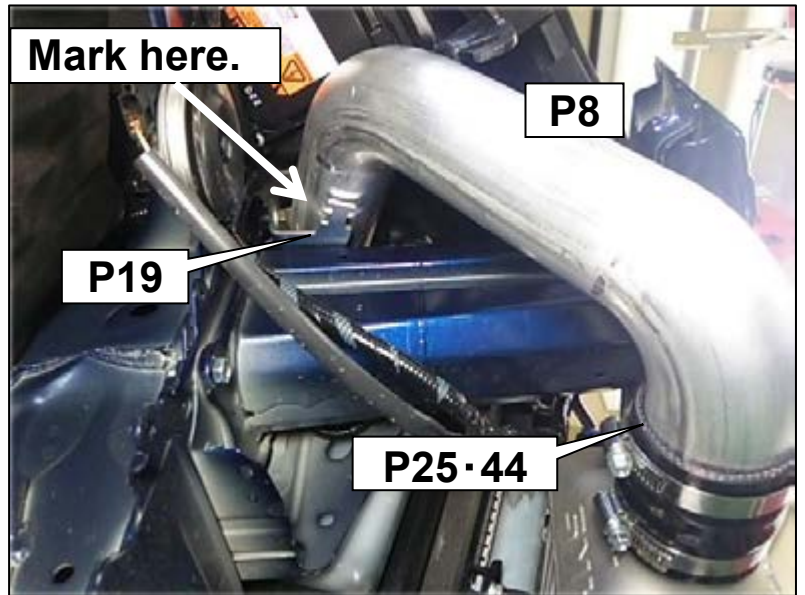
- (2) Temporarily install the Intercooler Inlet Pipe to the Intercooler.
- P8 I/C Inlet Pipe x 1
 - P25 Silicone Hose 60mm L70 x 1
 - P44 Hose Clamp #40 x 2

- (3) Mark the position where the Intercooler Inlet Pipe secures to the Intercooler Inlet Pipe Bracket. Remove the Intercooler Inlet Pipe.

- (4) Install the Insulator Rubber to the Intercooler Inlet Pipe.
- P40 Insulator Rubber x 1

NOTE

- ◇ For easier installation of the rubber, temporarily secure the rubber with tape.

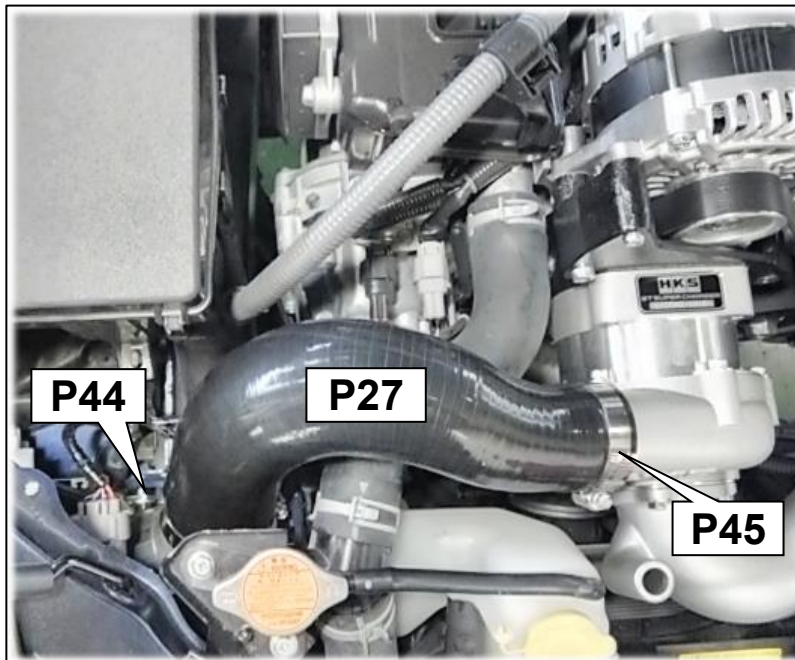


- (5) Tighten the bolt on the Intercooler Inlet Pipe Bracket.
- (6) Install the Intercooler Inlet Pipe to the Intercooler and secure the pipe to the Intercooler Inlet Pipe Bracket using the provided Hose Clamp #36.
- P45 Hose Clamp #36 x 1



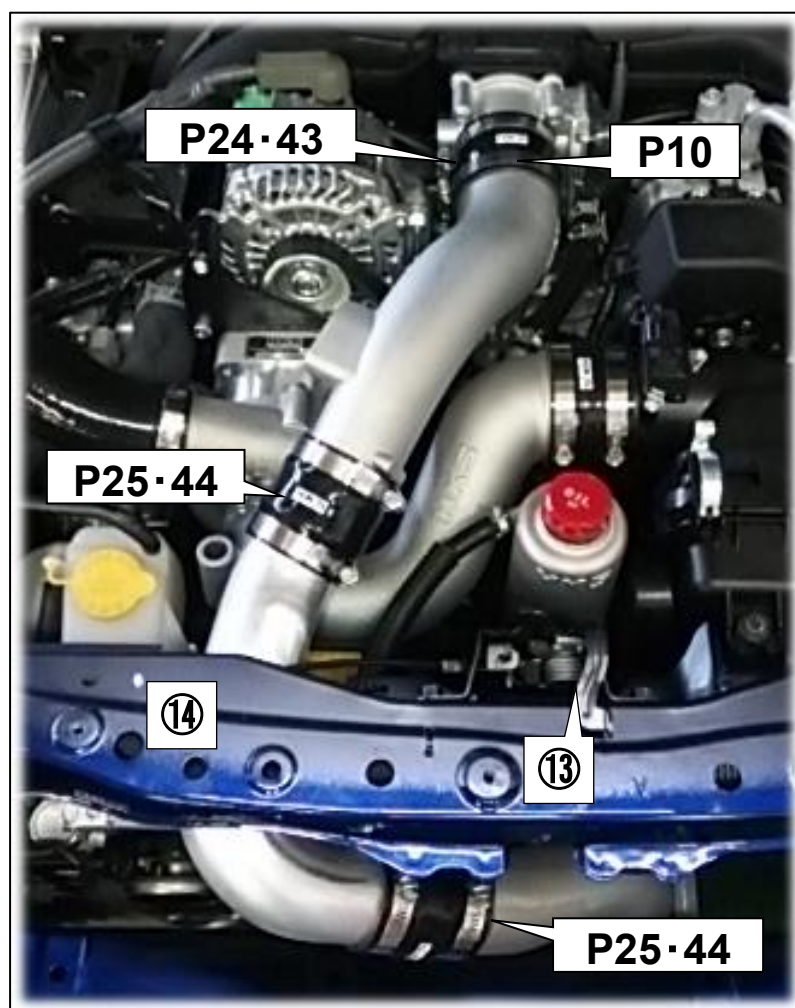
(7) Install the Silicone Hose 50mm-60mm to the GT Supercharger and Intercooler Inlet Pipe.

- P27 Silicone Hose 50-60 x 1
- P44 Hose Clamp #40 x 1
- P45 Hose Clamp #36 x 1



(8) Install the Intercooler Outlet Pipe No.1 and No.2 to the Intercooler and throttle.

- P9 I/C Outlet Pipe No.1 x 1
- P10 I/C Outlet Pipe No.2 x 1
- P24 Silicone Hose 75mm L55 x 1
- P25 Silicone Hose 60mm L70 x 2
- P43 Hose Clamp #48 x 2
- P44 Hose Clamp #40 x 4



(9) Install ⑭ radiator support to the vehicle.

(10) Install ⑬ hood lock to the vehicle.

8. INSTALLATION OF BLOW-OFF VALVE

PARTS LIST

	NO	DESCRIPTIONS	QT
	P11	Blow-off Valve	1
	P12	Blow-off Valve Gasket	1
	P28	Silicone Hose 22mm	1
	P32	Hose 10mm	1
	P33	Hose 4mm	1
	P38	T-fitting 10mm-4mm-10mm	1
	P46	Hose Clamp 26.0mm	2
	P49	Hose Clamp 15.5mm	2
	P50	Hose Clamp 13.8mm	2
	P51	Hose Clamp 13.0mm	1
	P53	Hose Clamp 6.8mm	2
	P69	Tie Wrap (M)	2

(1) Install the Blow-off Valve to the Intercooler Outlet Pipe No.2.

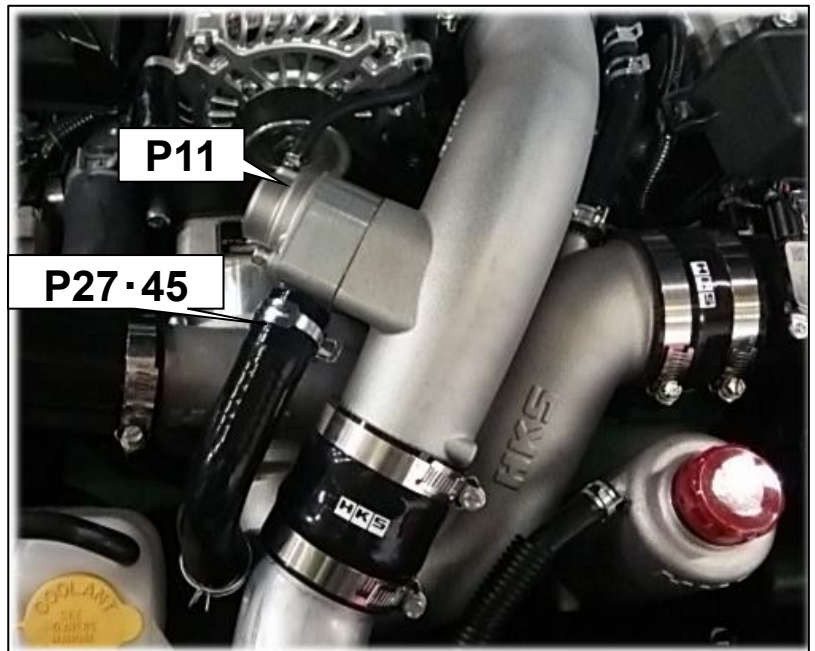
- P11 Blow-off Valve x 1
- P12 Blow-off Valve Gasket x 1

(2) Install the Silicone Hose 22mm to the Blow-off Valve and Suction Pipe.

- P28 Silicone Hose 22mm x 1
- P46 Hose Clamp 26.0mm x 2

NOTE

- ◇ Install the longer straight side of the Silicone Hose 22mm to the Suction Pipe.

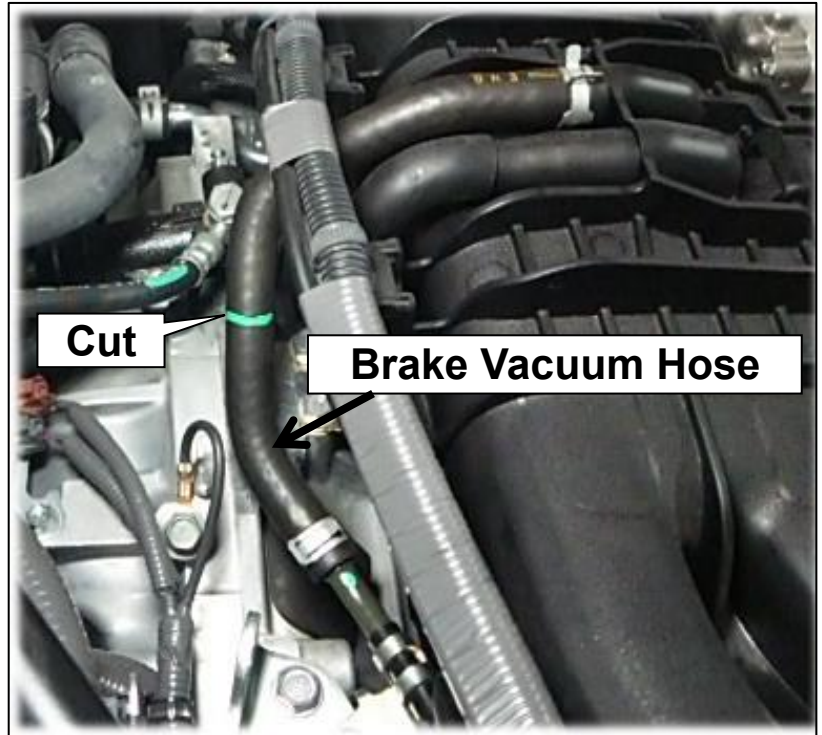


(3) Cut the Hose 4mm to 650mm in length.

- P33 Hose 4mm L1000 x 1

For a Manual Transmission Vehicle:

- (4) Cut the brake vacuum hose at the position shown in the diagram on the right.



- (5) Install the Hose 4mm cut in 8.(3) to the T-fitting 10mm-4mm-10mm.

- P38 T-fitting 10mm-4mm-10mm x 1
- P53 Hose Clamp 6.8mm x 1



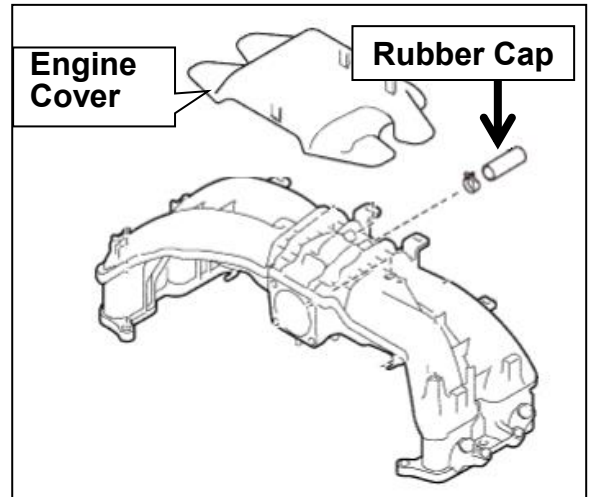
- (6) Install the T-fitting 10mm-4mm-10mm to the brake vacuum hose.

- P50 Hose Clamp 15.5mm x 2

For an Automatic Transmission Vehicle:

(7) Remove the engine cover.

(8) Remove the rubber cap.

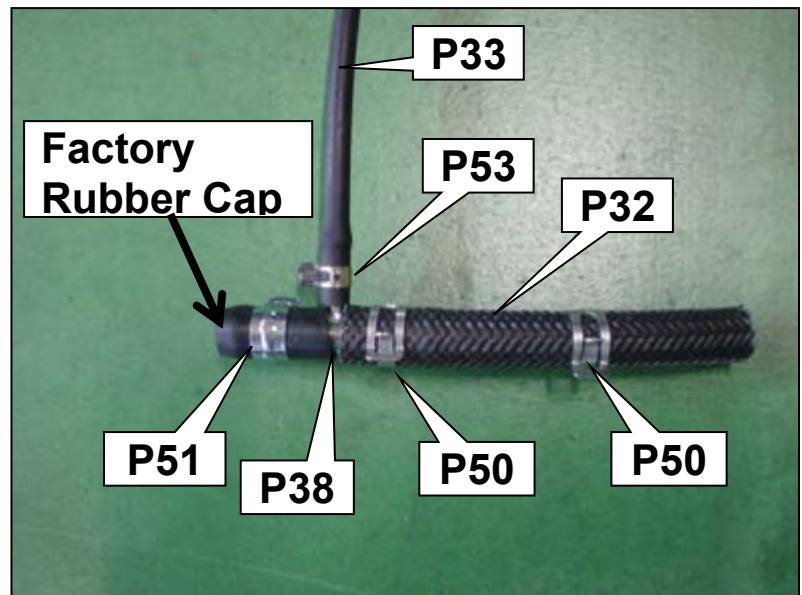


(9) Cut the Hose 10mm to 115mm in length.

- P32 Hose 10mm x 1

(10) Install the 650mm Hose 4mm, rubber cap removed in 8.(8), and 115mm Hose 10mm to the T-fitting 10mm-4mm-10mm.

- P38 T-fitting 10mm-4mm-10mm x 1
- P50 Hose Clamp 13.8mm x 2
- P51 Hose Clamp 13.0mm x 1
- P53 Hose Clamp 6.8mm x 1



(11) Install the Hose 10mm to the intake manifold.



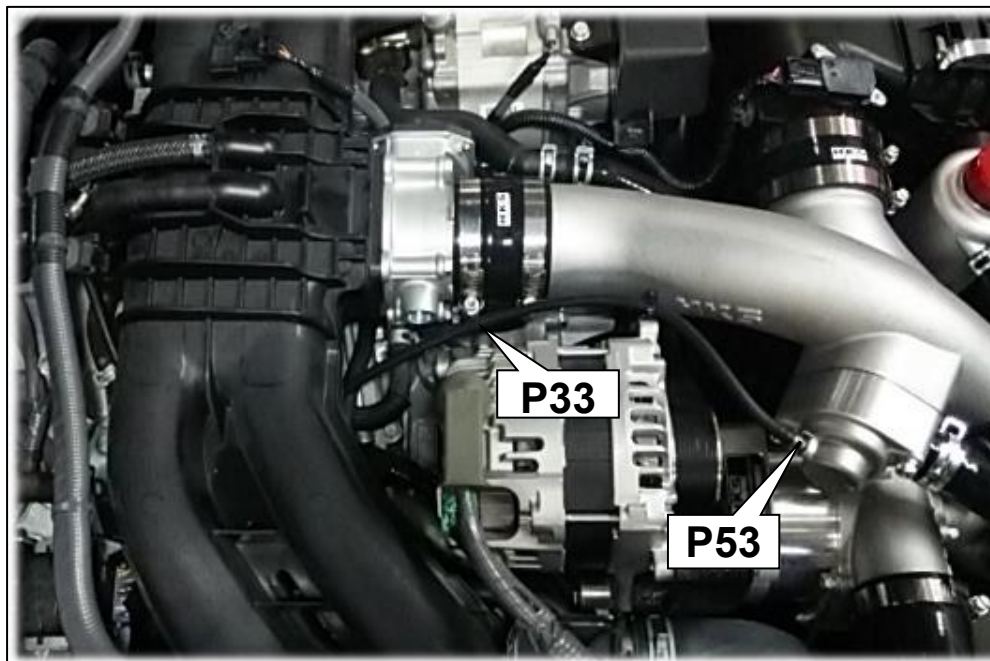
The following procedures are for both manual and automatic transmission vehicles:

(12) Install the Hose 4mm to the Blow-off Valve.

- P53 Hose Clamp 6.8mm x 1

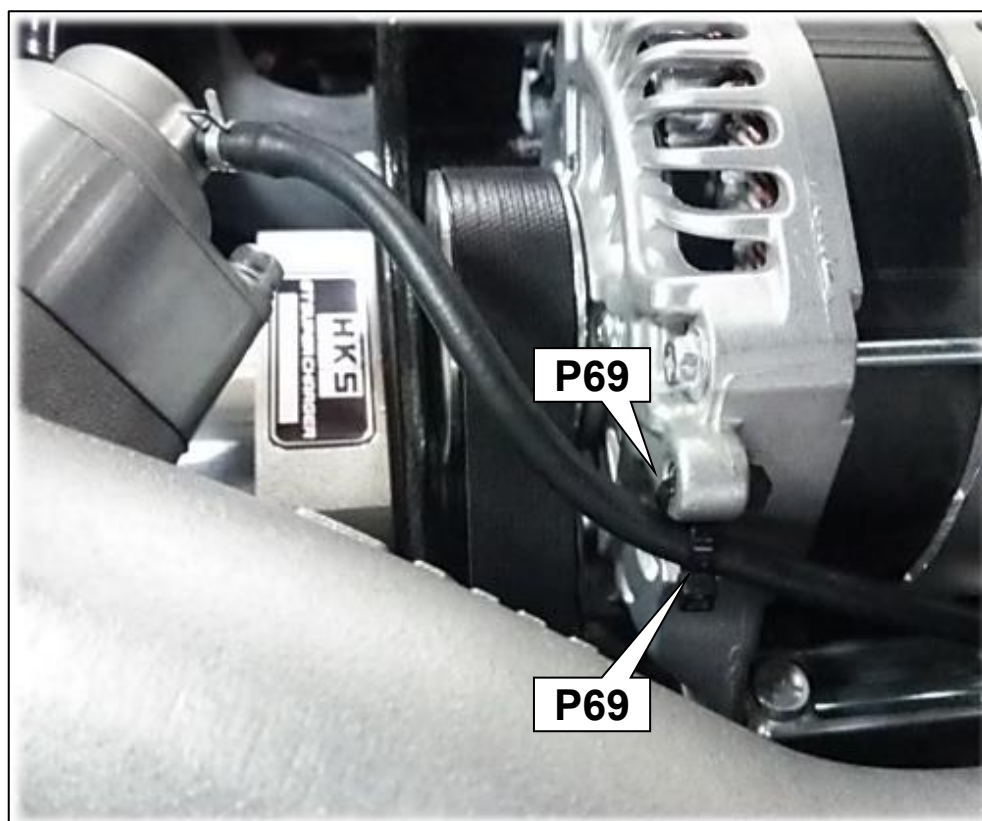
NOTE

- ◇ Route the Hose 4mm under the intake manifold.

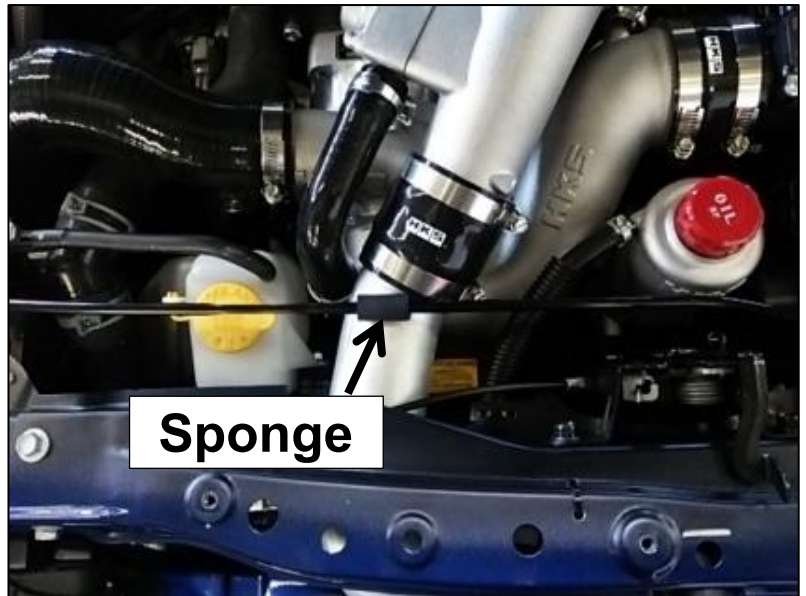


(13) Secure the Hose 4mm to the alternator using the provided Tie Wraps.

- P69 Tie Wrap (M) x 2



- (14) Reinstall the engine cover to the engine.
- (15) Relocate the sponge of the hood support rod to the position shown in the diagram on the right.



9. REINSTALLATION OF FACTORY PARTS

- (1) Reinstall ⑪ belt cover.
- (2) Reinstall ⑫ air duct.
- (3) Reinstall ⑧ front bumper bracket.
- (4) Reinstall ⑦ front bumper cover LWR.
- (5) Reinstall ③ front bumper energy absorber.
- (6) Reinstall ② front bumper.
- (7) Reinstall ① left and right side turn signal lights.
- (8) Reinstall the engine under cover.
- (9) Reconnect the negative terminal to the battery.

10. CONFIRMATION AFTER INSTALLATION & FILLING TRACTION FLUID

Check the following after the installation process is complete.

(1) Check off the following before starting the engine:

	Items to confirm:	Check
1	Make sure the hose layout is correct.	
2	Make sure the wiring harnesses and installed components do not come in contact with any other parts on the vehicle.	
3	Make sure the harness is not pinched at any point.	
4	Make sure all bolts (especially the pulley bolts) are tightened properly.	
5	Make sure the belt is properly aligned with the grooves of the pulley.	
6	Make sure the Traction Fluid is at the correct level.	
7	Make sure all pipes and hoses are routed and connected correctly.	
8	Make sure hoses are not kinked or bent.	
9	Make sure all hose clamps are tight.	
10	Make sure all bolts and nuts are tightened.	
11	Make sure all installed components are secured.	
12	Make sure the negative cable terminal is securely attached to the battery.	
13	Make sure the engine oil level dipstick is between H – L.	

(2) Prepare Traction Fluid in a beaker or small container, open the oil cap and start the engine.

(3) Immediately after starting the engine, perform the following:

- a) Check to make sure that the oil level starts to decline, and then increase again.
- b) Add oil from a beaker or small container, so that the Oil Tank level does not get empty. Also make sure that the Oil Tank does not overflow.
 ※There may be some unusual or unpleasant noises emanating from the Supercharger after starting the engine. This is normal, and this noise will go away after the Traction Fluid warms up (approximately 2-3 minutes).

(4) Start the engine and perform the following checks after the engine reaches normal operating temperature:

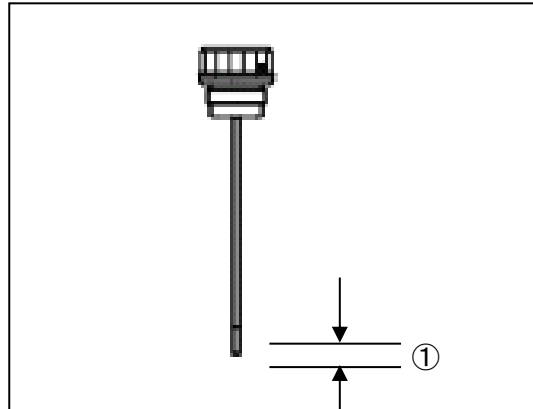
NOTE

Do not raise the engine RPM while the engine is warming up; let it idle.

	Items to confirm:	Check
1	Make sure the Traction Fluid returns to the Oil Tank.	
2	Make sure there are no leaks in the fuel, Traction Fluid, coolant, or piping.	
3	Make sure there is no excessive stress on any harnesses, fuel lines or hoses.	
4	Make sure the installed parts do not come in contact with any other parts.	

(5) After verifying the above items, raise and keep the RPM stable at 2000RPM for 10 seconds. Immediately shut off the engine and check the Traction Fluid level. The level needs to be at level ① indicated in D18-2. If it is lower, add Traction Fluid as necessary.

***If there is excess Traction Fluid remaining in the bottle, replace the cap on the bottle and store in a safe location. Always store excess Traction Fluid in the original bottle to avoid damage to the bottle and/or degradation of the fluid.**



(6) Put the oil tank cap back on.

The installation process is now complete

※ After driving a while and stop the engine when the engine room is at high temperature, the belt may make squeaking noises. This is caused by the factory auto-tensioner's adjustment function; this is normal.

11. 1ST MONTH INSPECTION

○ Inspection

1. 1st Month Inspection

- Within 40 days of installation, it is recommended to consult your installer/retailer for the following 1st month inspection:
- If there is no trouble found after the inspection, fill out the registration form to register.

Entry Method	No Problem	<input checked="" type="checkbox"/>	Exchange	×	Adjust	A	Tighten	T
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	Inspection Item
1	<p><u>Supercharger Unit Check</u></p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p style="text-align: center;"> WARNING</p> <ul style="list-style-type: none"> ▪ When checking operation of the unit, avoid touching any moving belts, even clothing. ▪ Touching these moving belts can lead to severe injury and damage. </div> <p>Compare the operating sound currently against initial installation, check for increased sound levels or unusual noises. <input type="checkbox"/></p> <p>Compare the sound of the air cleaner against initial installation, check for increased intake sound levels or unusual noises. <input type="checkbox"/></p> <p>Check Traction Oil level for unusually high Traction Oil consumption. (Oil level surface is not touching the oil level gauge) <input type="checkbox"/></p>
2	<p><u>Traction Oil Piping Inspection</u></p> <p>Check for Traction Oil leaking from the piping, loose hose clamps</p> <p>Locations:</p> <ul style="list-style-type: none"> ▪ Connection point to the Supercharger <input type="checkbox"/> ▪ Connection point to the oil cooler <input type="checkbox"/> ▪ Connection point to the oil tank <input type="checkbox"/> ▪ Connection point to the oil filter <input type="checkbox"/> <p>Signs of damage due to rubbing of the Traction Oil hose to other parts <input type="checkbox"/></p> <p>Cracks or breaks in the Traction Oil hose <input type="checkbox"/></p> <p>If Traction Oil filled to the marking level on the oil level gauge <input type="checkbox"/></p>
3	<p><u>Belt Inspection</u></p> <p>Check if v-belt's tension is within the Auto-tensioner's adjusting range <input type="checkbox"/></p> <p>Cracks or breaks in the belts. <input type="checkbox"/></p>
4	<p><u>Bolt Tightening</u></p> <p>Check if Supercharger mounting bolt is tightened <input type="checkbox"/></p> <p>Check if pulley mounting bolts are properly tightened <input type="checkbox"/></p> <p>Check if pulley does not come in contact with any other parts of the vehicle. <input type="checkbox"/></p>
5	<p><u>Other</u></p> <p>Check all mounted parts for interference with other parts</p> <p>Locations:</p> <ul style="list-style-type: none"> ▪ Suction pipe & vehicle <input type="checkbox"/> ▪ Traction Fluid Hose & vehicle <input type="checkbox"/> ▪ 4mm Hose from Blow-off Valve & vehicle <input type="checkbox"/> <p>Check if hose clamps are properly tightened <input type="checkbox"/></p> <p>Check if engine oil level is between H-L <input type="checkbox"/></p>

12. MAINTENANCE

- Traction Oil is used specifically for the HKS GT Supercharger. Do not use other types of oils; use of other brands of Traction Oil, engine oil, or transmission oil can lead to damage to the HKS GT Supercharger internals.
- Traction Oil does not need to be replaced, however check oil level prior to driving. If oil level is low, add Traction Oil as necessary.
 - Use the part number below to order Traction Oil.

Product Name	Part Number
Traction Fluid	12002-AK029

- Replace the Traction Oil Filter every 5 years or 70,000km after installing the HKS GT Supercharger.
 - Use the part number below to order the Traction Oil Filter.

Product Name	Part Number
Traction Fluid Filter	12002-AK015

- Belts are consumable parts. Always check belts prior to driving for any cracks or tears.
- Replace damaged belts immediately. Do not use other types of belt; use of other brands of belt may cause belt to squeal.
 - Use the part number below to order the Ribbed Belt.

Product Name	Part Number
V-ribbed Belt	24996-AK032

- Bellofram are consumable part. Always check for any cracks or tears prior to driving.
 - Use the part number below to order the Bellofram.

Product Name	Part Number
Bellofram	17672-002100

13. TROUBLE SHOOTING

- If this product does not perform properly, check all wiring and connections referring to the following before contacting your dealer.

<u>Symptom</u>	<u>Cause</u>	<u>Action</u>
<ul style="list-style-type: none">• Belt squeals when engine starts.• Engine output feels weak.• At wide open throttle the boost starts to decrease at a certain RPM while engine RPM is increasing	Low belt tension	<ul style="list-style-type: none">• Check the adjustable range of the auto-tensioner. Replace if necessary.
<ul style="list-style-type: none">• Engine output feels weak.• At wide open throttle the boost starts to decrease at a certain RPM while engine RPM is increasing	Worn air filter	<ul style="list-style-type: none">• Replace the filter element depending on dirt buildup.

14. IF BELT BREAKS

- Park the vehicle in a safe place to check if the car is still drivable. Check for any damage caused by the torn belt such as oil leak, coolant leak, damaged harness, and etc.
- Do not drive the vehicle if the belt is damaged since the water pump is operated by the belt.
- Move the vehicle to a safe place and replace the belt with a brand new one. Repair any problems that may have caused the belt to break.