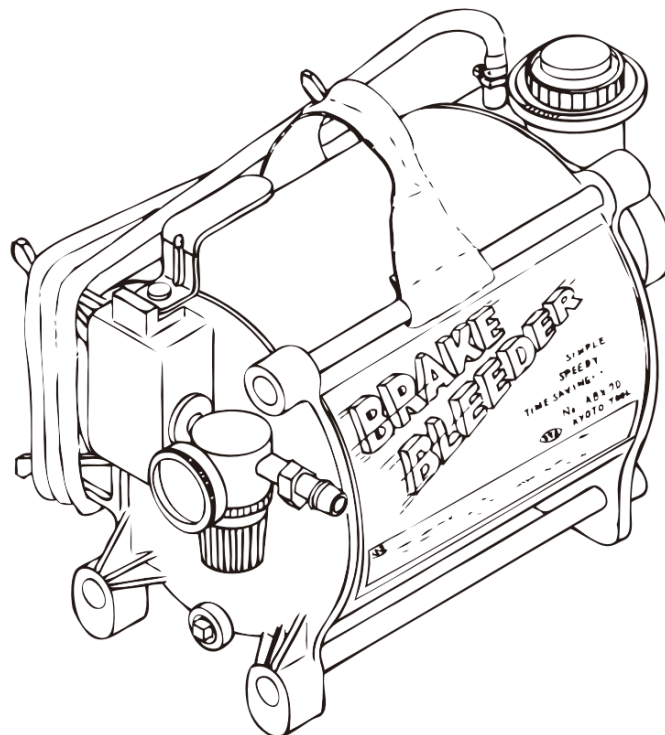




ABX70

Brake Bleeder

INSTRUCTION MANUAL



Thank you for purchasing our Brake Bleeder Set.
Please read this Instruction Manual to use this product safely and properly.
Please fully understand handling cautions and method of use before actual use.
Also please keep this Instruction Manual together with the product.
This product is special equipment for injecting brake fluid by pressure sending.
This product is equipment driven by compressed air from compressor.

There are 2 types of handling precautions as follows;

CAUTION : Failure to heed instructions could lead to human injury
ordamage to equipment.

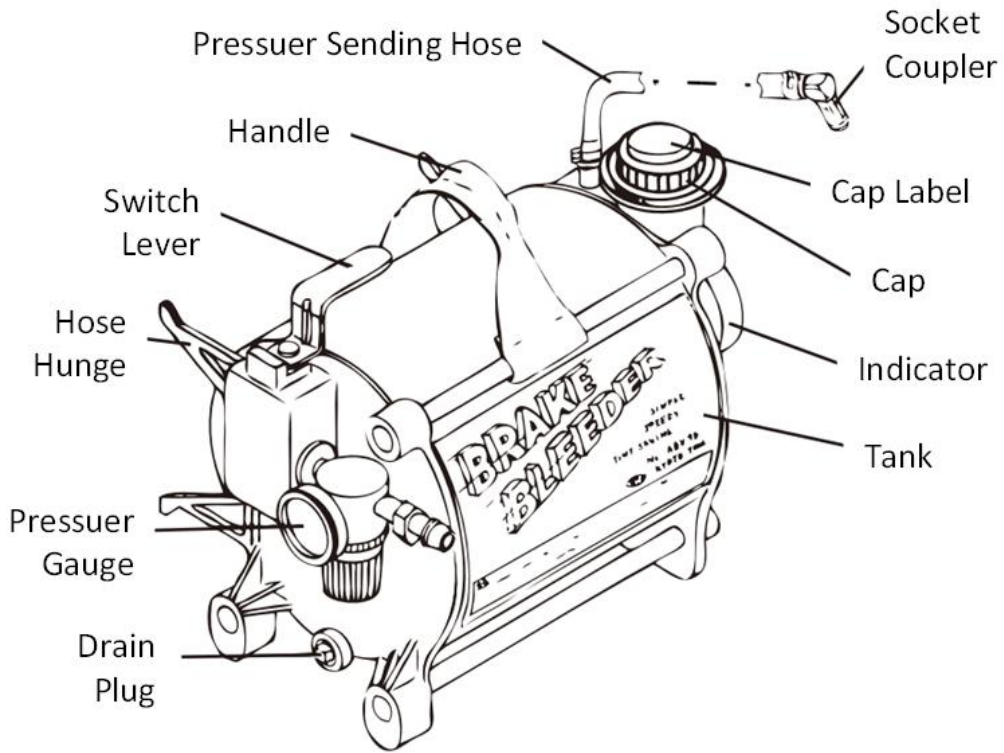
NOTE : Important information on use and maintenace of the product.

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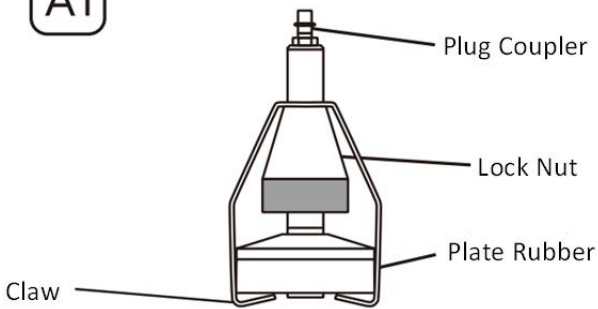
1. PART

① . BODY

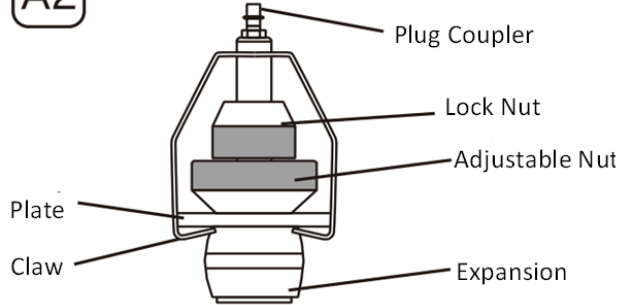


② . ATTACHMENT

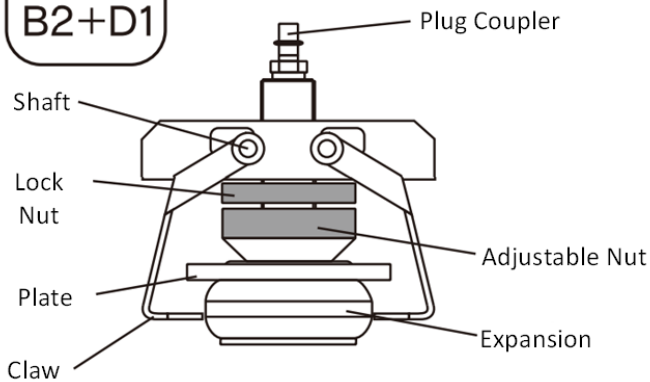
A1



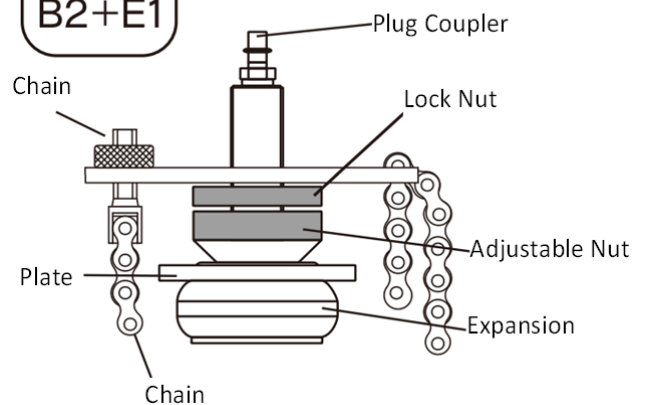
A2



B1+D1
B2+D1



B1+E1
B2+E1



2. SPECIAL FEATURE

- ① Shorter operation time by continuous pressure sending.
- ② Applicable for many car models by using 4 attachments.
- ③ High quality compact design.
- ④ Easy to use Air Pressure Sending Type.
- ⑤ One touch installing Plate Rubber (Attachment A1)
- ⑥ Superb contact by inner-pressure expansion rubber (Attachment A2, B1, B2)

3. CONTENTS

Body	1
Attachment A1, A2, B1, B2	1 Each
Clamp D1, E1	1 Each
Attachment Case	1
Dust Cover	1
Instruction Manual	1

4. SPECIFICATION

Dimension	320×205×210mm
Hose Length	3.5m
Tank Capacity	2 litres
Indication of Remained Amount	0.2 (graduation)
Body weight	6kg
Input Air Pressure	5 to 10kgf/cm ² (0.5~1.0MPa)
Applied Air Pressure	1.5 to 2.5kgf/cm ² (0.15~0.25MPa)
Applicable Air Coupler	R1/4 Nitto Koki 20PM or equivalents

5. APPLICATION

Please refer to Applicable Car Model Chart (P17)

- * Check the bore diameter and shape of the reservoir, surroundings of the master cylinder.

Inner Dia. of reservoir must be within $\phi 18\sim 76$.
Reservoir port must be tubular type.
There must be a space more than 100mm. above the reservoir port.
There must be a space more than 10m. at the each side of the reservoir port.
There must be a space more than 15m. below the surface of the reservoir port.
(A2,B1,B2)

6. CAUTIONS ON USE

Before use, read the following cautions & notes and check all items.

CAUTION

- This product can be used qualified persons only such as automotive mechanics or persons with license.
- Do not use for any other purpose than sending brake fluid.
- Remove the remained air from body (switch lever position : discharge) before removing/changing any part of this product.
- Do not use the product and/or part if any crack and/or deformation is noticed.
- Turn switch lever to discharge (排気) and stop the operation if any problem such as brake fluid leak occurred during the pressure-sending operation.
- Input air pressure should be less than $10\text{kgf/cm}^2(1.0\text{mpa})$.
- Stop the operation if the pressure indicates over $3\text{kgf/cm}^2(0.3\text{mpa})$.
- Use the product at the temperature within $5\sim 40^\circ\text{c}$.
- Do not apply external force on attachment after installed on the reservoir.
- Do not touch on the regulator as it has already adjusted for the best.
- Do not pull pressure-sending hose.
- Do not use deteriorated pressure-sending hose.
- Do not bend pressure-sending in operation.
- Do not give any impact or trail pressure-sending hose, etc. they can be causes for trouble.
- Do not disassemble or alter the product.
- Use only the specified products such as pressure-sending hose.

NOTE

- Work method on brakes should be done basen on the maitenace manual of each car maker.
- Read instruction manual and cautions for brake fluid and fully understand about this prodcut.
- Use brake fluid specified by car maker.
- Be careful not to spilt brake fluid on body.
- If brake fluid spilt out, take it quickly by waste and wash with water.
- Turn switch lever to neutral (中立) for storing.

NOTE (About abs installed vehicle)

This product can be used for abs or hydro-unit installed cars, but be careful about the following points;

- Abs installed cars may let it's computer work by itself and draw air into actuator. So please do operation based on maintenance manual of each car maker.
- Hydro-unit or hydraulic booster installed cars may need to remove air from such device it self. So please do operation based on maintenance manual of each car maker.

7. HOW TO USE

①. Injecting brake fluid

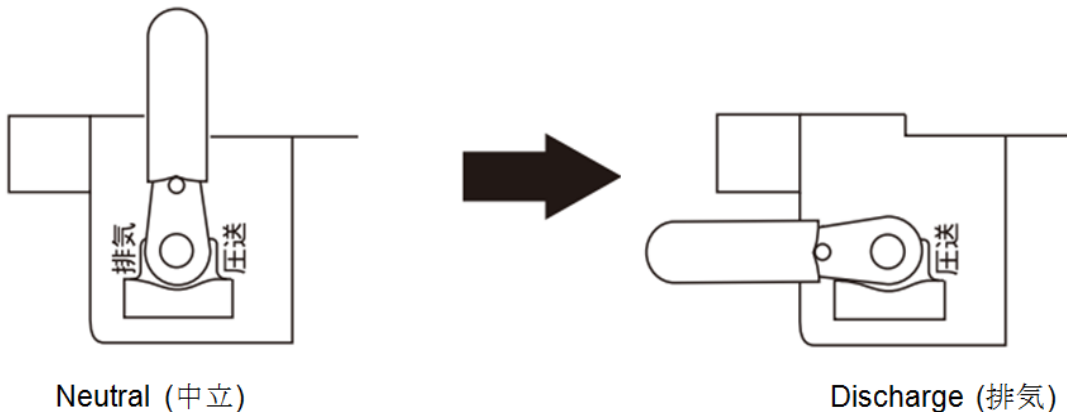
Injecting full capacity (Max. 2 litres)

※ If not full capacity, please apply a different method (Please refer to P15)

(1). Turn Switch Lever from Neutral (中立) to Discharge (排気), open Cap and inject brake fluid. until it comes to Filter Position (Full Capacity = 2 litres).

NOTE

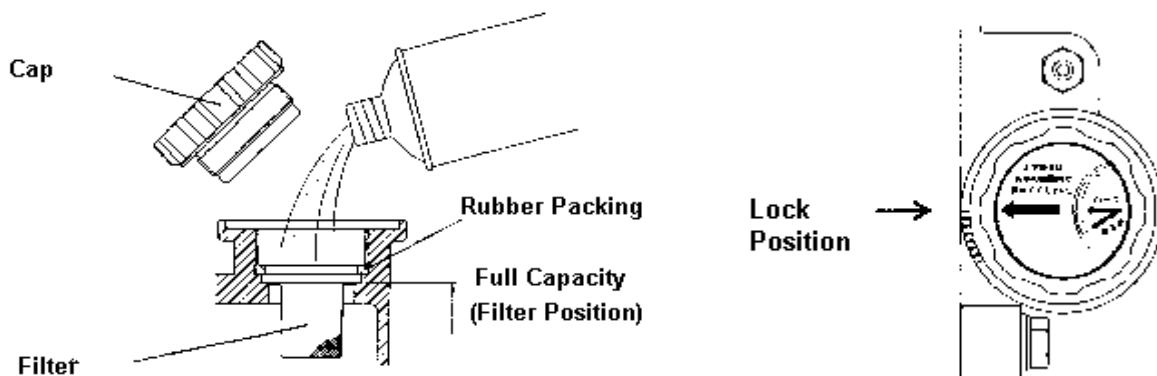
- Do injecting operation on a level surface.
- Be careful that any dust or foreign object will not enter into Tank.
- Do not give any damage on rubber packing.



(2). After injecting brake fluid, fasten Cap to Lock Position.
Turn Switch Lever to Neutral (中立).

NOTE

- After injecting brake fluid, do not forget to turn Switch Lever to Neutral (中立). Otherwise, Valve may be damaged or broken.

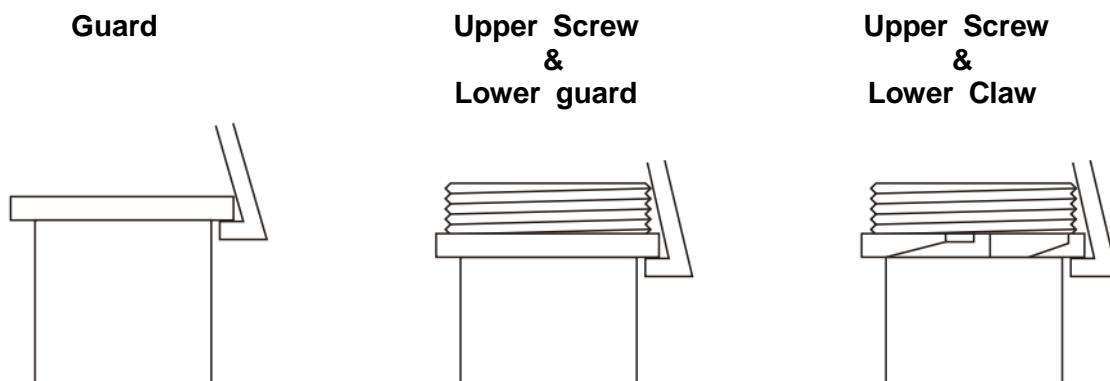


②. Selecting Attachment

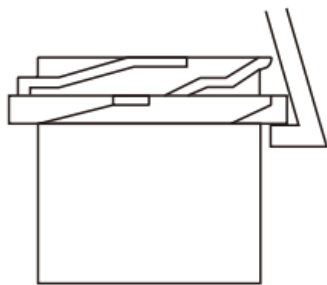
※ Regarding the reservoir guard, there are 3 types (5 kinds).

So please select the suitable Attachment by checking shapes of the reservoir and the guard, inner diameter of diaphragm, surroundings of the master cylinder and referring to Application Chart.

a) Flange Type (3 kinds)

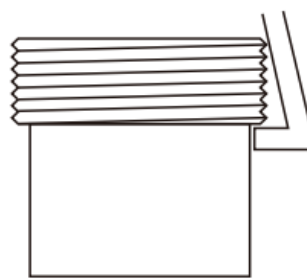


b) Claw Type



c) Screw Type

※Although B1 or B2 + D1 can be used, we recommend you to use B1 or B2 + E1.



d) Attachment Applicable Size

Type	Inner Diameter of Reservoir
A1	φ18~31
A2	φ32~45
B1	φ46~60
B2	φ61~76

※A2 can be used with E1

D1 Claw Type

E1 Chain Type

③ . Installing Attachments to Reservoir

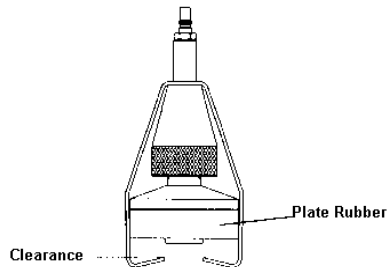
Select the suitable Attachment by checking shapes of the reservoir and guard, inner diameter of diaphragm, surroundings of the master cylinder and referring to Application Chart.

NOTE

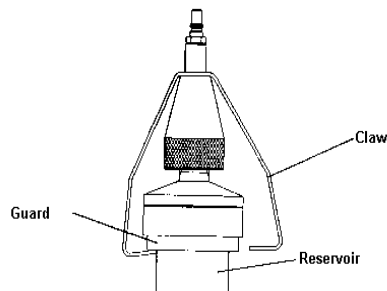
- After installing on the reservoir, do not give any external force on Attachments. Otherwise, it may give damage to the reservoir or cause brake fluid leak.

[How to use Attachment A1]

- (1) Adjust by turning Lock Nut clockwise to make enough slit between Claw and Plate Rubber.



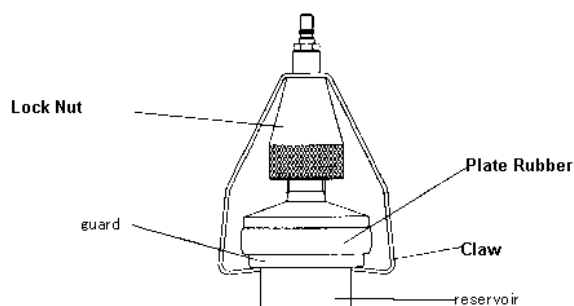
- (2) Remove the cap of the reservoir. Widen Left and Right Claws and get them on the reservoir, and hitch them on the guard evenly.



- (3) Set Plate Rubber on the center of the reservoir port, turn Lock Nut counter-clockwise and fix Attachment on the reservoir with Plate Rubber and Claws. When Claws hit the guard, turn Lock Nut 3 times or so to fix Plate Rubber on the reservoir tightly.

NOTE

- After installed, check Plate Rubber's position on the center of port.
- Be careful as the position of hitching Claws may differ according to the shape of the guard.
- Fasten Lock Nut tightly, otherwise brake fluid may leak.



[How to use attachment A2]

- (1) Remove the cap and strainer of the reservoir. Turn Adj. Nut clockwise close to the bore of the reservoir port and pooch Expansion Rubber.

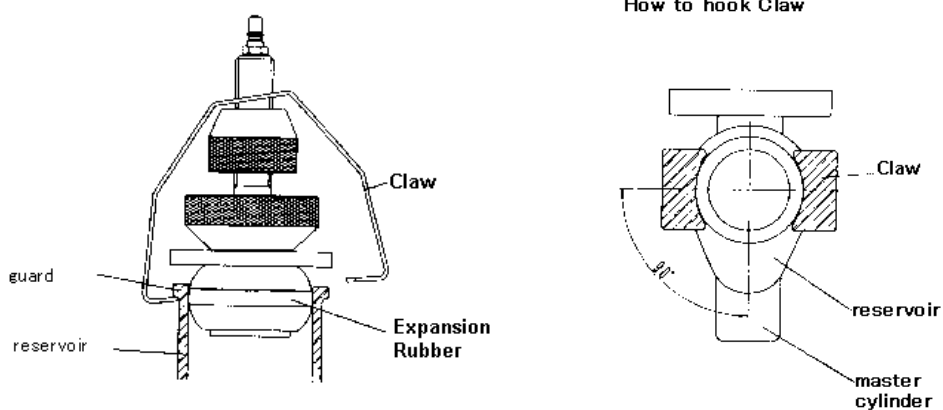
NOTE

- Do not forget to pooch Expansion Rubber, otherwise it may contact the separator and cannot be used properly.

- (2) Push Expansion Rubber into the reservoir port. Widen left and right Claws by fingers, and get them on the reservoir making the master cylinder and Claw at right angle, and hitch Claw on Guard.

NOTE

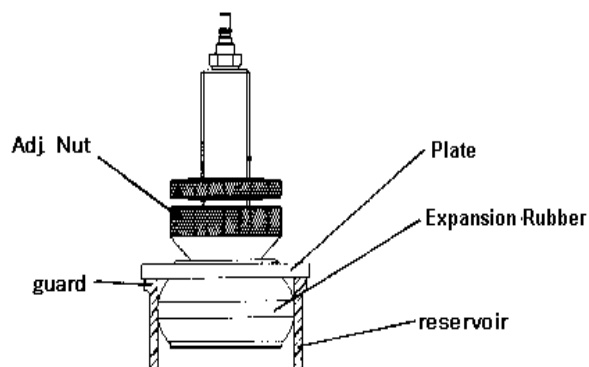
- Be careful as the position of hitching Claws may differ according to the shape of the guard of the reservoir.



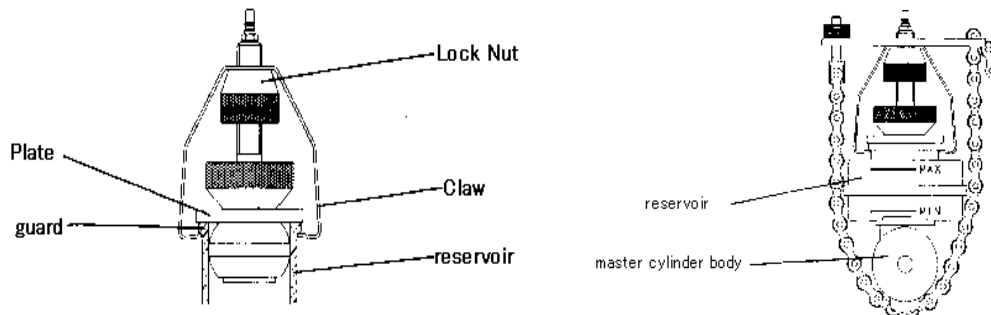
- (3) Insert Expansion Rubber into the reservoir until Plate contacts the guard. While pushing Plate, turn Adj. Nut clockwise until locked to make Expansion Rubber contact closely with the reservoir port and fix.

NOTE

- Reduce brake fluid to the minimum level or put a waste cloth on the air coupler not to make the engine room dirty by spilt brake fluid from Plug Coupler, etc.



(4) Turn Lock Nut counter-clockwise. After Plate contact the guard, turn Lock Nut one time or so to fix Attachment on the reservoir by Plate and Claw.



If the reservoir is old or changed in its shape, install A2 and then Put Clamp E1 as the above, and put the chain on the master cylinder body.

(※ Please refer to Page 12 for installing E1)

[HOW TO USE ATTACHMENT B1 OR B2 + CLAMP D1]

※ Put D1 on B1 or B2 for use.

CAUTION

- For car models with the master cylinder and reservoir are fixed by the hose band (Honda, Daihatsu, etc), check the hose band tightly fastened, otherwise the reservoir may move out of the position by applying pressure.
Or use E1 if applicable.

(1) Remove the cap and strainer of the reservoir. Turn Adj. Nut clock-wise close to the bore of the reservoir port and pooch Expansion Rubber.

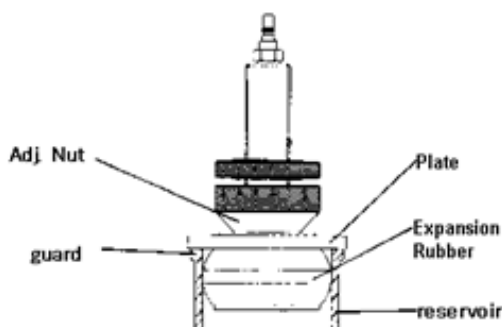
NOTE

- Do not forget to pooch Expansion Rubber, otherwise it may contact the separator and cannot be used properly.

(2) Insert Expansion Rubber into the reservoir until Plate contacts the guard. While pushing Plate, turn Adj. Nut clockwise until locked to make Expansion Rubber contact closely with the reservoir port and fixed.

NOTE

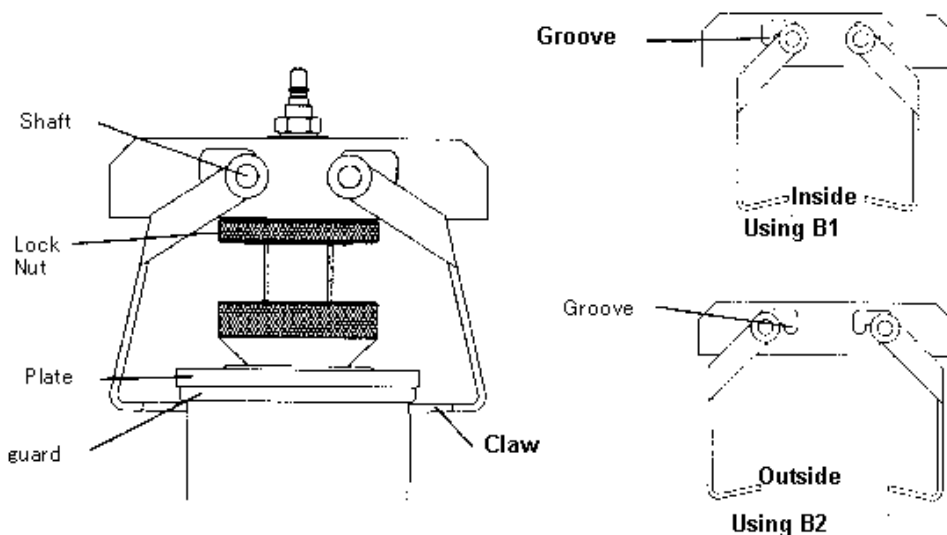
- Reduce brake fluid to the minimum level or put a waste cloth on the air coupler not to make the engine room dirty by spilt brake fluid from Plug Coupler, etc.



- (3) Put Clamp D1 on Lock Nut of B1 or B2 making the master cylinder and Claw at right angle. Fit Shaft in Inner Groove (B1) or Outer Groove (B2) and take the balance of left and right Claw and hitch Claw on the guard. Turn Lock Nut counter-clockwise until locked to fix Attachment on the reservoir by Plate and Claw.

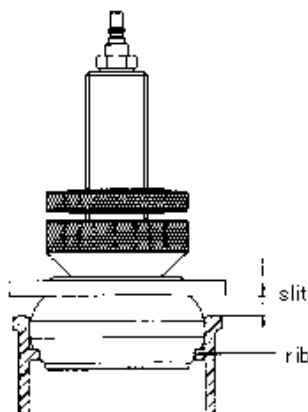
NOTE

- Make sure to fit Shaft of Clamp D1 in the same position on left and right. Otherwise, brake fluid may leak.



For some Toyota models which has a rib in the reservoir and Expansion Rubber cannot be put in the reservoir, please apply the following method.

1. Turn Adj. Nut clockwise to pooch Expansion Rubber to be close to the bore of the reservoir port.
2. Put Expansion Rubber into the reservoir until contacting the rib. Turn Adj. Nut to be locked. It is OK even if there is a slit between Plate and the guard.
3. Hitch left and right Claw evenly on the guard and turn Lock Nut until Plate contacts the guard.



[HOW TO USE ATTACHMENT B1 or B2+ CLAMP E1]

※ Put E1 on B1 or B2 for use.

Installing method for B1,B2 is same as in the above case of B1 or B2+D1.

NOTE

•For car models which reservoir is positioned offset to the master cylinder (Mitsubishi), please use D1.

- (1) Remove the cap and strainer of the reservoir. Turn Adj. Nut clock-wise close to the bore of the reservoir port and push Expansion Rubber.

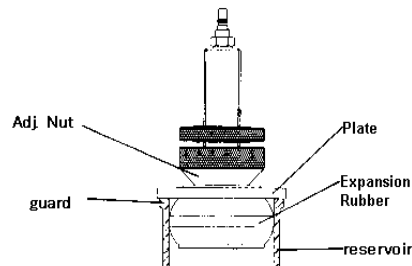
NOTE

•Do not forget to push Expansion Rubber, otherwise it may contact the separator and cannot be used properly.

- (2) Insert Expansion Rubber into the reservoir until Plate contacts the guard. While pushing Plate, turn Adj. Nut clockwise until locked to make Expansion Rubber contact closely with the reservoir port and fix.

NOTE

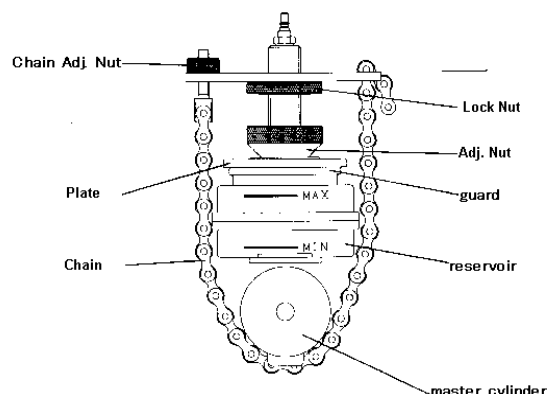
•Reduce brake fluid to the minimum level or put a waste cloth on the air coupler not to make the engine room dirty by spilt brake fluid from Plug Coupler, etc.



- (3) Put Clamp E1 on Lock Nut of B1 or B2. Hang Chain on the master cylinder body and turn Lock nut counter-clockwise to fix Plate on the guard of the reservoir.

NOTE

•Be careful not to hang Chain on other lines or pipings near the master cylinder.
•Hang chain through the lower part(metal part) of the master cylinder.
If hanged only on the reservoir, Chain may damage the reservoir.

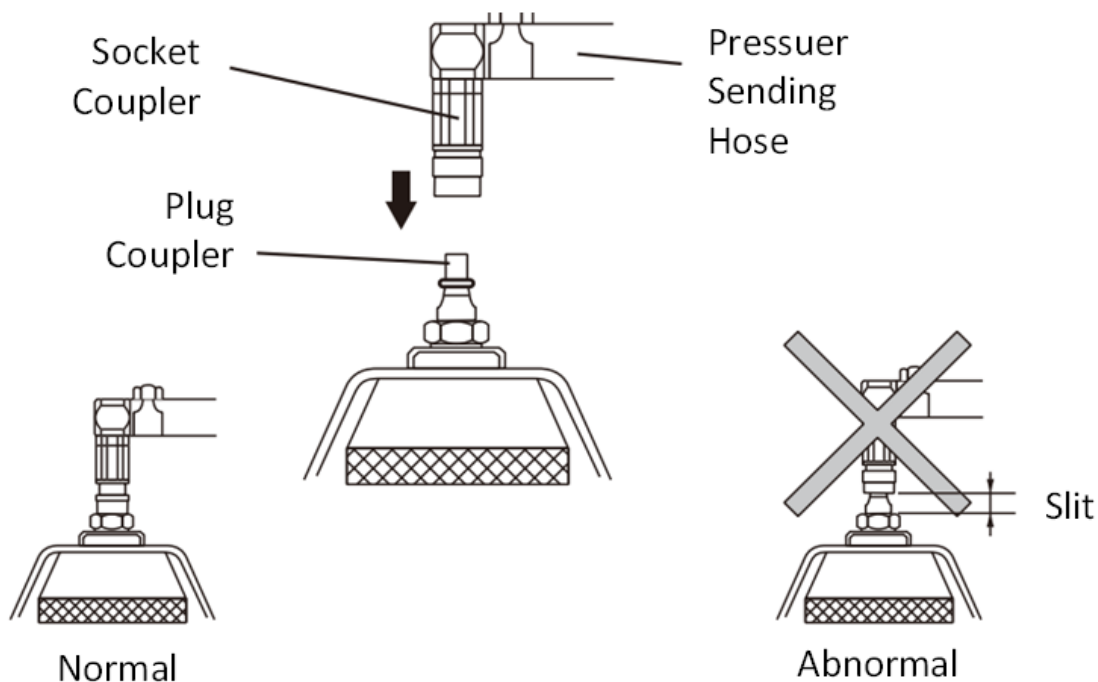


- (4) Turn Chain Adj. Nut clockwise to be locked for stretching Chain.

④ OPERATION

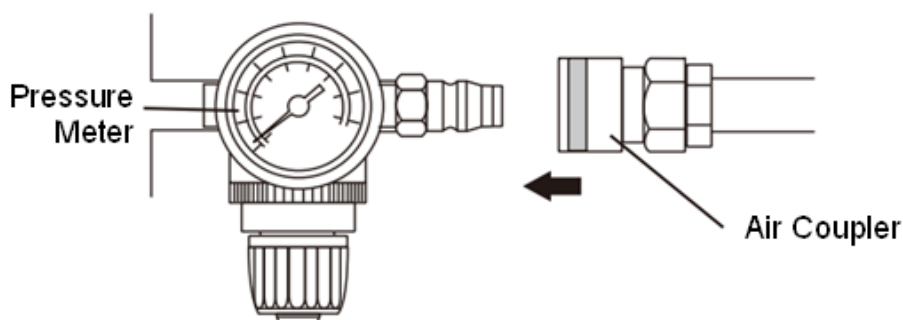
- (1) After installing Attachment, connect Socket Coupler on the end of Pressure-Sending Hose with Plug Coupler of Attachment.

NOTE
<ul style="list-style-type: none">• Connect Couplers just straight. If inserted with angle, Coupler will be locked and cannot be connected.• Check Couplers are connected securely by pulling Socket Coupler lightly. If not fully connected, brake fluid may scatter when sending it.



- (2) Check Switch Lever is on Neutral (中立), and connect the air coupler with Body.

NOTE
<ul style="list-style-type: none">• When connected, Pressure Meter may indicate approx. 3kgf/cm^2, but after pressure-sending, the pressure will be back to normal level.• Check the air coupler is not clogged by dust, etc.

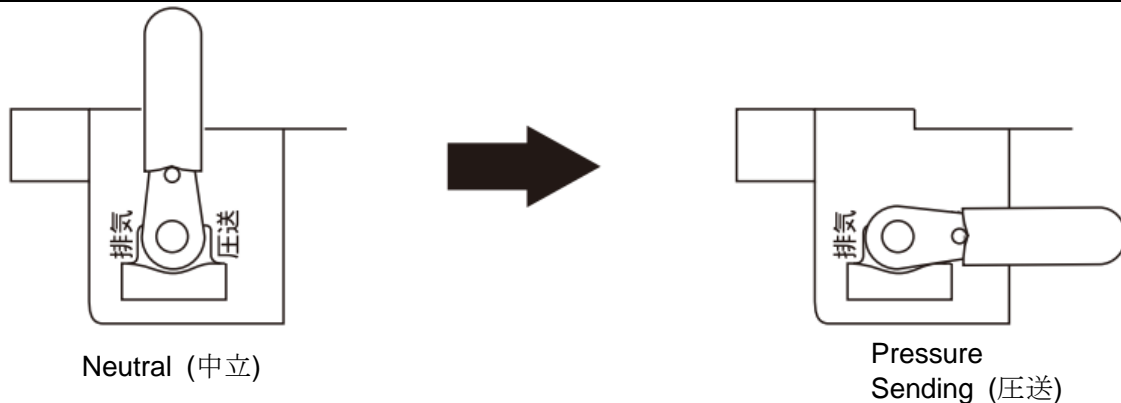


(3) Turn Switch Lever to Pressure-sending (压送) and start pressure-sending brake fluid.

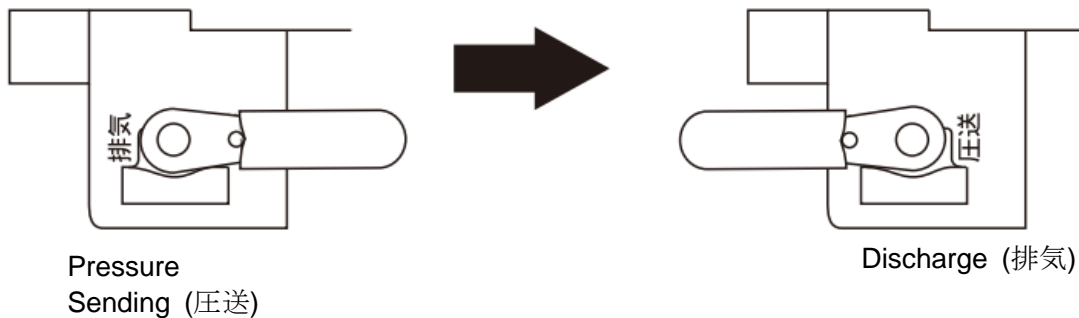
After checking there is no leak from Attachment, Change brake fluid and removing air by operating Bleeders such as caliper, wheel cylinder, etc.

NOTE

- If blur or leak of brake fluid occurred due to improper installment of Attachment, turn Switch Lever to Discharge(排氣)and remove the remaining air, and install Attachment again.
- Plate of Attachment may rise at pressure-sending, but it is no problem if there is no blur or leak.
- When using Attachment A2,B1,B2, the remained air may come out from screw part of Adj. Nut by applying pressure, but it is no problem.



(4) After the operation for changing brake fluid or removing air, turn Switch Lever to Discharge(排氣) and remove the remaining pressure.



(5) Disconnect Socket Coupler from Attachment and remove Attachment from the reservoir. Disconnect the air coupler from Body and turn Switch lever to Neutral (中立). Now whole operation is completed.

NOTE

- If Socket Coupler is disconnected before the sound of discharging remained air is finished, brake fluid will scatter.
- If attachment is removed from the reservoir before disconnecting Socket Coupler, brake fluid remained inside Pressure Sending Hose may leak.
- After the operation, if the actual level of brake fluid is above the max. fluid level of the reservoir, adjust the actual level according to the maintenance manual for each car model.
- After the operation, make sure to turn Switch Lever to Neutral (中立), otherwise the valve may be damaged

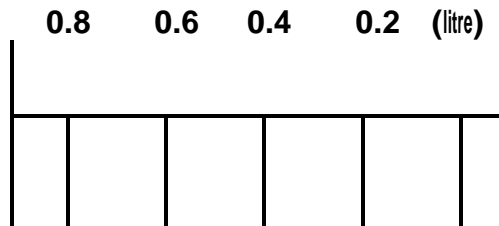
⑤ REMAINING AMOUNT INDICATION

When the level of brake fluid in Tank becomes below 1, the edge of Piston can be seen at the window for remaining amount indication.

Gauge on Indicator(the window of remaining amount indication) is graduated at 0.2.

NOTE

- Indicator(the window for remaining amount indication shows the remaining brake fluid to be pressure-sending. So it does not indicate the correct amount before removing air in Tank.



Indicator (the window for remaining amount indication)

⑥ FILLING BRAKE FLUID

A.Filling Whole capacity(Max. 2 litres)

Turn Switch Lever from Neutral(中立) to Discharge(排氣), Open Cap and inject brake fluid(Please refer to Page 6)

B.Filling less than the whole capacity.

※ Removing air from Tank is needed.

NOTE

- Remove air from Tank, otherwise brake fluid get mixed with air.
- Disconnect Attachment from Socket Coupler when removing air.
- If attachment not disconnected, brake fluid may be poured out.

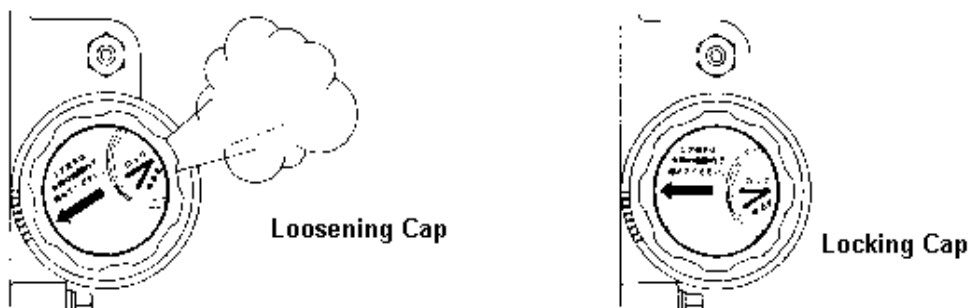
(1) .Connect the air coupler with Body, Turn Switch Lever from Neutral (中立) to Discharge (排氣), open Cap and inject brake fluid. After the injection, fasten Cap to Lock Position.

NOTE

- Do operation in leveled floor.
- Be careful not to allow trash, dust, etc. enter into Tank.
- Do not give any damage on rubber packing, otherwise the pressure May be down.
- After long non-use period, turn Switch Lever from Pressure-Sending (圧送) to Discharge (排氣) as the piston may not return quickly.

(2) Loosen Cap within the range specified in Cap Label. Turn Switch Lever to Pressure-Sending (圧送), then air gets out of Cap and Brake fluid start to blur

under Cap. Fasten Cap to Lock Position again and the removing air operation is completed.



(3) Turn Switch Lever to Discharge (排気) to remove the remained air from Tank, then turn to Neutral (中立) to prepare next operation.

8. HOW TO MAINTAIN & STORE

- Turn Switch Lever to Neutral (中立).
- Clean Pressure-Sending Hose and Socket Coupler and roll on Hose Hunger for storing.
- Clean Body and put the cover on that and store in not humid place.
- Clean Attachment and Clamp, and store them in Attachment Case.

NOTE

- As for Attachment A2,B1,B2, do not loosen Adj. Nut too much when storing them.
- Disconnect Socket coupler with Attachment when storing, otherwise brake fluid remained in Pressure-Sending Hose may leak.
- Check the drain plug regularly. If needed, take out the drain.
- Pressure-Sending Hose and Plate Rubber & Expansion Rubber of Attachment will be consumed. So when the deterioration such as cracking on surface is noticed, change with spare parts.

9. SPARE PARTS

Description	Item No.
Attachment A1	ABX70-A1
Attachment A2	ABX70-A2
Attachment B1	ABX70-B1
Attachment B2	ABX70-B2
Clamp D1(Crow Type)	ABX70-D1
Clamp E1(Chain Type)	ABX70-E1
Press-Sending Hose	ABX70-L1

10. APPLICATION CHART FOR ATTACHMENT & CLAMP

Car Maker	Car Model	Inner Dia.	Attachment +Clamp
TOYOTA	Trucks and One-Box cars such as High Ace, Light Ace, Town Ace, etc.	Φ23	A1
	Passenger cars such as Crown, Corona, Camry, Corolla, Prado, etc.	Φ42.5	A2
	Old models	Φ57	B1 + D1
	Corolla II, Tarcel, Starlet, etc.	Φ70	B2 + D1
NISSAN	Trucks and One-Box cars	Φ24	A1
	Passenger cars such as Sunny, Cefiro, Primera, etc.	Φ34	A2
	Atlas	Φ42.5	A2
	Old models	Φ63 Φ70	B2 + E1
MITSUBISHI	Delica (Star Wagon, trucks)	Φ18	A1
	Delica Space Gear, Canter	Φ34	A2
	Minica, Toppo, Pajero Junior & Mini	Φ58	B1 + D1
	Passenger cars such as Lancer, Pajero, Mirage, Galant, etc.	Φ67	B2 + D1
HONDA	Passenger cars such as City, Civic, CR-V, CR-X, etc.	Φ56	B1 + E1
	Passenger cars such as Accord, Prelude, Integra, etc.	Φ74	B2 + E1
DAIHATSU	Delta (One BOX type, trucks)	Φ23	A1
	Delta Wagon, Hizet, etc.	Φ34	A2
	Charade, Mira, etc.	Φ53	B1 + E1
	Old models	Φ60	B1 + D1
	Old models	Φ60	B1 + E1
MATSUDA	Passenger cars such as Familia, Lantis, RX-7, etc.	Φ36	A2
		Φ66	B2 + E1
SUZUKI	Mini-Passenger cars	Φ34	A2
	Compact-Passenger cars	Φ59	B1 + D1
	Jimny	Φ67	B2 + D1

FUJI	Domingo, etc. Legacy, etc.	Φ34	A2
	REX, etc.	Φ60	B1 + D1
	Old models	Φ67	B2 + D1
ISUZU	Elf	Φ34 Φ42.5	A2
	Big Hone, etc.	Φ54	B1 + D1

[MERUCEDES] all models
[BMW] 3 & 5 series
[OPEL] Astra, Vita
[GM] Cadilac