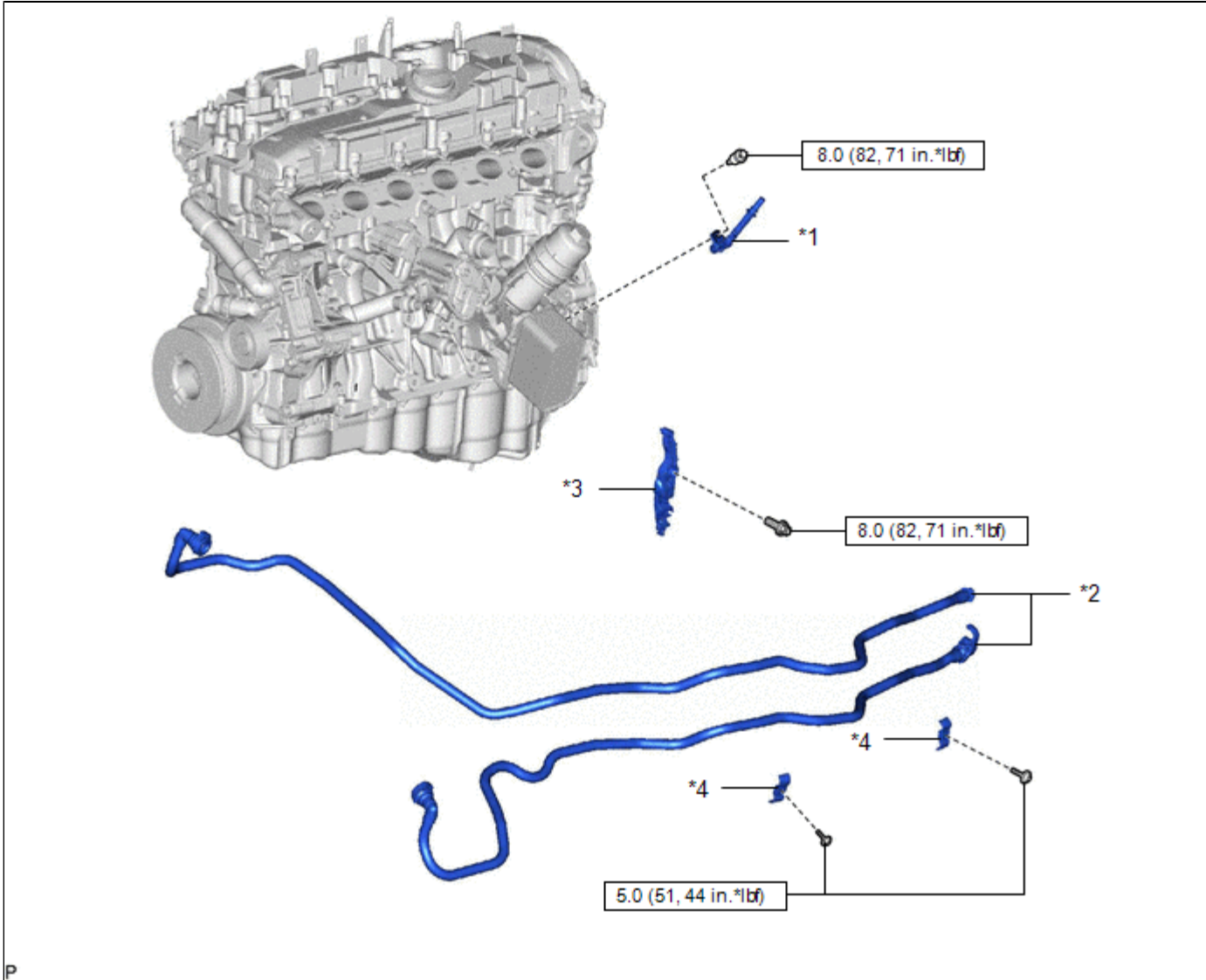


Last Modified: 09-05-2019	6.9:8.0.49	Doc ID: RM100000001JCEK
Model Year Start: 2020	Model: Supra	Prod Date Range: [03/2019 -]
Title: BRAKE SYSTEM (OTHER): BOOSTER AIR VALVE: COMPONENTS; 2020 MY Supra [03/2019 -]		

COMPONENTS

ILLUSTRATION



*1	BOOSTER AIR VALVE	*2	OIL COOLER TUBE
*3	HOLDER	*4	UPPER HOLDER
	N*m (kgf*cm, ft.*lbf): Specified torque	-	-

Last Modified: 09-05-2019	6.9:8.0.49	Doc ID: RM100000001JCEL
Model Year Start: 2020	Model: Supra	Prod Date Range: [03/2019 -]
Title: BRAKE SYSTEM (OTHER): BOOSTER AIR VALVE: REMOVAL; 2020 MY Supra [03/2019 -]		

REMOVAL

CAUTION / NOTICE / HINT

CAUTION:

- Hot fluids.

Risk of scalding!

- Conduct all work in the vehicle wearing appropriate personal protective equipment only.

- Hot surfaces.

Risk of burning!

- Perform all work only on components that have cooled down.

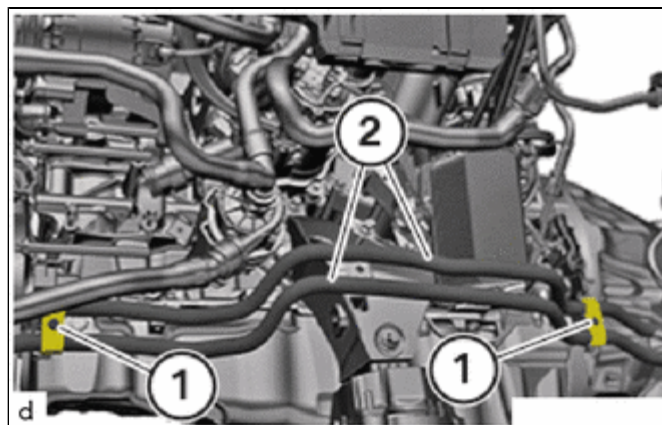
PROCEDURE

1. REMOVE FRONT SUSPENSION MEMBER LOWER PROTECTOR

Click here [INFO](#)

2. SEPARATE OIL COOLER TUBE

(a) Loosen T25 screws (1).



(b) Remove upper holders.

(c) Detach oil cooler tubes (2) from the holders, set aside and secure.

3. INSTALL BOOSTER AIR VALVE

CAUTION:

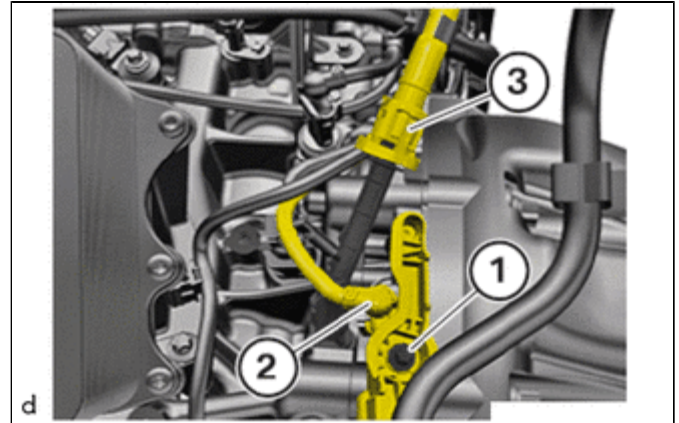
- Contaminant or foreign body.

Contamination can result in malfunctions, operating failure or leaks.

- malfunctions, operating failure or leaks.
- Protect components from contamination e.g. by covering.

- Close off line connections with seal plugs.

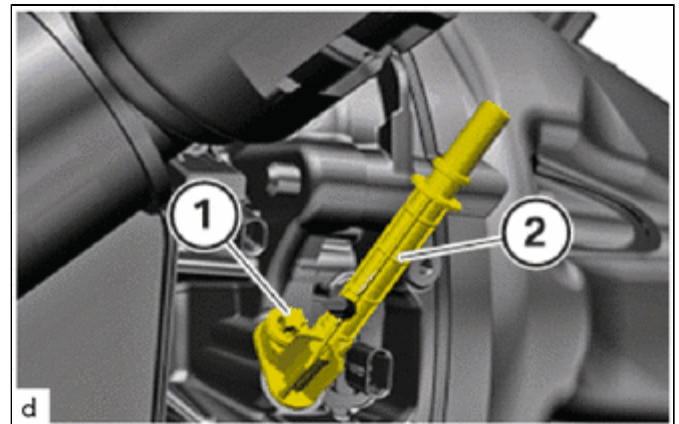
(a) Unscrew the E8 bolt (1) and set the holder aside.



(b) Unlock and disconnect plug connection (2).

(c) Unlock and pull off the connector to check valve tube (3).

(d) Loosen E10 bolt (1).



(e) Remove the booster air valve (2).

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Model Year Start: 2020	Model: Supra	Prod Date Range: [03/2019 -]
Title: BRAKE SYSTEM (OTHER): BOOSTER AIR VALVE: INSTALLATION; 2020 MY Supra [03/2019 -]		

INSTALLATION

PROCEDURE

1. INSTALL BOOSTER AIR VALVE

- (a) Check the O-ring (1) for damage and replace the booster air valve as needed.



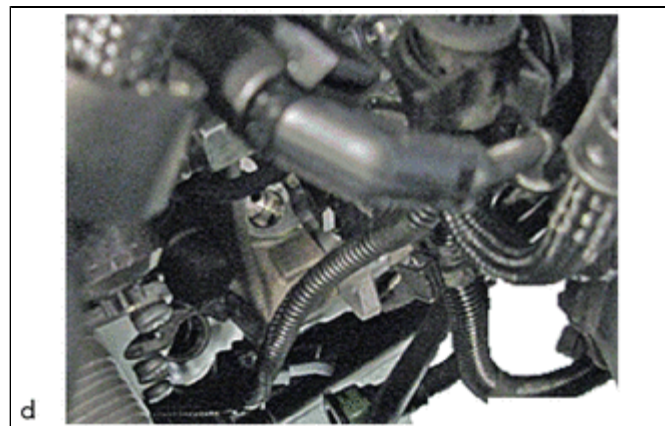
- (b) Clean sealing surface.

NOTICE:

- Damage to the surface.

The use of metal-cutting tools (e.g. emery cloth) to clean the surfaces can damage them and lead to leaks or engine damage.

- Do not use any metal-cutting tools.



- (c) Install the booster air valve.

- (d) Tighten down E10 bolt.

Torque:

8.0 N·m { 82 kgf·cm, 71 in·lbf }

- (e) Connect and lock the connector to check valve tube.

HINT:

Make sure that the connections are locked correctly. The locks must engage audibly.

- (f) Connect and lock the connector.

HINT:

Make sure that the connections are locked correctly. The locks must engage audibly.

(g) Position the holder and tighten the E8 bolt.

Torque:

8.0 N·m { 82 kgf·cm, 71 in·lbf }

2. INSTALL OIL COOLER TUBE

(a) Position oil cooler tubes in the holders.

(b) Install upper holders.

(c) Tighten the T25 screws.

Torque:

5.0 N·m { 51 kgf·cm, 44 in·lbf }

3. INSTALL FRONT SUSPENSION MEMBER LOWER PROTECTOR

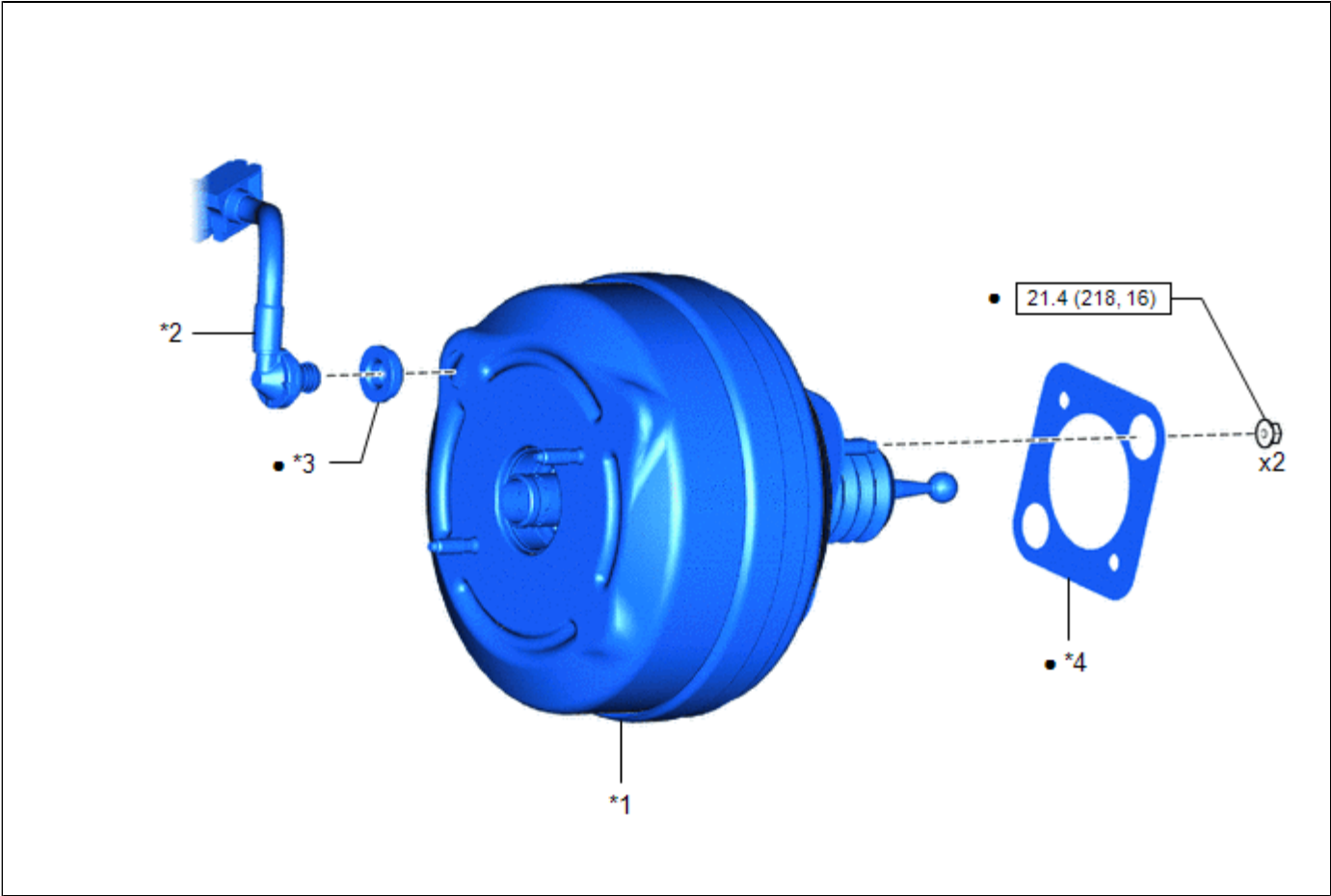
Click here [INFO](#)



Last Modified: 09-05-2019	6.9:8.0.49	Doc ID: RM100000001JCE9
Model Year Start: 2020	Model: Supra	Prod Date Range: [03/2019 -]
Title: BRAKE SYSTEM (OTHER): BRAKE BOOSTER: COMPONENTS; 2020 MY Supra [03/2019 -]		

COMPONENTS

ILLUSTRATION



*1	BRAKE BOOSTER	*2	CONNECTOR TO BRAKE BOOSTER TUBE
*3	GROMMET	*4	GASKET
	N*m (kgf*cm, ft.*lbf): Specified torque	•	Non-reusable part

Last Modified: 09-05-2019	6.9:8.0.49	Doc ID: RM100000001JCEA
Model Year Start: 2020	Model: Supra	Prod Date Range: [03/2019 -]
Title: BRAKE SYSTEM (OTHER): BRAKE BOOSTER: REMOVAL; 2020 MY Supra [03/2019 -]		

REMOVAL

PROCEDURE

1. REMOVE STOP LIGHT SWITCH ASSEMBLY

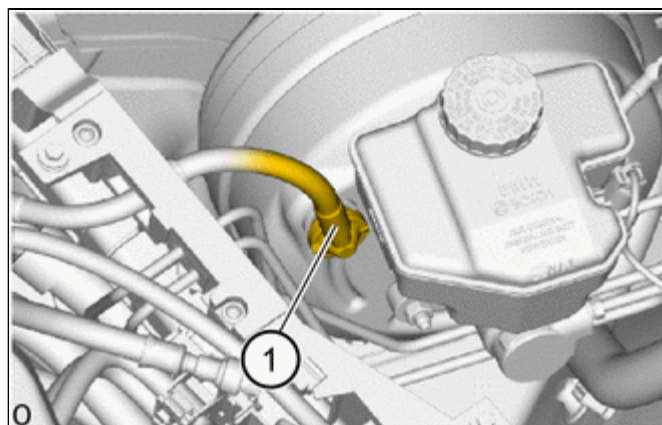
Click here [INFO](#)

2. REMOVE MASTER CYLINDER BODY

Click here [INFO](#)

3. DISCONNECT CONNECTOR TO BRAKE BOOSTER TUBE

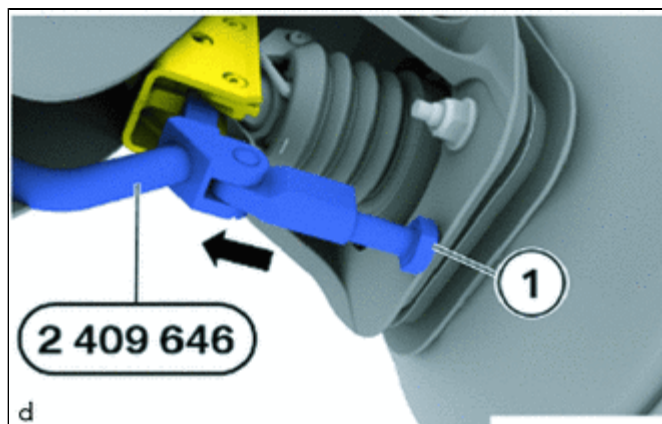
- (a) Disconnect the non-return valve (1) from the brake booster.



4. REMOVE BRAKE BOOSTER

- (a) Insert the special tool 2 409 646 between the brake pedal support assembly and brake booster.

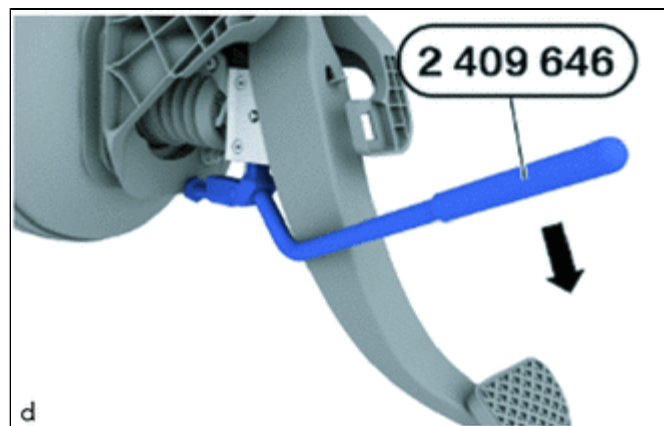
SST: 09700-WA030



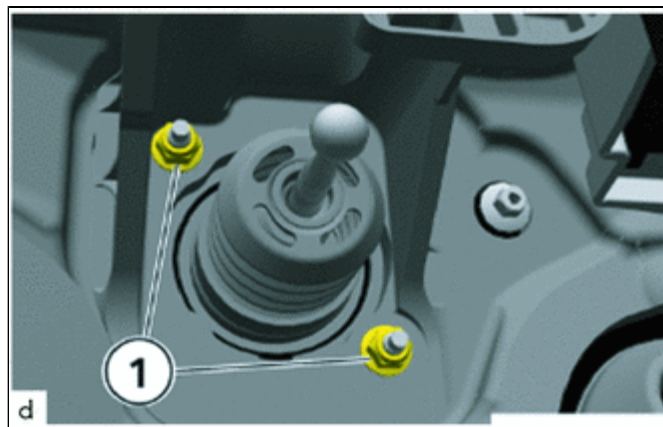
- (b) Apply support (1) of the special tool 2 409 646 on the brake pedal support assembly. If necessary fix the position of the support by rotating the screw on the special tool.

- (c) Push special tool 2 409 646 in the direction of the arrow and lever the brake pedal support assembly off the brake booster.

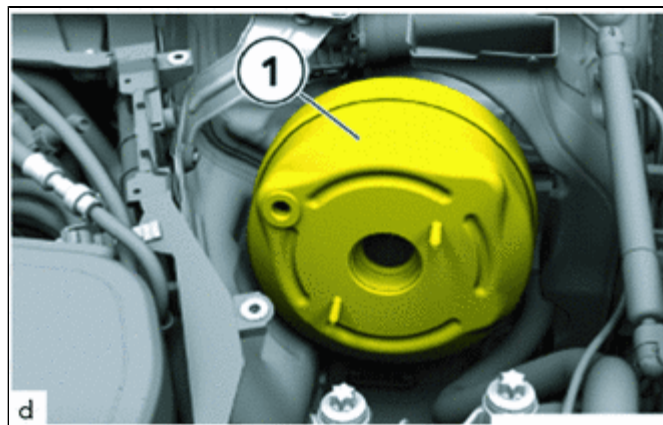
SST: 09700-WA030



- (d) Loosen nuts (1).



- (e) Unscrew the brake booster (1) from the bulkhead.



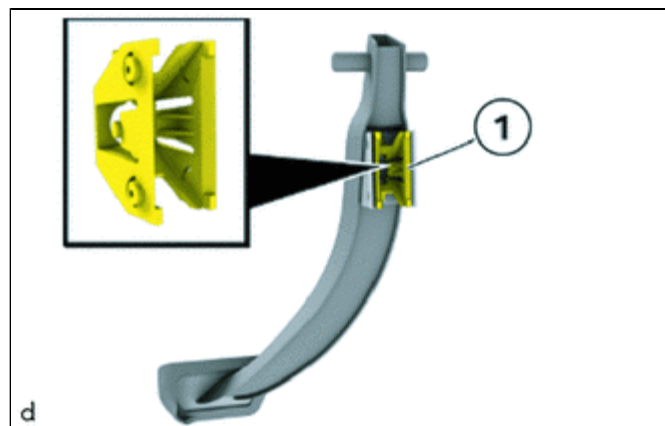
Last Modified: 09-05-2019	6.9:8.0.49	Doc ID: RM100000001JCEB
Model Year Start: 2020	Model: Supra	Prod Date Range: [03/2019 -]
Title: BRAKE SYSTEM (OTHER): BRAKE BOOSTER: INSTALLATION; 2020 MY Supra [03/2019 -]		

INSTALLATION

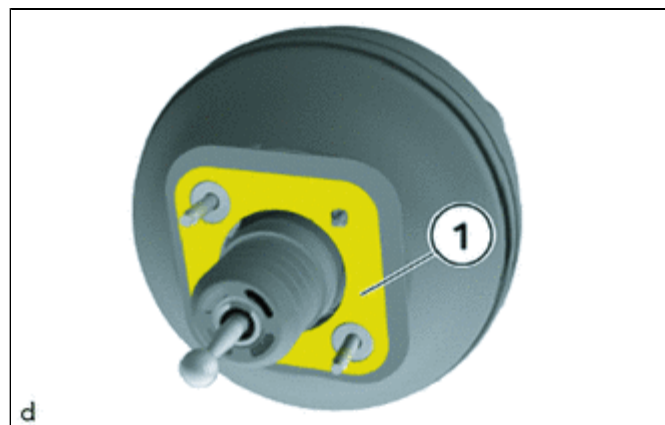
PROCEDURE

1. INSTALL BRAKE BOOSTER

(a) Check the clamp (1) for damage, replace if necessary.

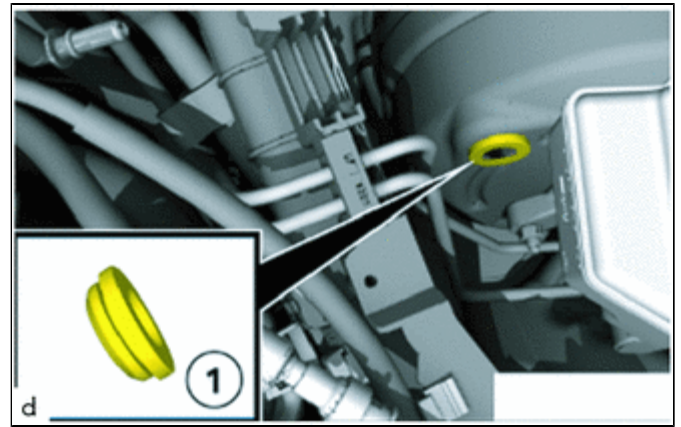


(b) Replace the gasket (1) on the brake booster.



(c) Thoroughly clean the sealing surface on the brake booster and on the bulkhead.

(d) Replace grommet (1).



(e) Insert the grommet (1).

(f) Screw in the brake booster in the bulkhead.

(g) Replace nuts.

(h) Tighten nuts.

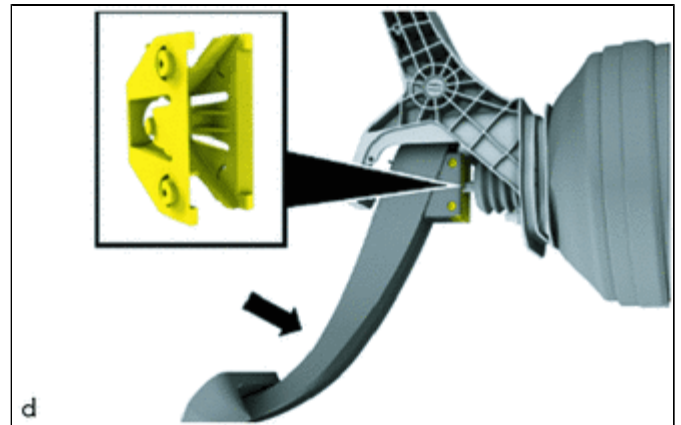
Torque:

21.4 N·m {218 kgf·cm, 16 ft·lbf}

(i) Press the brake pedal in the direction of arrow and lock it with the brake booster.

NOTICE:

The brake pedal must be completely locked with the brake booster.



(j) Screw in the brake booster in the bulkhead.

(k) Replace nuts.

(l) Tighten nuts (1).

Torque:

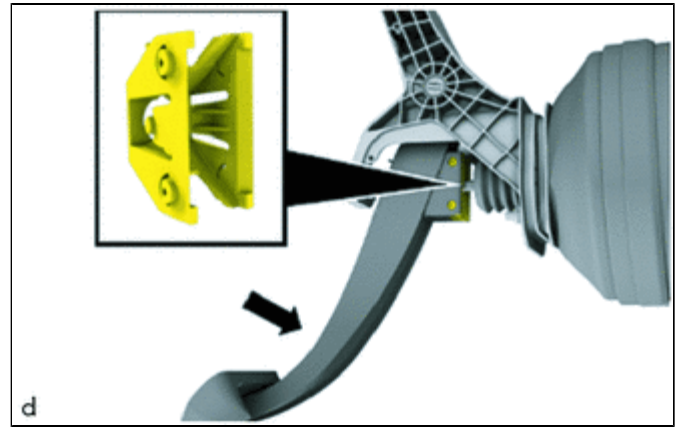
21.4 N·m {218 kgf·cm, 16 ft·lbf}

(m) Press the brake pedal in the direction of arrow and lock it with the brake booster.

NOTICE:

The brake pedal must be completely locked with the brake

booster.



2. CONNECT CONNECTOR TO BRAKE BOOSTER TUBE

- (a) Check the grommet on the brake booster and replace, if necessary.
- (b) Install the non-return valve in the brake booster.

3. INSTALL MASTER CYLINDER BODY

Click here [INFO](#)

4. INSTALL STOP LIGHT SWITCH ASSEMBLY

Click here [INFO](#)

5. BLEED BRAKE LINE

Click here [INFO](#)

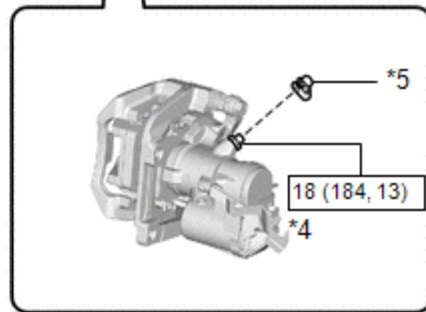
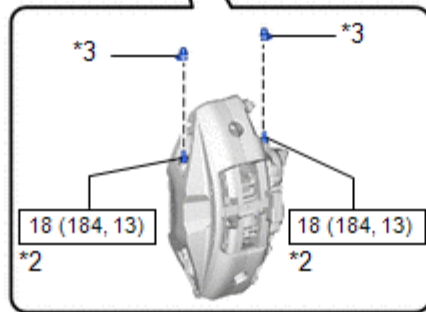
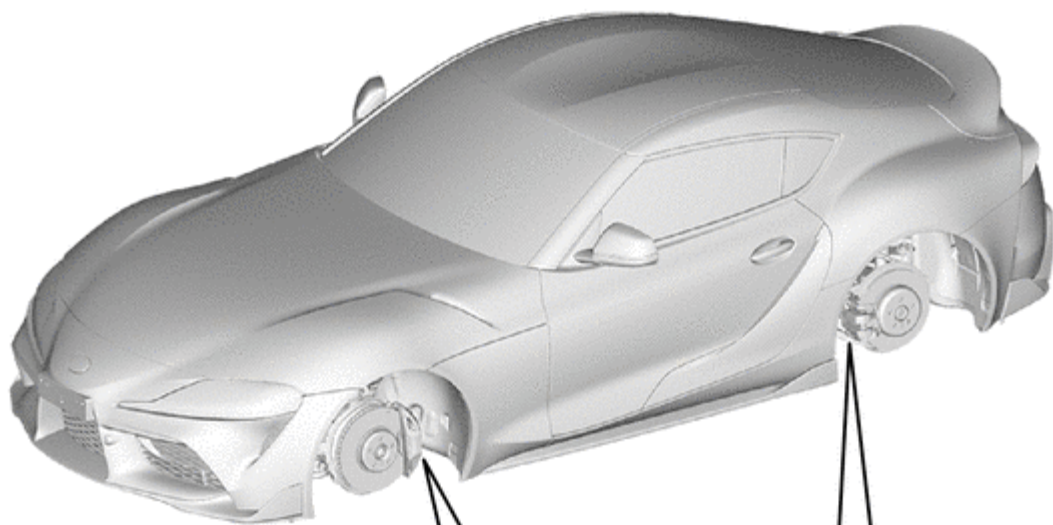
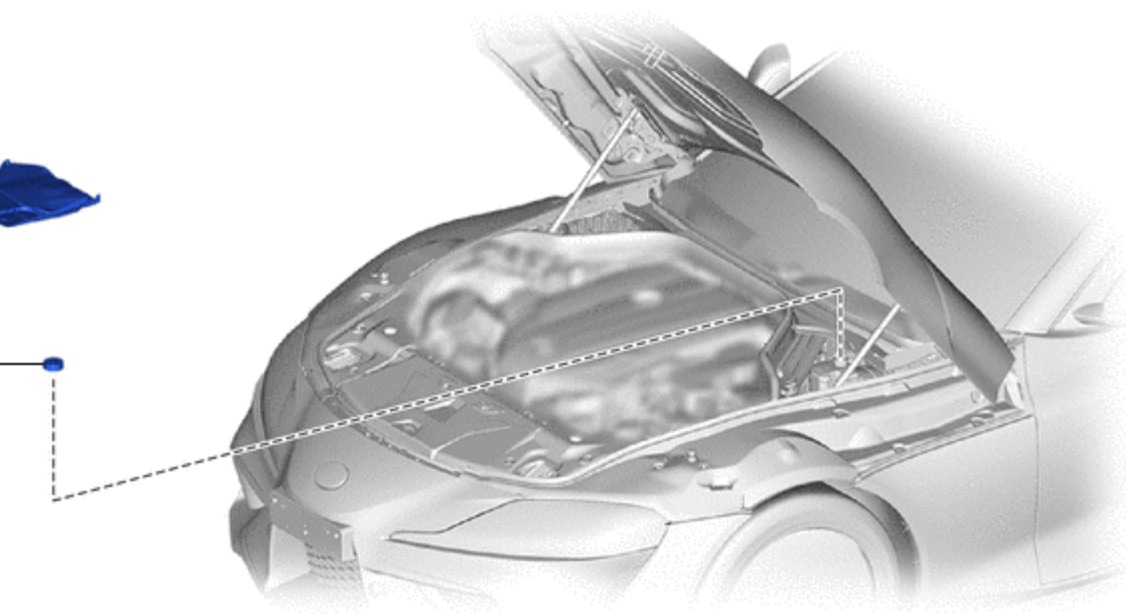
Last Modified: 09-05-2019	6.9:8.0.49	Doc ID: RM100000001JCDZ
Model Year Start: 2020	Model: Supra	Prod Date Range: [03/2019 -]
Title: BRAKE SYSTEM (OTHER): BRAKE FLUID: COMPONENTS; 2020 MY Supra [03/2019 -]		

COMPONENTS

ILLUSTRATION

*6

*1



0

*1	BRAKE MASTER CYLINDER RESERVOIR FILLER CAP	*2	FRONT DISC BRAKE BLEEDER PLUG
*3	FRONT DISC BRAKE BLEEDER PLUG CAP	*4	REAR DISC BRAKE BLEEDER PLUG
	REAR DISC BRAKE BLEEDER PLUG		

*5	CAP	*6	COWL VENT COVER
	N*m (kgf*cm, ft.*lbf): Specified torque	-	-

Last Modified: 09-05-2019	6.9:8.0.49	Doc ID: RM100000001JCE0
Model Year Start: 2020	Model: Supra	Prod Date Range: [03/2019 -]
Title: BRAKE SYSTEM (OTHER): BRAKE FLUID: ON-VEHICLE INSPECTION; 2020 MY Supra [03/2019 -]		

ON-VEHICLE INSPECTION

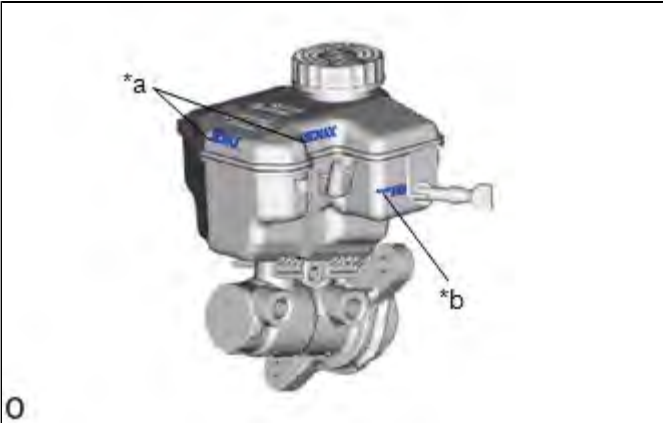
CAUTION / NOTICE / HINT

PROCEDURE

1. INSPECT BRAKE FLUID LEVEL IN RESERVOIR

- (a) Check the fluid level.
 - if necessary, adjust to maximum mark.
 - Brake Fluid and Hydraulic Fluid:
 - Brake fluid DOT4, low viscosity

NOTICE:
 Use only approved brake fluids, see operating fluids.



*a	MAX Line
*b	MIN Line



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Model Year Start: 2020	Model: Supra	Prod Date Range: [03/2019 -]
Title: BRAKE SYSTEM (OTHER): BRAKE FLUID: REPLACEMENT; 2020 MY Supra [03/2019 -]		

REPLACEMENT

CAUTION / NOTICE / HINT

Click here [INFO](#)



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Model Year Start: 2020	Model: Supra	Prod Date Range: [03/2019 -]
Title: BRAKE SYSTEM (OTHER): BRAKE FLUID: BLEEDING; 2020 MY Supra [03/2019 -]		

BLEEDING

PROCEDURE

1. REMOVE COWL VENT COVER LH

Click here [INFO](#)

2. FILL RESERVOIR WITH BRAKE FLUID

Click here [INFO](#)

3. BLEED REAR BRAKE

Click here [INFO](#)

4. BLEED FRONT BRAKE

Click here [INFO](#)

5. OPERATE ELECTRIC PARKING BRAKE SWITCH ASSEMBLY

- (a) Operate the electric parking brake switch assembly (1) for the electromechanical parking brake and release it again; then operate again and release again.



6. BLEED REAR BRAKE

Click here [INFO](#)

7. INSPECT FOR BRAKE FLUID LEAK

8. INSPECT BRAKE FLUID LEVEL IN RESERVOIR

Click here [INFO](#)

9. INSTALL COWL VENT COVER LH

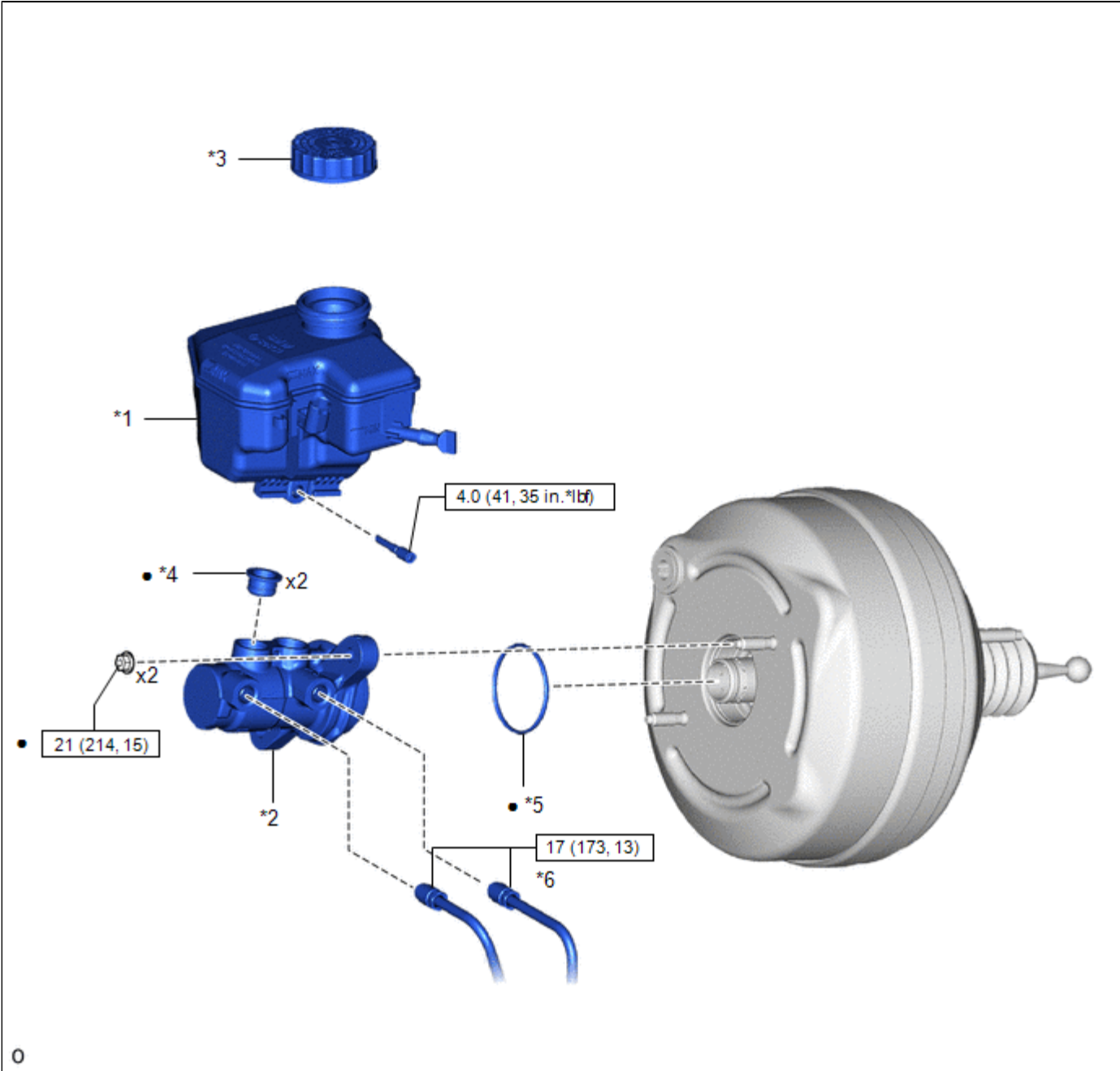
Click here [INFO](#)

10. PERFORM CBS RESET

Last Modified: 09-05-2019	6.9:8.0.49	Doc ID: RM100000001JCE6
Model Year Start: 2020	Model: Supra	Prod Date Range: [03/2019 -]
Title: BRAKE SYSTEM (OTHER): BRAKE MASTER CYLINDER: COMPONENTS; 2020 MY Supra [03/2019 -]		

COMPONENTS

ILLUSTRATION



*1	BRAKE MASTER CYLINDER RESERVOIR SUB-ASSEMBLY	*2	MASTER CYLINDER BODY
*3	BRAKE MASTER CYLINDER RESERVOIR FILLER CAP	*4	SEALING PLUG
*5	GASKET	*6	BRAKE LINE

	N*m (kgf*cm, ft.*lbf): Specified torque	•	Non-reusable part
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Last Modified: 09-05-2019	6.9:8.0.49	Doc ID: RM100000001JCE7
Model Year Start: 2020	Model: Supra	Prod Date Range: [03/2019 -]
Title: BRAKE SYSTEM (OTHER): BRAKE MASTER CYLINDER: REMOVAL; 2020 MY Supra [03/2019 -]		

REMOVAL

CAUTION / NOTICE / HINT

NOTICE:

Use only approved brake fluids, see operating fluids.

PROCEDURE

1. REMOVE UPPER FRONT SUSPENSION CENTER BRACE

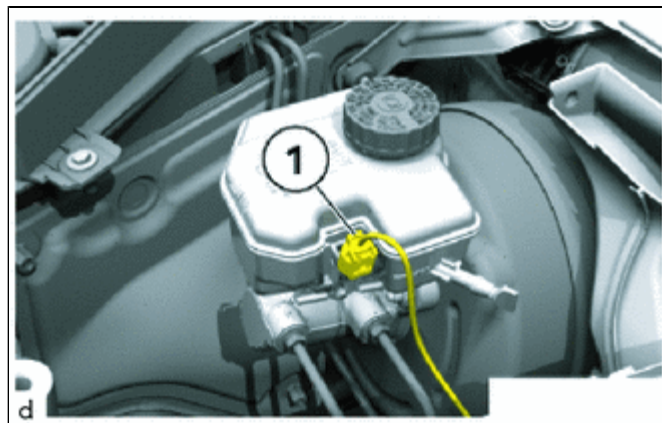
Click here [INFO](#)

2. REMOVE BRAKE MASTER CYLINDER RESERVOIR SUB-ASSEMBLY

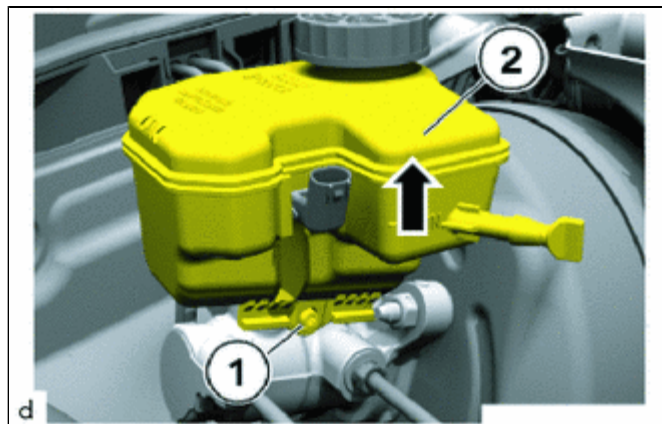
HINT:

- Prerequisite
 - The brake fluid has been drawn off from the brake fluid expansion tank.

(a) Unlock plug connection (1) and disconnect.



(b) Loosen T20 bolt (1).

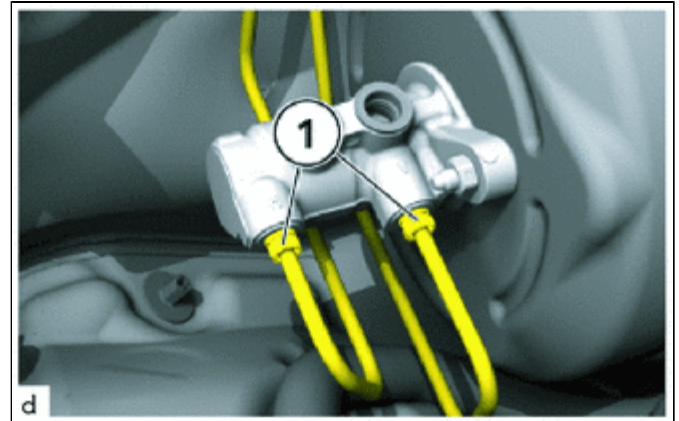


(c) Remove master cylinder reservoir sub-assembly (2) upwards.

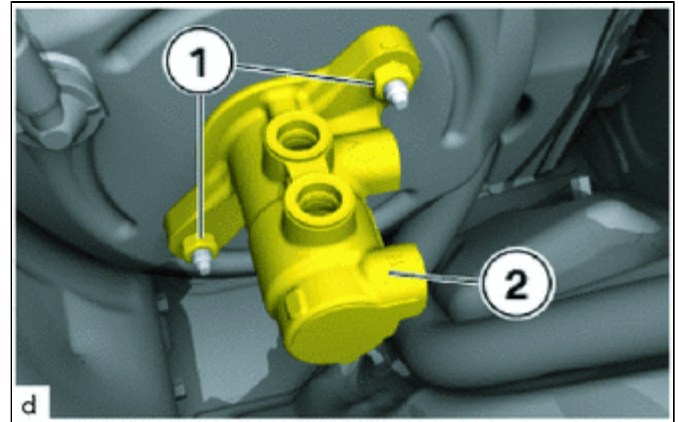
3. REMOVE MASTER CYLINDER BODY

(a) Unfasten brake lines (1).

SST: 09700-WA070



(b) Loosen nuts (1).



(c) Remove the master cylinder body (2).

Last Modified: 09-05-2019	6.9:8.0.49	Doc ID: RM100000001JCE8
Model Year Start: 2020	Model: Supra	Prod Date Range: [03/2019 -]
Title: BRAKE SYSTEM (OTHER): BRAKE MASTER CYLINDER: INSTALLATION; 2020 MY Supra [03/2019 -]		

INSTALLATION

CAUTION / NOTICE / HINT

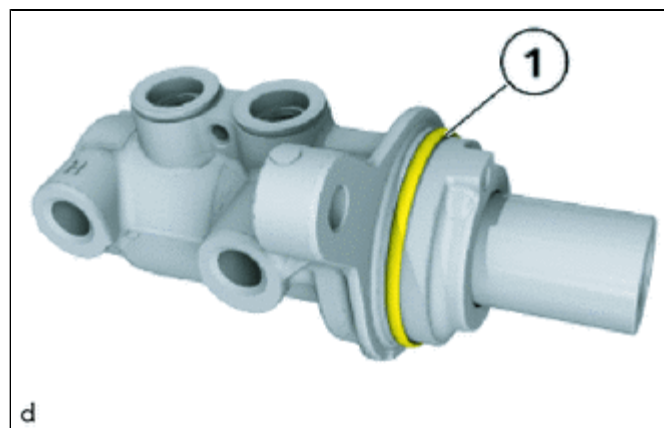
NOTICE:

Use only approved brake fluids, see operating fluids.

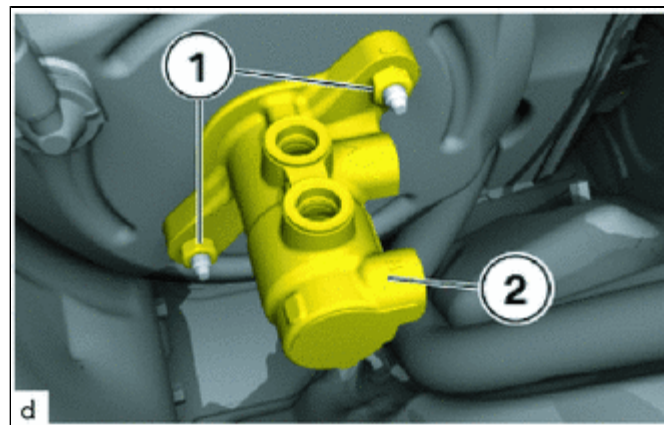
PROCEDURE

1. INSTALL MASTER CYLINDER BODY

(a) Replace gasket (1).



(b) Install master cylinder body (2) in the brake booster.



(c) Replace nuts (1).

(d) Tighten nuts (1).

Torque:

21 N·m {214 kgf·cm, 15 ft·lbf}

(e) Fit brake lines (1) and tighten.

SST: 09700-WA070

Torque:

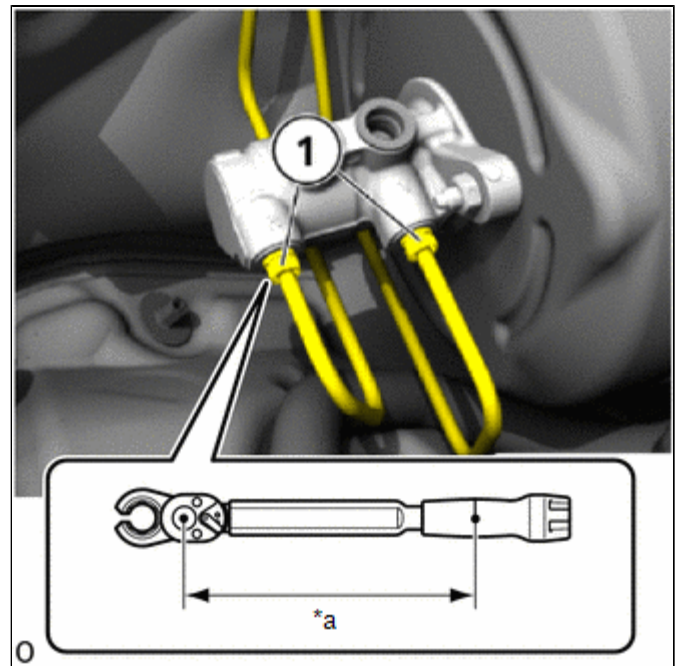
Specified tightening torque :

17 N·m {173 kgf·cm, 13 ft·lbf}

HINT:

- Calculate the torque wrench reading when changing the fulcrum length of the torque wrench.

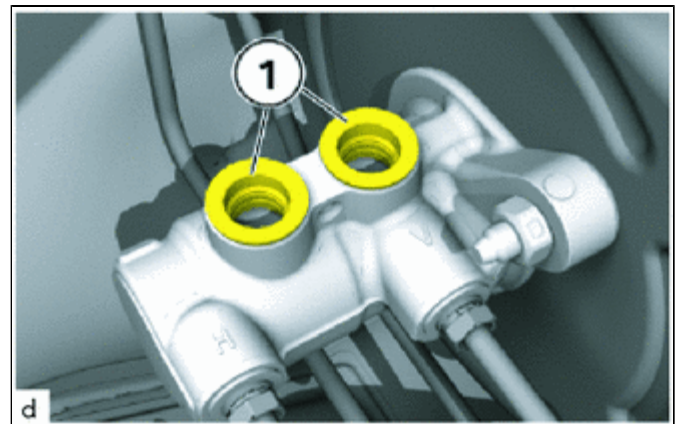
[Click here](#) **INFO**



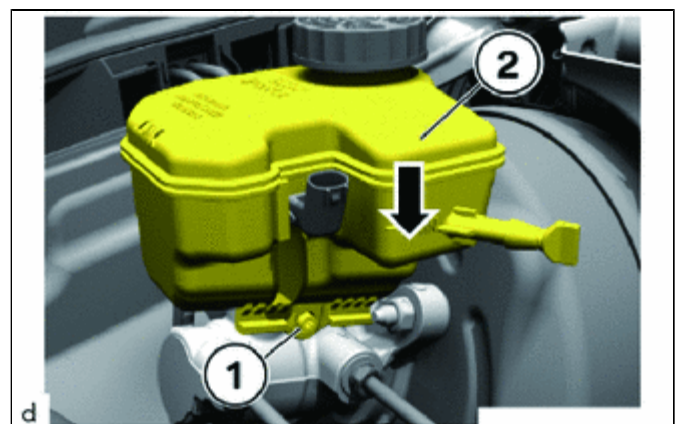
*a	Torque Wrench Fulcrum Length
----	------------------------------

2. INSTALL BRAKE MASTER CYLINDER RESERVOIR SUB-ASSEMBLY

(a) Replace the sealing plug (1).



(b) Install the brake master cylinder reservoir sub-assembly (2).



(c) Tighten down T20 bolt (1).

Torque:

4.0 N·m { 41 kgf·cm, 35 in·lbf }

(d) Connect connectors and lock.

3. INSTALL UPPER FRONT SUSPENSION CENTER BRACE

Click here [INFO](#)

4. BLEED BRAKE LINE

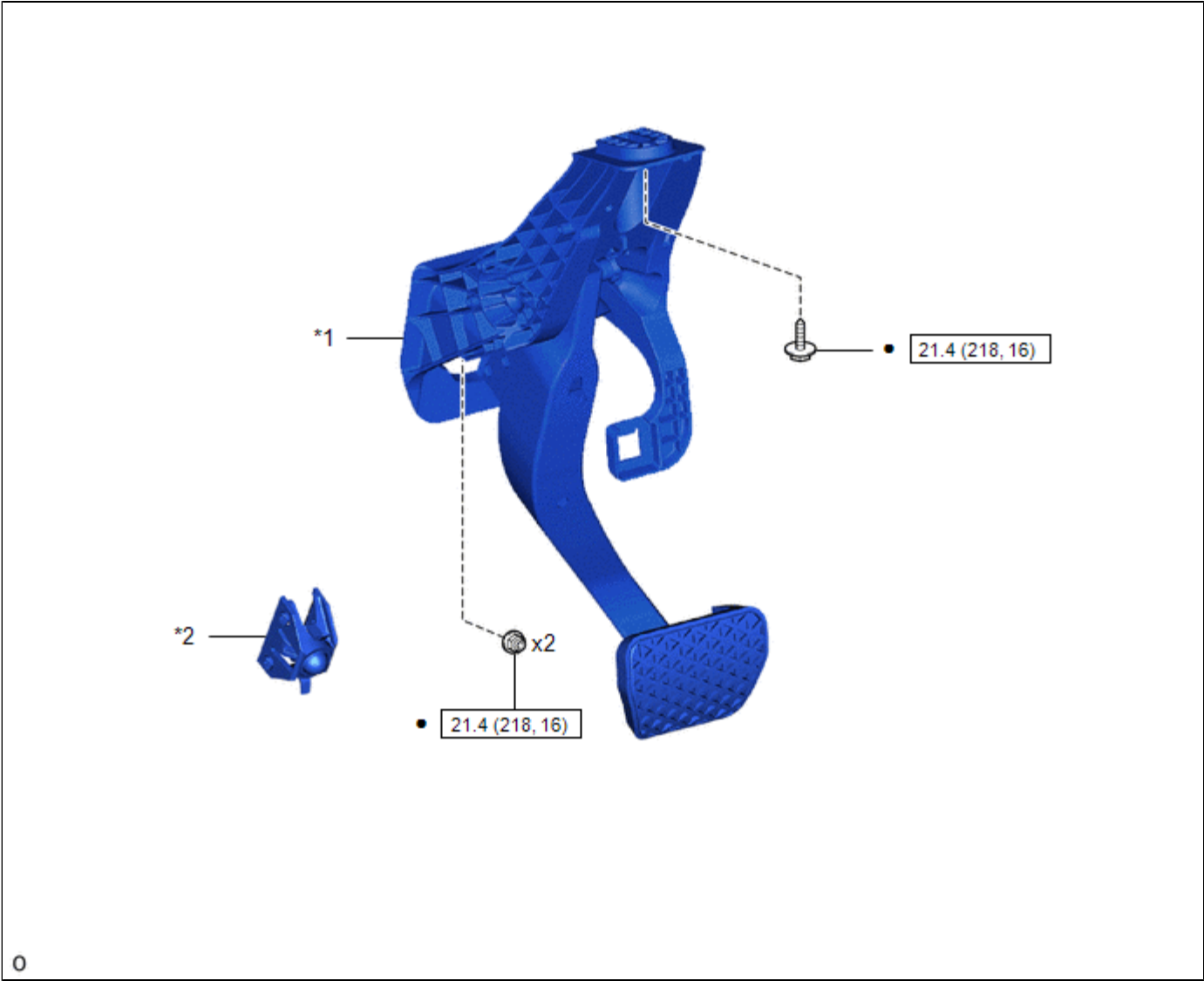
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Last Modified: 09-05-2019	6.9:8.0.49	Doc ID: RM100000001JCE3
Model Year Start: 2020	Model: Supra	Prod Date Range: [03/2019 -]
Title: BRAKE SYSTEM (OTHER): BRAKE PEDAL: COMPONENTS; 2020 MY Supra [03/2019 -]		

COMPONENTS

ILLUSTRATION



*1	BRAKE PEDAL SUPPORT ASSEMBLY	*2	CLAMP
	N*m (kgf*cm, ft.*lbf): Specified torque	•	Non-reusable part

Last Modified: 09-05-2019	6.9:8.0.49	Doc ID: RM100000001JCE4
Model Year Start: 2020	Model: Supra	Prod Date Range: [03/2019 -]
Title: BRAKE SYSTEM (OTHER): BRAKE PEDAL: REMOVAL; 2020 MY Supra [03/2019 -]		

REMOVAL

PROCEDURE

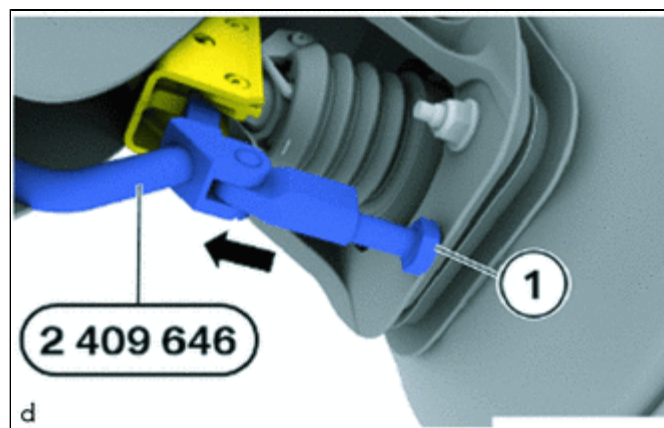
1. REMOVE STOP LIGHT SWITCH ASSEMBLY

Click here [INFO](#)

2. REMOVE BRAKE PEDAL SUPPORT ASSEMBLY

- (a) Insert the special tool 2 409 646 between the brake pedal support assembly and brake booster assembly.

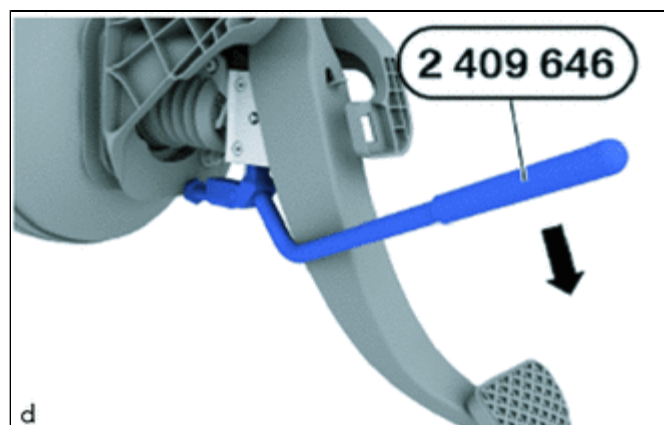
SST: 09700-WA030



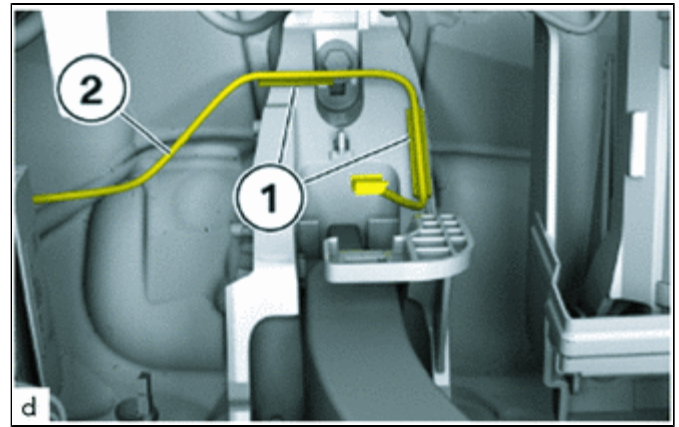
- (b) Apply support (1) of the special tool 2 409 646 on the bearing support. If necessary fix the position of the support by rotating the screw on the release tool.

- (c) Push release special tool 2 409 646 in the direction of the arrow and lever the brake pedal support assembly off the brake booster assembly.

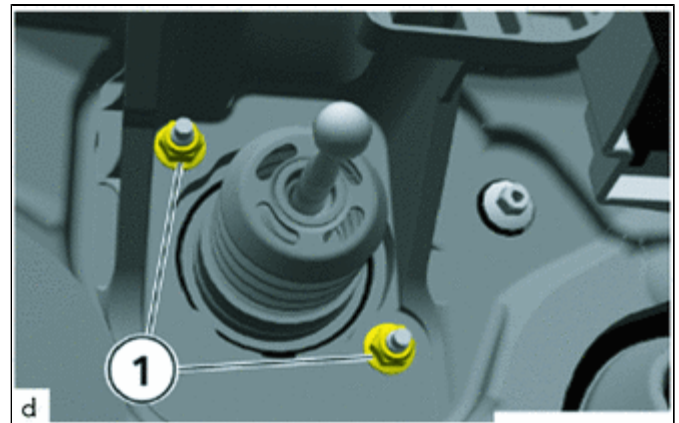
SST: 09700-WA030



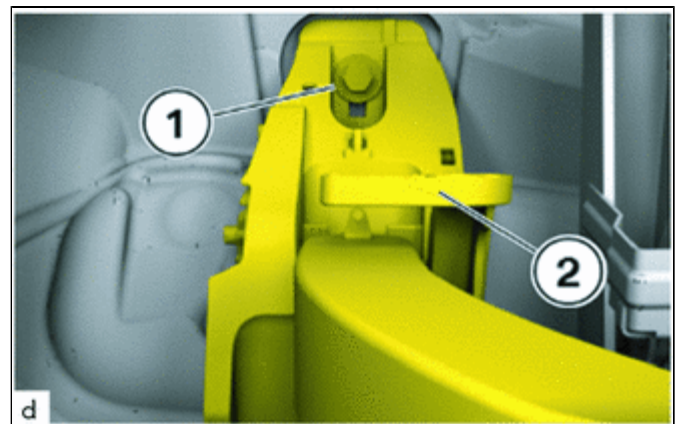
(d) Release both holders (1) and lay the cable (2) to one side.



(e) Loosen nuts (1).



(f) Release the bolt (1) and thread out the brake pedal support assembly (2).



Last Modified: 09-05-2019	6.9:8.0.49	Doc ID: RM100000001JCE5
Model Year Start: 2020	Model: Supra	Prod Date Range: [03/2019 -]
Title: BRAKE SYSTEM (OTHER): BRAKE PEDAL: INSTALLATION; 2020 MY Supra [03/2019 -]		

INSTALLATION

PROCEDURE

1. INSTALL BRAKE PEDAL SUPPORT ASSEMBLY

- (a) Insert the brake pedal support assembly.
- (b) Replace the bolt.
- (c) Tighten down bolt.

Torque:

21.4 N·m {218 kgf·cm, 16 ft·lbf}

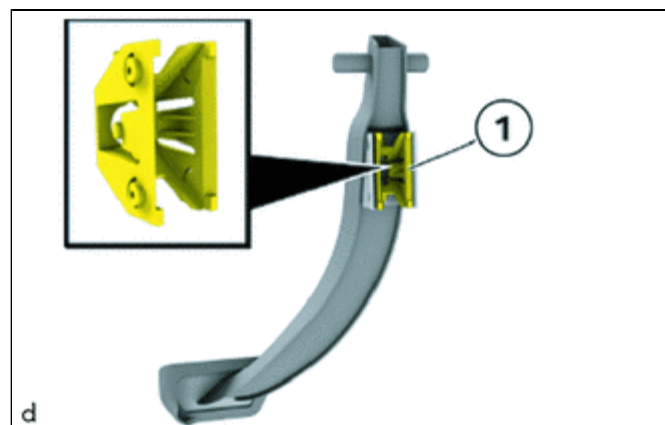
- (d) Replace nuts.
- (e) Tighten nuts.

Torque:

21.4 N·m {218 kgf·cm, 16 ft·lbf}

- (f) Position the cable and clip in the holder.

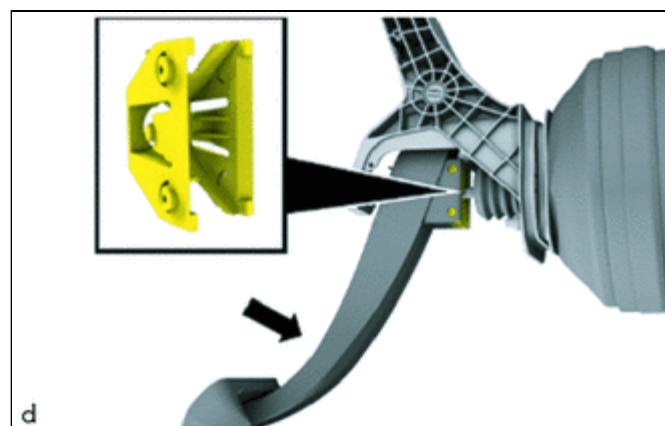
- (g) Check the clamp (1) for damage; replace if necessary.



- (h) Press the brake pedal support assembly in the direction of arrow and lock it with the brake booster assembly.

NOTICE:

The brake pedal support assembly must be completely locked with the brake booster assembly.



2. INSTALL STOP LIGHT SWITCH ASSEMBLY

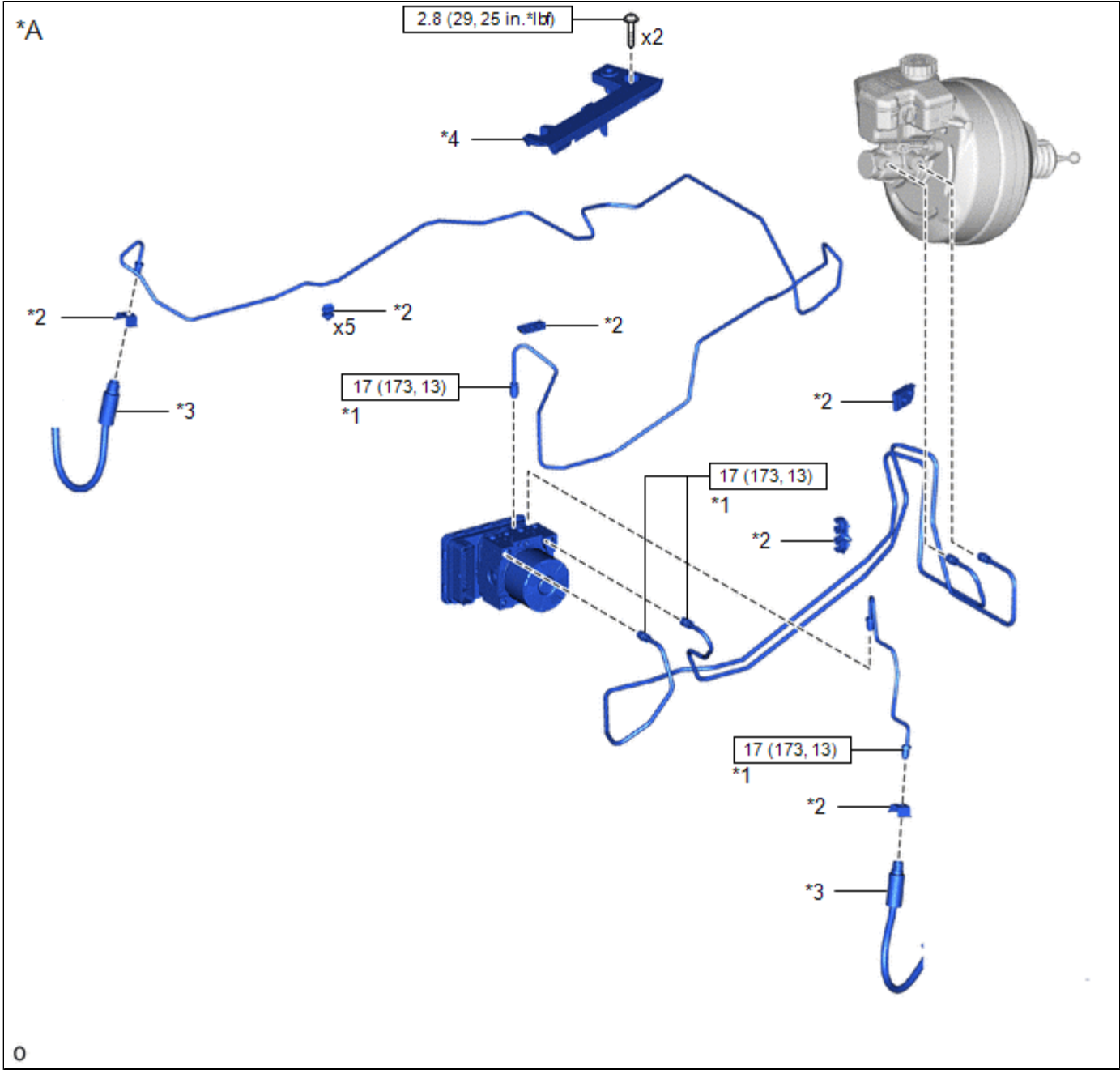
Click here [INFO](#)



Last Modified: 09-05-2019	6.9:8.0.49	Doc ID: RM100000001JCEI
Model Year Start: 2020	Model: Supra	Prod Date Range: [03/2019 -]
Title: BRAKE SYSTEM (OTHER): BRAKE PIPE: COMPONENTS; 2020 MY Supra [03/2019 -]		

COMPONENTS

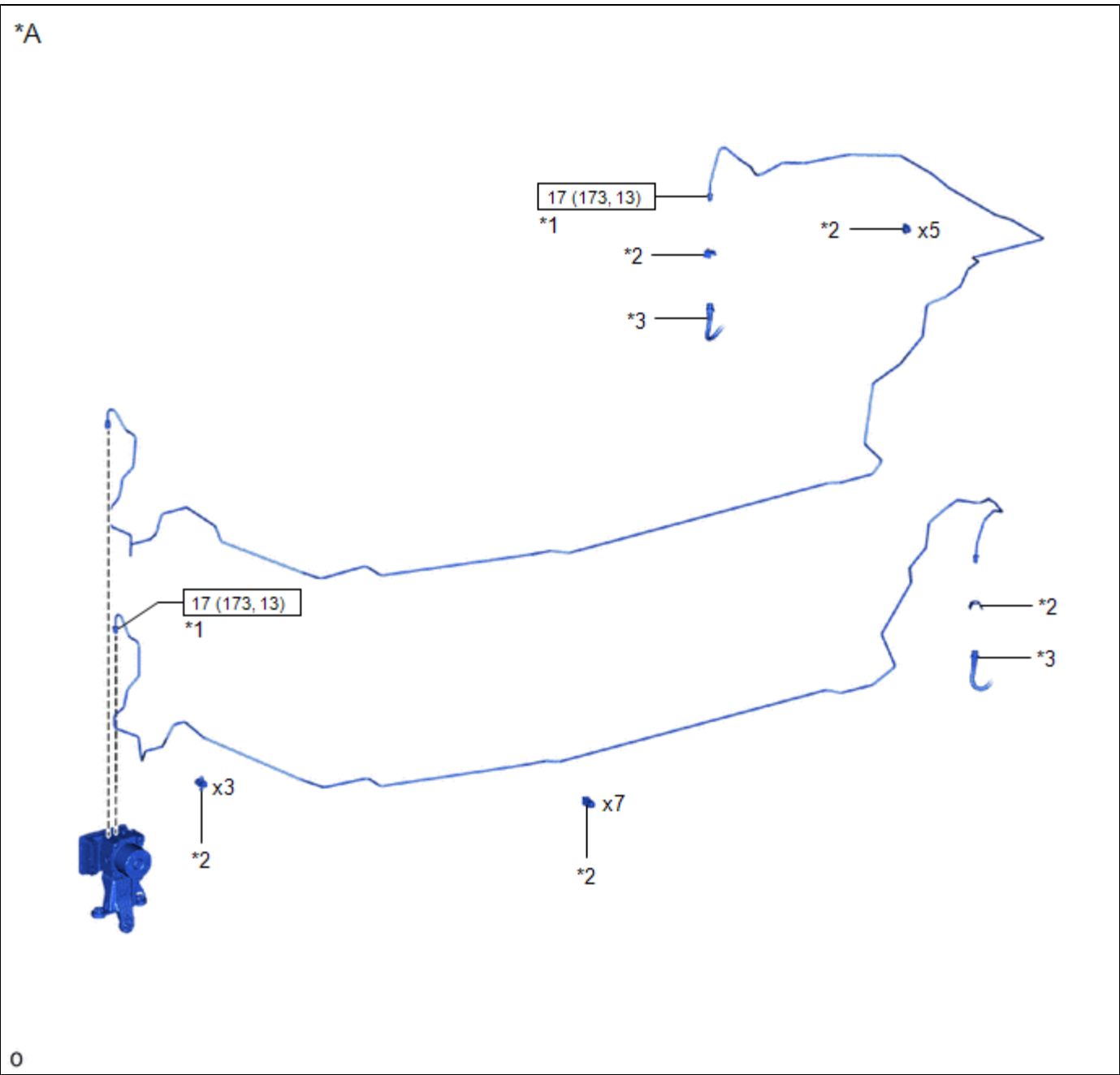
ILLUSTRATION



*A	for Front Side	-	-
*1	BRAKE PIPE	*2	CLIP
*3	FRONT FLEXIBLE HOSE	*4	SEALING FRAME
	N*m (kgf*cm, ft.*lbf): Specified torque	-	-



ILLUSTRATION



*A	for Rear Side	-	-
*1	BRAKE PIPE	*2	CLIP
*3	REAR FLEXIBLE HOSE	-	-
	N*m (kgf*cm, ft.*lbf): Specified torque	-	-

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Title: BRAKE SYSTEM (OTHER): BRAKE PIPE: REPLACEMENT; 2020 MY Supra [03/2019 -]		

REPLACEMENT

PROCEDURE

1. REMOVE ENGINE ASSEMBLY

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2. REMOVE FUEL TANK ASSEMBLY (for Rear Side)

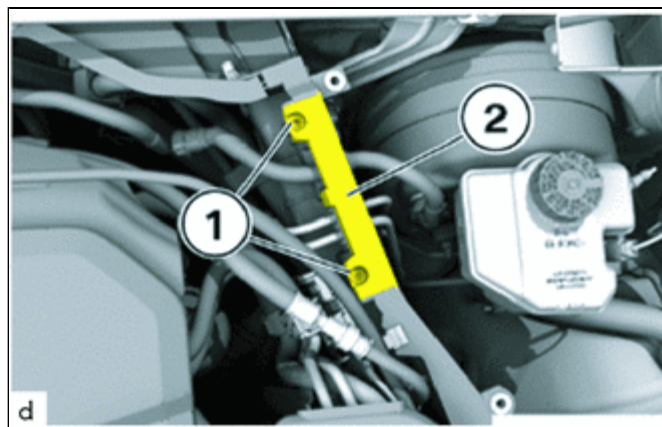
Click here [INFO](#)

3. REMOVE REAR SUSPENSION MEMBER SUB-ASSEMBLY (for Rear Side)

Click here [INFO](#)

4. REMOVE SEALING FRAME

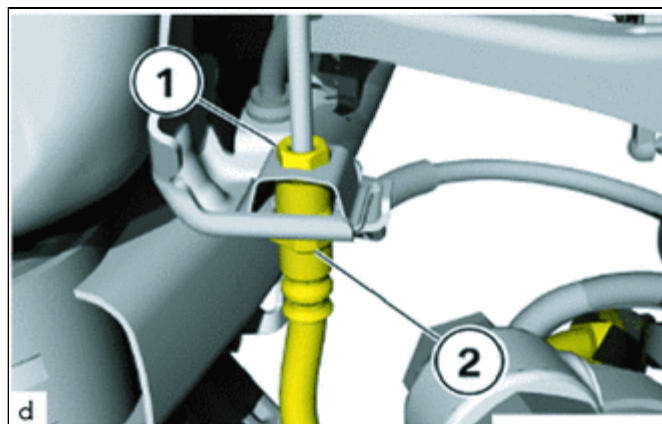
- (a) Unscrew the T25 screws (1) and remove the sealing frame (2).



5. REMOVE ALL BRAKE PIPES

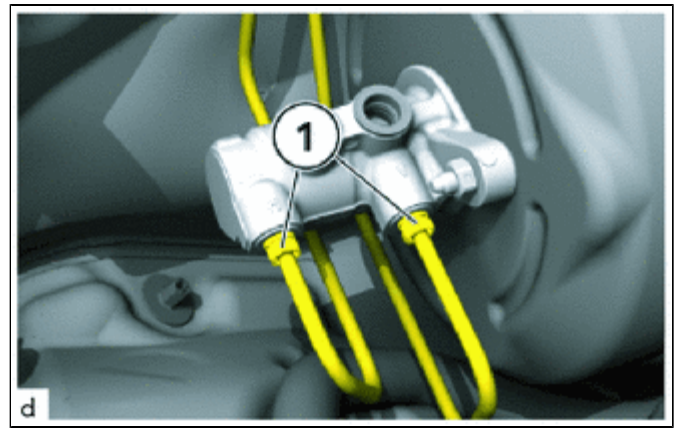
- (a) Loosen union nut (1) with special tool 0 492 482 (34 3 170). Use the square end (2) for counter support if necessary.

SST: 09700-WA070



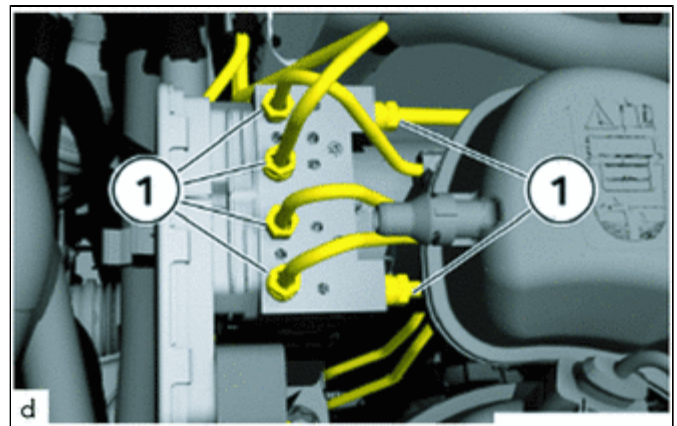
(b) Release brake pipes (1) with the special tool 0 492 482 (34 3 170).

SST: 09700-WA070

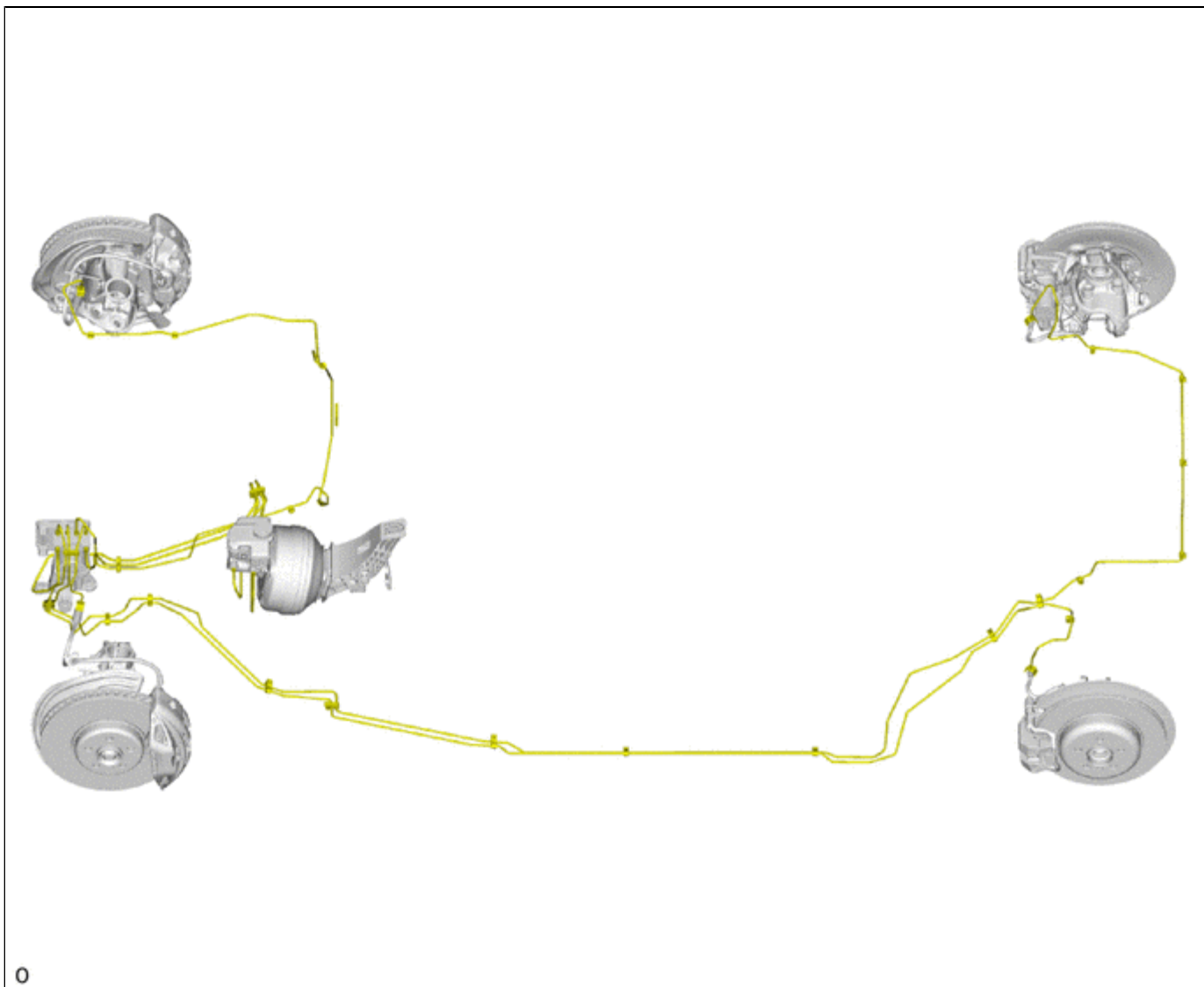


(c) Release brake pipes (1) with the special tool 0 492 482 (34 3 170).

SST: 09700-WA070



(d) Unclip and remove all brake pipes.



6. INSTALL ALL BRAKE PIPES

(a) Install and clip in all brake pipes.

(b) Position the union nut (1) and tighten it with the special tool 0 492 482 (34 3 170). Use the square end (2) for counter support if necessary.

SST: 09700-WA070

Torque:

Specified tightening torque :

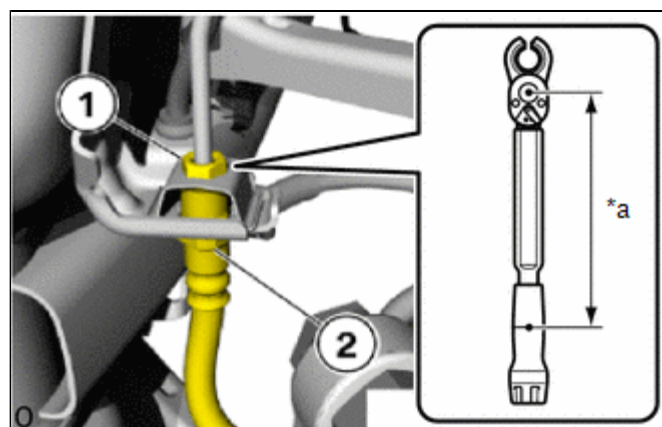
17 N·m {173 kgf·cm, 13 ft·lbf}

HINT:

Calculate the torque wrench reading when changing the fulcrum length of the torque wrench.

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INFO



*a

Torque Wrench Fulcrum Length

(c) Tighten the brake pipes (1) with the special tool 0 492 482 (34 3 170).

SST: 09700-WA070

Torque:

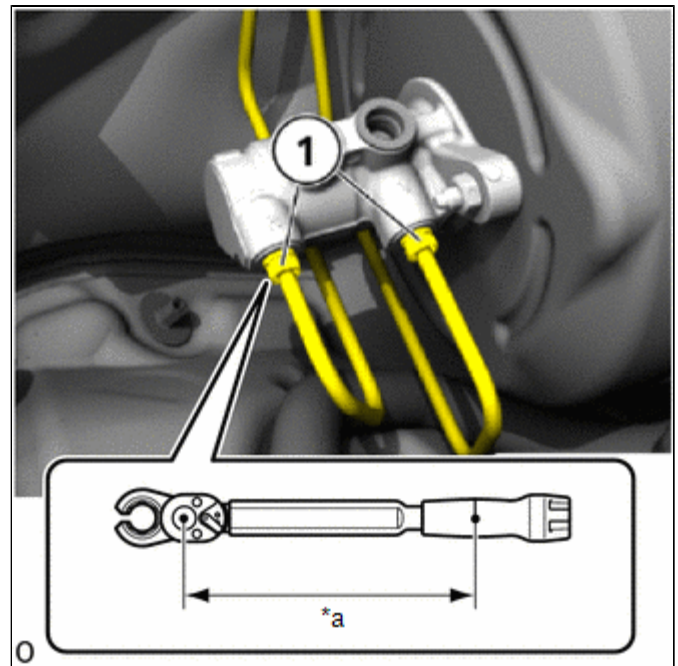
Specified tightening torque :

17 N·m {173 kgf·cm, 13 ft·lbf}

HINT:

Calculate the torque wrench reading when changing the fulcrum length of the torque wrench.

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*a	Torque Wrench Fulcrum Length
----	------------------------------

(d) Tighten the brake pipes (1) with the special tool 0 492 482 (34 3 170).

SST: 09700-WA070

Torque:

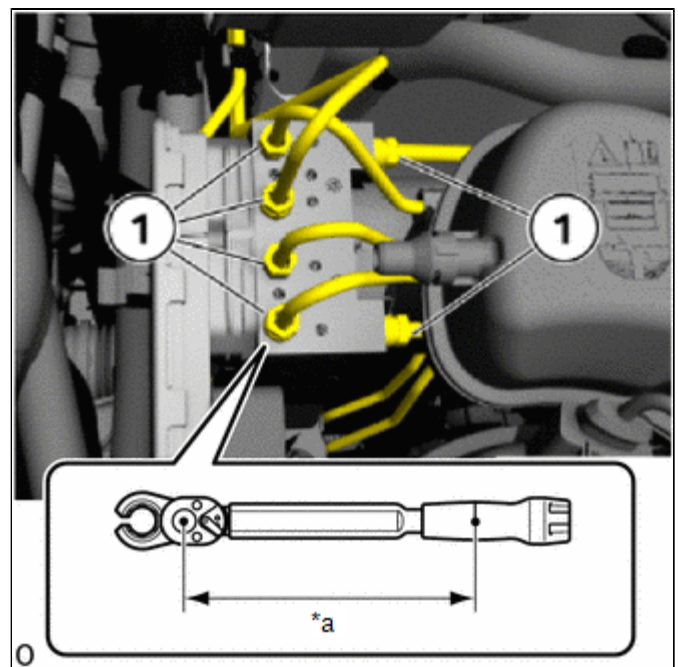
Specified tightening torque :

17 N·m {173 kgf·cm, 13 ft·lbf}

HINT:

Calculate the torque wrench reading when changing the fulcrum length of the torque wrench.

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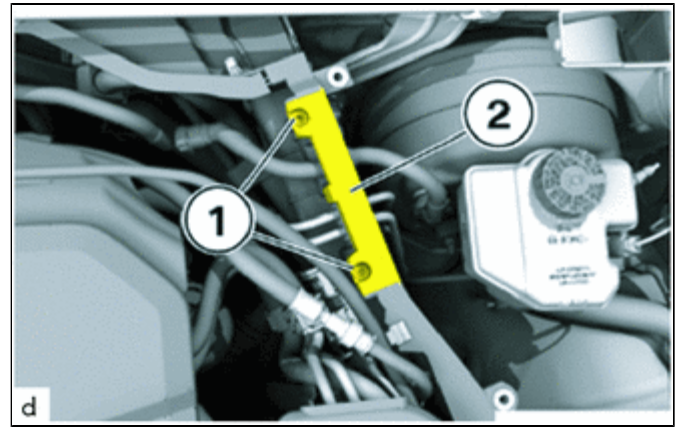
*a	Torque Wrench Fulcrum Length
----	------------------------------

7. INSTALL SEALING FRAME

(a) Position the sealing frame (2) and tighten the T25 screws (1).

Torque:

2.8 N·m {29 kgf·cm, 25 in·lbf}



8. INSTALL REAR SUSPENSION MEMBER SUB-ASSEMBLY (for Rear Side)

Click here [INFO](#)

9. INSTALL FUEL TANK ASSEMBLY (for Rear Side)

Click here [INFO](#)

10. INSTALL ENGINE ASSEMBLY

Click here [INFO](#)

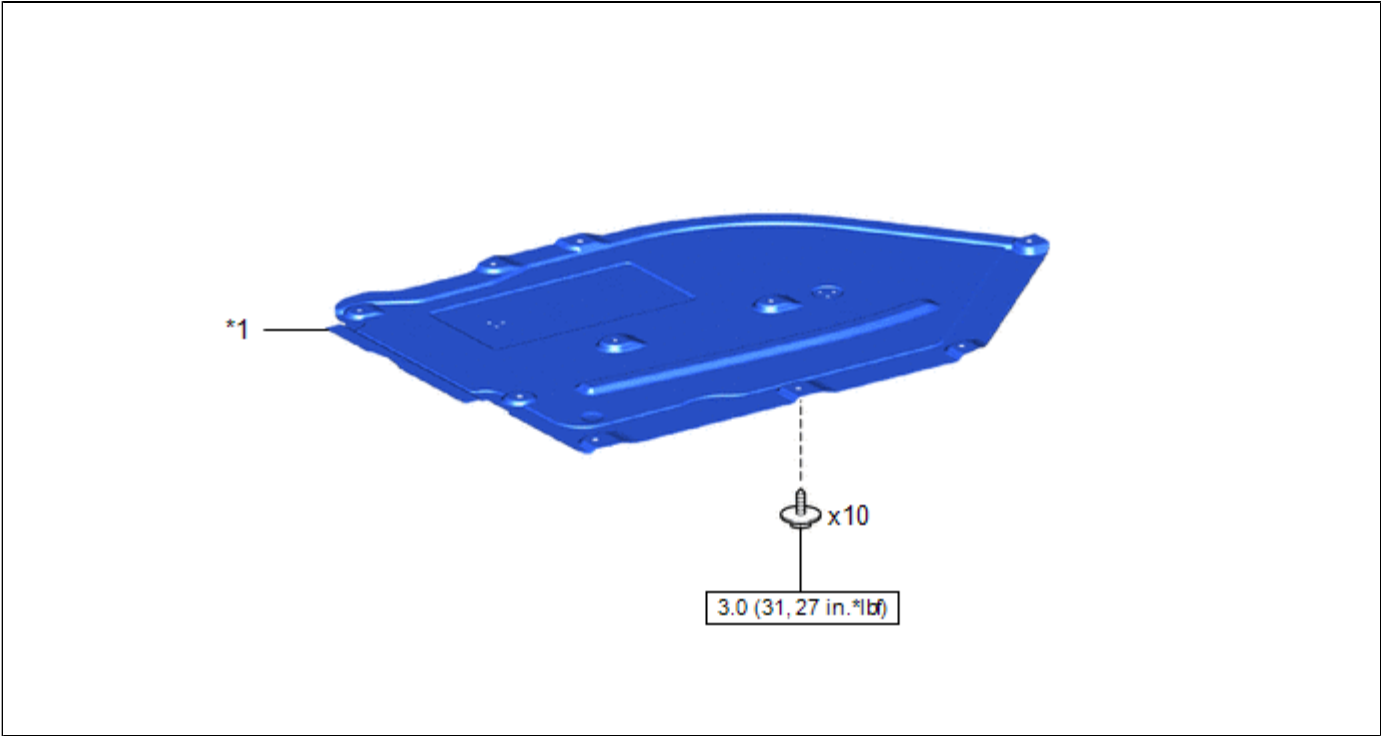


TOYOTA

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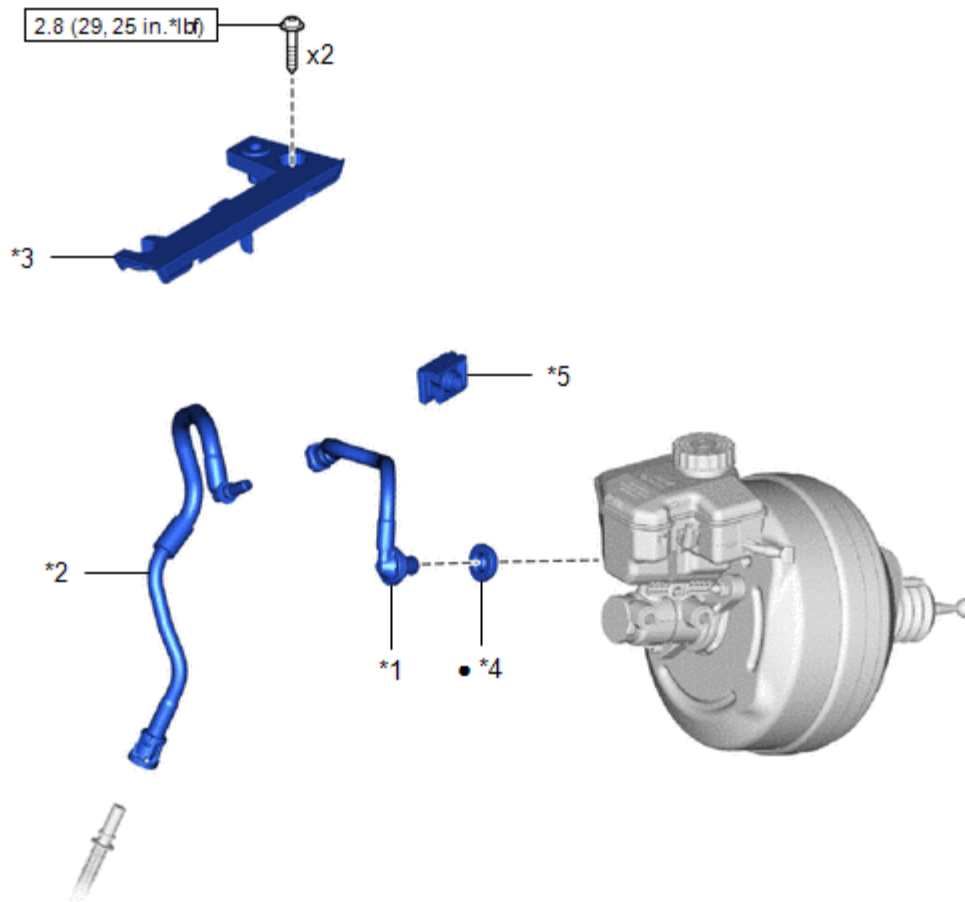
COMPONENTS

ILLUSTRATION



*1	FRONT FLOOR COVER	-	-
	N*m (kgf*cm, ft.*lbf): Specified torque	-	-

ILLUSTRATION



0

*1	CHECK VALVE TO BRAKE EBOOSTER HOSE	*2	NO. 1 HOSE TO HOSE TUBE
*3	SEALING FRAME	*4	GROMMET
*5	HOLDER	-	-
	N*m (kgf*cm, ft.*lbf): Specified torque	●	Non-reusable part



TOYOTA

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REMOVAL

CAUTION / NOTICE / HINT

Click here [INFO](#)



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Model Year Start: 2020	Model: Supra	Prod Date Range: [03/2019 -]
Title: BRAKE SYSTEM (OTHER): BRAKE VACUUM HOSE: INSTALLATION; 2020 MY Supra [03/2019 -]		

INSTALLATION

CAUTION / NOTICE / HINT

Click here [INFO](#)

