

USER'S GUIDE FOR AUTO TRANSMISSION FLUID

CHANGER

H0-211



- This manual was prepared in November, 2002.
The product specifications contained in this manual are subject to change without prior notice.

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Chapter 1 Quality Warranty Regulations

1-1 Warranty Regulations

In spite of normal operation, if the purchased product experiences malfunctions during the warranted period of 18 months, the Heshbon Co., Ltd. will take whole responsibility for fault and be sure to repair the product free of charge.

However, the secondary losses and the following types of faults shall not be covered.

- (1) Types of malfunctions and damages caused by user’s misusage and negligence of maintenance.
- (2) Types of malfunctions and damages caused by the improper modification and remodeling of the product.
- (3) Types of malfunctions and damages caused by the exhaustion and damage of consumable parts such as rubber parts.
- (4) Types of malfunctions and damages caused by external factors such as fire, earthquake, storm and flood, and other natural disasters.
- (5) Types of malfunctions and damages caused by application of unapproved parts.
- (6) In case the application for product warranty is not performed properly (e.g.: if the product type and product number is not specified properly).
- (7) Types of malfunctions and damages caused by wrong installation.

Precaution This product is made for auto transmission oil changing of vehicles. Accordingly, any malfunctions or damages generated from other uses except this purpose shall not be covered by the product warranty.

1-2 Application of Warranty

Please contact the purchasing shop or the company for the application of product warranty. Upon request, the company will determine whether the warranty program is applicable to your product or not.

1-3 Post-sale Services

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|---|--|
| (1) If the product experiences trouble | First, read again carefully the ‘Fault Diagnosing and Maintenance’ of Chapter 6 and inspect the equipment. |
| (2) If the product continues to experience trouble even after the step (1) : | Contact the purchasing shop. Then, the company guarantees the repair of product in accordance with the product warranty regulations. |
| (3) Repairs during the warranted period | The product warranty shall last 18 months from the purchase. The company guarantees the repair of product in accordance with the warranty regulations. |
| (4) Repairs after the warranted period | The company will repair the product with fee. |
| (5) Post-sale services | Please contact the purchasing shop or the company if you have any questions. |
| (6) Please notify us of the following items for post-sale service : Product type, product number, date of purchase, and details about fault | |

Chapter 2 Safety Guidelines

2-1 Purpose of Use

The auto transmission fluid changer changes the transmission fluid completely inside the auto transmission mechanism of a vehicle and its wheels ensure the portability of the changer.

2-2 Danger and Warning Items

Precaution In this manual, important checkpoints are specified for preventing safety accidents or equipment damages during operation. The user should read the manual carefully for proper operation.

(1) General safety guidelines

- ① The product should be operated only by who mastered the operation method.
- ② Check the equipment before operation and make a routine check in accordance with the manual.
- ③ If any abnormality such as strange sound is generated during the operation, the user should not use the changer. In this situation, contact the purchasing shop or the company and request inspection.
- ④ The product should be used only for changing the auto transmission fluid of vehicles.

(2) Operation precautions

- ① When working by adapting the transparent hose adapter to the oil suction line, be sure not to work more than 10 minutes.
- ② When it is required to open the back cover, at first, be sure to plug out the main power plug from the power outlet. (Otherwise, there could be an electrical shock.)
- ③ Do not modify the mechanical system at all. (Serious accidents may happen due to malfunction.)
- ④ When connecting it to a vehicle, be sure not to get burned by the high temperature of ATF.

Chapter 3 Product Introduction

3-1 Features and Specifications

(1) Features

- ① Since ATF inside the auto transmission mechanism covering cooler, torque converter and the inside of the line, can be 100% changed, there is no possibility that the auto transmission mechanism is damaged or residual ATF causes the output reduction.
- ② Since the right selection of ATF is critical to the riding comfort and the function of the auto transmission mechanism, ATF changer of Heshbon is equipped with a reserved new oil line so that the recommended oil for all kinds of vehicle can be changed.
- ③ Using a large-scale pump enables the change of transmission fluid of omnibus and imported vehicle let alone passenger cars.
- ④ Speedy maintenance is implemented by reducing the work time remarkably. (Change work time: 10 minutes or less)
- ⑤ Special high-pressure hose not deformed even under long period of running is used so that trouble factor is minimized.
- ⑥ Since injection and suction of the fluid enables through the level gauge tube of a vehicle, it is possible to change proper amount of ATF.
- ⑦ The transparent check window and the transparent hose enable the operator to change ATF, checking the accurate amount of it.
- ⑧ Enhancing the connection type and adapter minimizes consumed amount of ATF.
- ⑨ For the convenience at night work, a lamp for checking oil is installed.

(2) Specifications

Product Name	HESHBON ATF CHANGER (Auto Transmission Fluid Changer)	
Type	HO-211	
Electricity	AC 240V-50 Hz	
Electric power cable	VCTF3*0.75*2M	
Motor :	200W/4P/240V/50 Hz(Dual pump)	
The capacity of pumps	New: 3ℓ /min , Used 7ℓ /min	
Sucked Amount	1.5~4L/min	
Injected Amount	0~7L/min/0~6L/min	
Tank Capacity	New Oil	20L
	Used Oil	20L
Hose for Connection	Injection	2M
	Suction	2M
Converter cleaning style	exterior oil filter	
Dimension	(W)380*(H)960*(D)472	
Net weight		

Chapter 4 Shipment, Installation and Precautions

4-1 Carry

- (1) Get down the equipment to the ground using the power gate of vehicle or a forklift after arriving on the installation site and move it to a desired location using the wheels of vehicle.
- (2) Unpack the cover and check the product. If some parts are missing, be sure to contact the company or the place of purchase.

4-2 Installation

- (1) No additional installation work is required because it is portable type with wheels.
- (2) While the fluid change work is performed, vehicle and the changer should be placed on the leveled place, if possible and fixed properly through the wheel brake.

4-3 Precautions

- (1) Only 220V can be adopted for this changer.
- (2) Verify if various switches and valves on the panel are properly operated.
- (3) Use the ATF that is recommended by major vehicle manufacturer.
(If any ATF with different characteristics of friction and viscosity is used, some mechanical shock can be experienced while transmitting or trouble can be generated.)
- (4) Cleaning filter should be replaced after 50 times of using.
When ATF is seriously contaminated or the fluid flow is not smooth inside the hose, the filter should be changed regardless of the change period.
- (5) Chemical solutions should not used.
- (6) When milky color is observed with water mixed with ATF, in general, it is caused by some fault of the oil cooler inside the radiator.
In this case, remove the cause and change ATF.

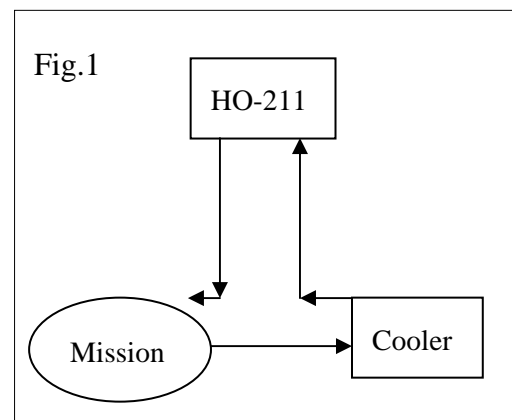
Chapter 5 Operation Method

5-1 Preparations

- Make sure put the parking brake in on.
- Warm up engine in enough with park the vehicle evenly.
- Ensure 'New fluid pump' switched off on the machine.
- Ensure direction of knob (arrow) on right hand side to 'Circulation'.
- Fill 'new fluid tank' up.

5-2 How to connect hoses

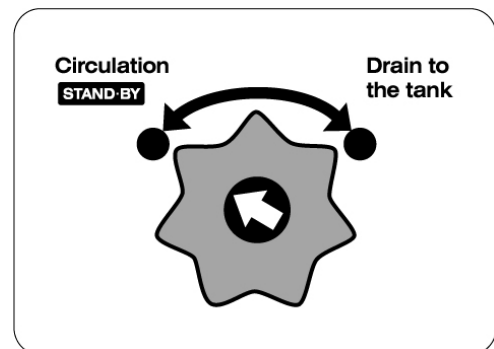
- Disconnect one of hoses between transmission and cooler and connect hoses from machine (suction and inject) using adaptors. (See fig .1)



5-3 Circulation performance

Turn engine on with placed with 'circulation' of right hand side knob. (See fig 2)
 Check if float in the glass of 'used fluid' is on top.

Fig.2



 Warning	<p>Exchange the status of hose connections if float is on bottom. (Turn engine off while exchange hose)</p>
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TIP

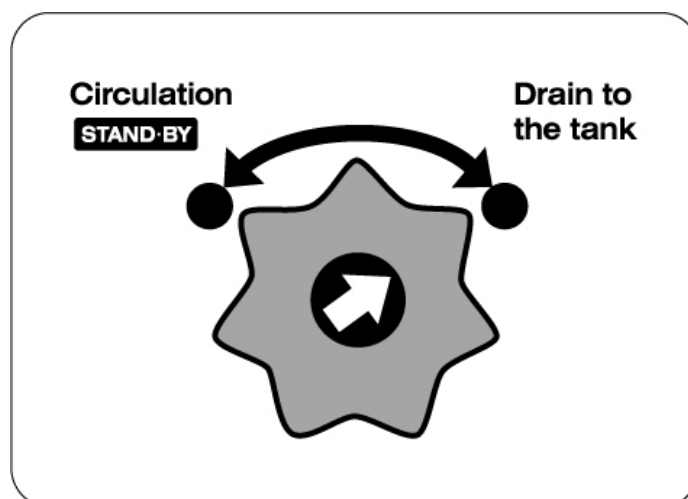
- The oil doesn't come through the glass if transmission has problem
- Put designated detergent to make clean oil line and cooler if pressure is too higher then normal.


- ♣ Place transmission handle on 'N' position while work out.

5-4 Discharge used oil and input new fluid

Turn the knob right hand side to 'Drain to the tank'(See fig. 3)

Fig. 3



	Put magnet indicators (in front) to see the height of new and used fluid before carry out No.① performance.
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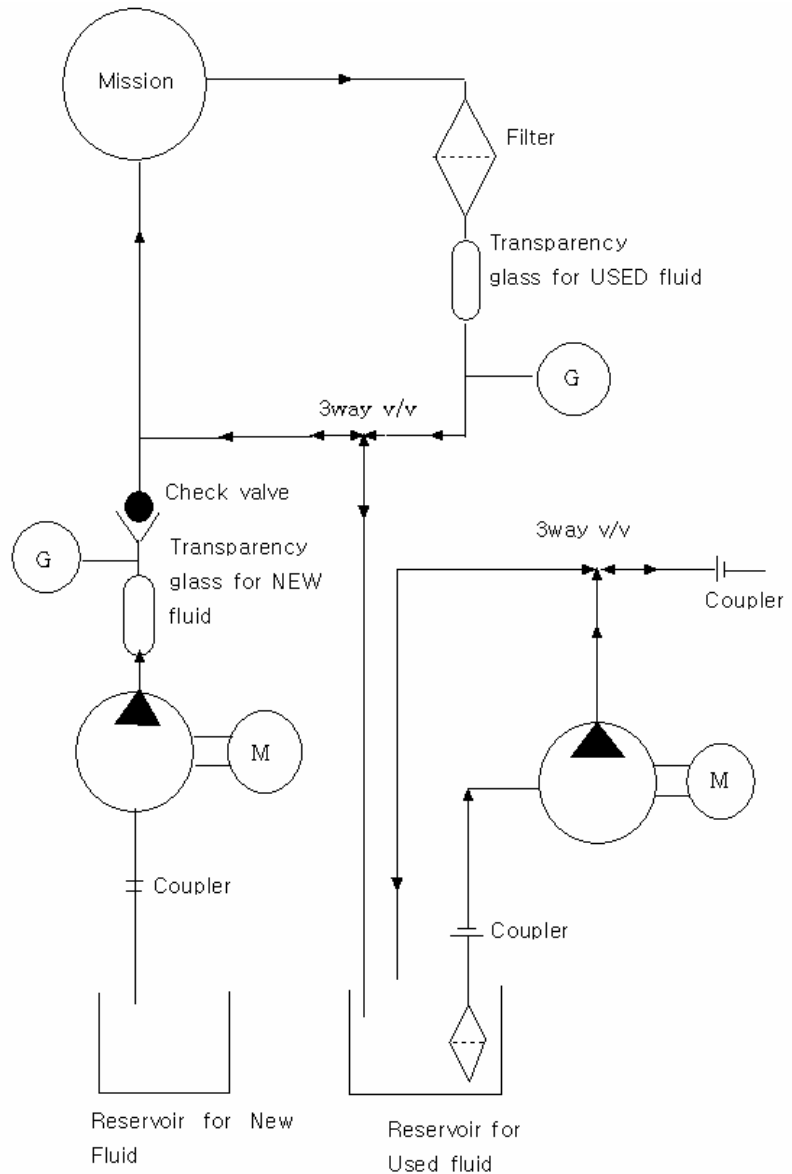
- ① Turn ‘new fluid switch’ on when used fluid doesn’t flow anymore on the see-through glass of ‘used fluid’.
 - ② Turn ‘New Fluid’ switch’ on immediately after turn the knob to the ‘drain to the tank’ in case ‘high pressure transmission vehicle’
 - ③ Exchanging is done becoming two glasses get same color
 - ④ Turn knob to ‘circulation’(Fig. 2) but keep injection ‘New’ and ‘Used’ fluid same level.
 - ⑤ Check out fluid level of transmission and inject new fluid with the switch on when fluid level is low. In case overfilled, discharge fluid with opening the valve as fig. 3 (Switch is off)
(WARNING: Make sure put the parking brake is on!!)
 - ⑥ Move transmission handle in side the car for all positions(P→ R→N→D→2→1).
 - ⑦ Put handle on ‘N’ and check fluid level on transmission.
- ※ To use new fluid from outside of machine, disconnect hose on the back of machine and use provided extra steel adaptor.
- ※ To suck from level gauge on transmission directly, place knob on left hand side on ‘Suction from transmission’ and connect hoses BETWEEN used fluid hose on back of machine AND transparent hose.

Put black-colored adaptor and insert to the level gauge of transmission and switch on for ‘used fluid’

5-5 How to discharge used fluid from machine

- ① Connect used fluid hose on back of machine to coupler.
- ② Turn knob on left hand side to ‘Discharge from tank’.
- ③ Connect extra hose to the coupler on left side and put steel pipe on another side.
- ④ Turn used pump switch on.

Circulation diagram ►



Chapter 6 Fault Diagnosing and Maintenance

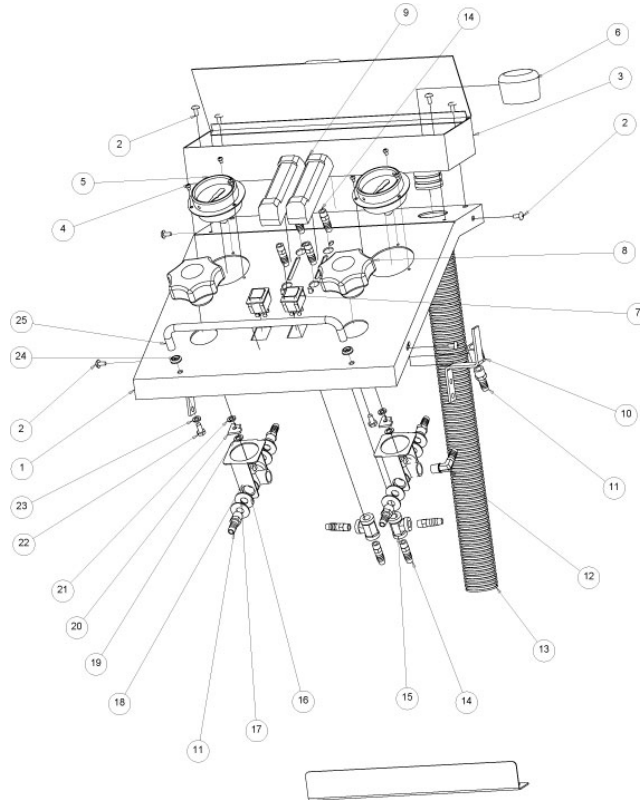
6-1 Method to Handle Fault

Symptom	Causes Generated	Corrective Actions Taken
Power Defective	Outlet not connected. Outlet switch unit contact defective or disconnection	Connect the outlet. Inspect and repair the switch unit. Carry out the separation and re-connection in case the outlet unit connection is bad.
No Suction Line Flow	Reverse connection of injection hose. Vehicle gear selection lever Wrong position selection Filter unit clogging and wrong connection Foreign substance on one-touch coupling.	Stop the engine and carry out the one-touch coupling disassembling on injection hose and suction hose. Then, connect them in the reverse direction (carry out the connection by changing the injection and suction line) If N, change it into P and if P, change it to N. Filter changing, filter holder line wrong connection. Center Unit ---> To the changer inside. External Unit ---> To the suction hose connection unit Carry out the coupling disassembling and then, carry out re-assembling after cleaning.
ATF Not Injected	Injection Amount Adjust Valves (-) Wrong selection of reserved oil select valve. Pump is not operated. Pump is operated properly but oil is not injected.	Open the injection valve in the injection direction. Check the new oil in the changer and then, select the valve. - Check the power input. - Check the power line connection unit of the pump switch side. - Inspect the clogging of check valve. - Detach the pump in order to find out its damage status. - Replace any pump damaged.
Leaking of ATF	- Check the oil amount in the internal container. - Leakage of the press unit. - Looseness of pipe connection unit. - Separation to the external of tank suction and injection pipe. - Leakage of tank unit	- Discharge the excessive amount to the external. - Tighten the nut unit. - Re-connect the band. - Place ATF into the tank inside. - Tank capacity is 20L for each used and new oil part. When there is excessive amount, leaking may occur for moving. - In case the tank experiences leakage, replace it.

PARTLIST

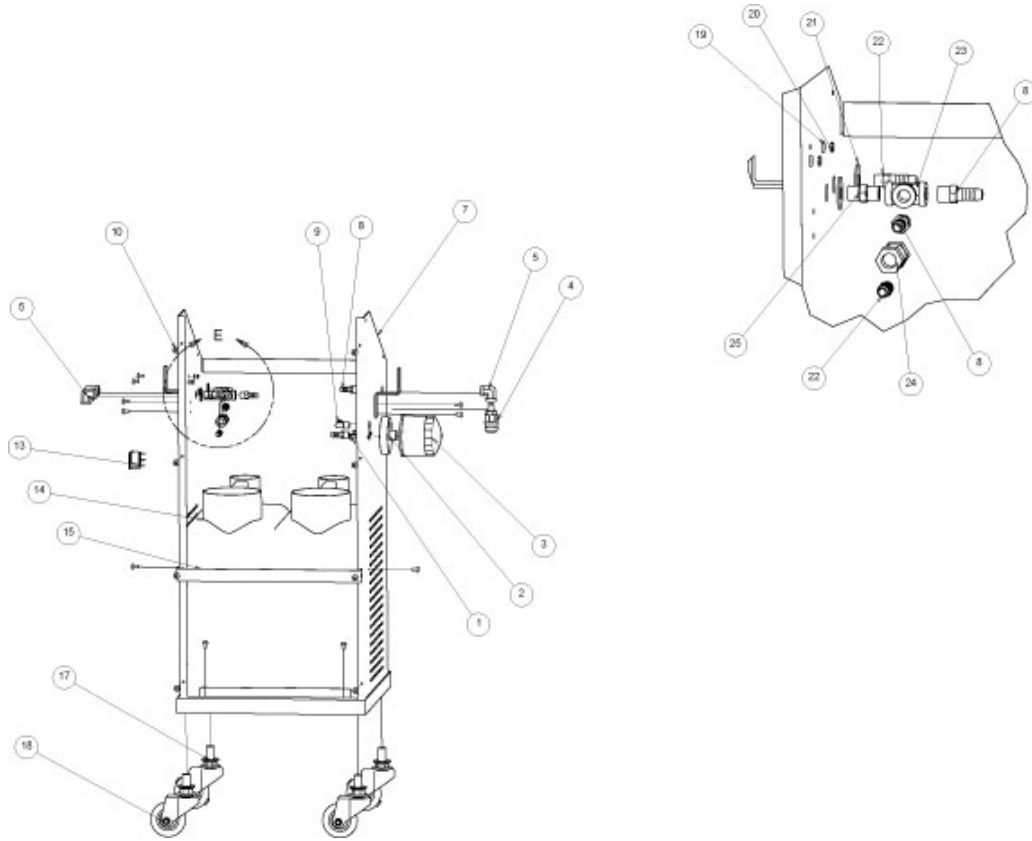
- ① FRONT SIDE PRESENTATION
- ② BODY PRESENTATION
- ③ MID-SIDE PRESENTATION
- ④ REAR PRESENTATION

1. FRONT SIDE PRESENTATION



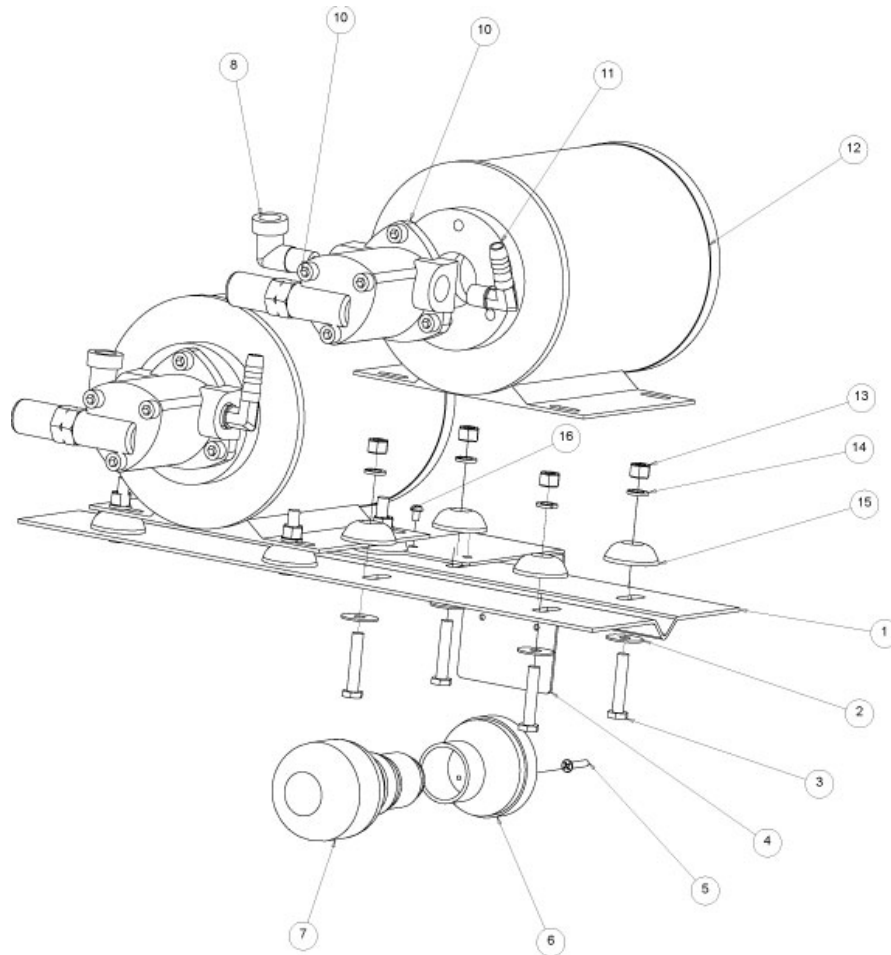
NO	ITEM	NO	ITEM
1	UPPER PANEL	14	HOSE NIPPLE
2	TRUSS HEAD BOLT	15	T-ELBOW
3	ADAPTER CASE	16	FLAT WASHER
4	PRESSURE GAUGE BOLT	17	FLAT WASHER
5	PRESSURE GAUGE	18	TRIPOD BRACKET
6	RUBBER COVER	19	BRACKET BOLT
7	SEESAW SWITCH	20	TRIPOD FIX PIN
8	KNOB NUT	21	SPRING WASHER
9	OIL LEVEL GAUGE	22	HEX BOLT
10	SOCKET	23	SPRING WASHER
11	HOSE NIPPLE	24	HANDLE GRIP CHECK NET
12	NEW OIL HOSE	25	HANDLE GRIP
13	HOSE ELBOW		

2. BODY PRESENTATION



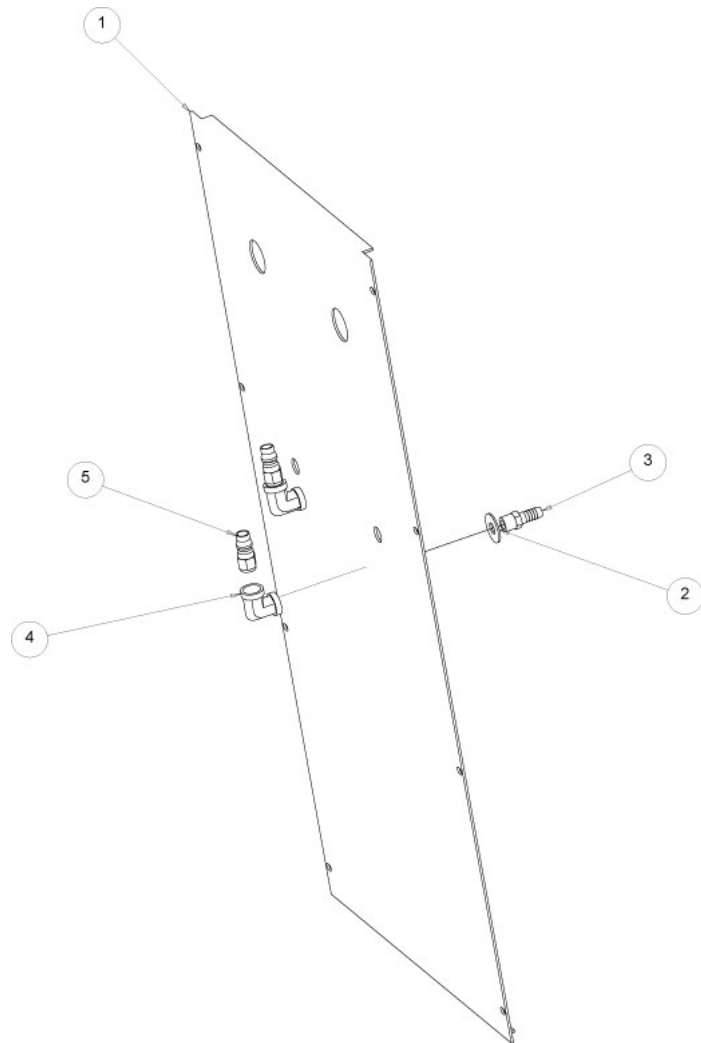
NO	ITEM	NO	ITEM
1	HEX BOLT	13	A.C CONCENTRIC PLUG
2	FILTER FIXTURE	14	OIL TANK
3	FILTER (FOR AUTOMOTIVE)	15	OIL TANK FIXTURE
4	SM	16	OIL TANK FIXTURE
5	L-ELBOW	17	CASTER 1
6	HOSE HANGER	18	CASTER 2
7	MAIN BODY	19	SPRING WASHER
8	HOSE NIPPLE	20	HEX NUT
9	HOSE ELBOW	21	PLANE WASHER
10	BOLT TRUSS	22	HOSE NIPPLE
11	CHECK VALVE	23	T-ELBOW
12	NIPPLE		

3. MID-SIDE PRESENTATION



NO	ITEM	NO	ITEM
1	MOTOR BRACKET	9	HEXAGON BOLT
2	PLANE WASHER	10	PUMP
3	HEXAGON BOLT	11	HOSE ELBOW
4	ELECTRIC LAMP FIXTURE BRACKET	12	MOTOR (AC220)
5	FLAT HEAD BOLT	13	NUT
6	RECEPTACLE	14	PLANE WASHER
7	ELECTRIC LAMP	15	ANTI-VIBRATED RUBBER
8	ELBOW	16	BOLT

4. REAR PRESENTATION



NO	ITEM
1	LOWER PANEL
2	PLANE WASHER
3	HOSE NIPPLE
4	L-ELBOW
5	PM



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