

Safety Precautions

- Please read the operating instructions carefully before attempting to operate the unit. Keep this manual with the unit at all times.
- The operator should be familiar with the shift of automatic transmission to avoid damage of transmission due to improper operation.
- Vehicle exhaust includes various poisonous and harmful gases (such as carbon monoxide, hydrocarbon, nitrogen oxygen complex, etc.). Keep the unit in a well ventilated work area when performing operation.
- Avoid touching hot surfaces such as exhaust manifolds, radiator, etc.
- When disconnecting hoses and connectors, wrap them with towel to prevent spurting.
- Keep the needle valve is open state and the air pressure adjusting valve in the closed state when the unit is not being in use.
- Always make the drive wheels hanging when cleaning the A/T and changing the fluid.
- Use only indoors and in well-ventilated area. Do not expose to direct sunlight or rain.
- The unit should be placed vertically. Do not place up-side-down.

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Unpacking

Please unpack according to the following requirements when or where it is necessary.

- 1) Place package carefully and vertically.
- 2) Snip adhesive tape with scissors and disconnect the upper cover of the chest.
- 3) Remove the paper cards around the unit.
- 4) Take the unit from the base seat carefully and place it at the ground.
- 5) Remove the machine on the base seat and place it on ground carefully.

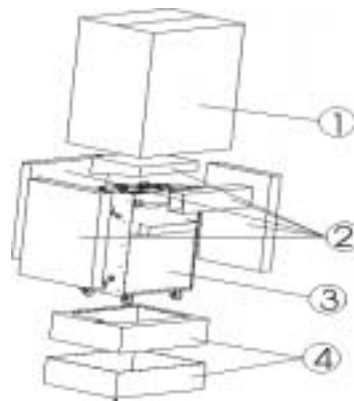


Fig.1

1-Upper board on the carton; 2-Paper card;
3-CAT-303 main unit; 4-Base seat.

Overall Structure

1.Outline

The outline is shown as in Fig.2

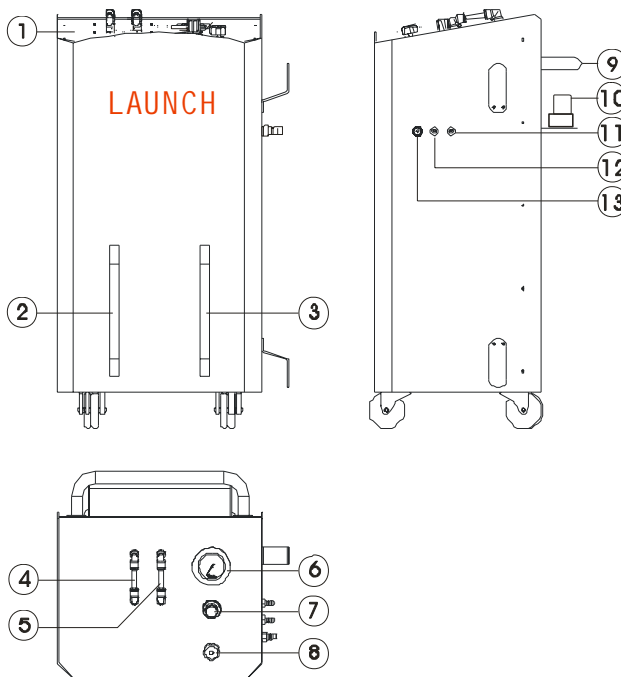


Fig.2

1-Control panel; 2-New fluid tank; 3-Used fluid tank; 4-Sight glass for new fluid; 5-Sight glass for used fluid; 6-Pressure gauge; 7-Air pressure adjusting valve; 8-Adjusting valve for fluid return; 9-Handle; 10-Filter assembly; 11-Fluid outlet; 12-Fluid return port; 13-Air inlet.

2. Inner Structure

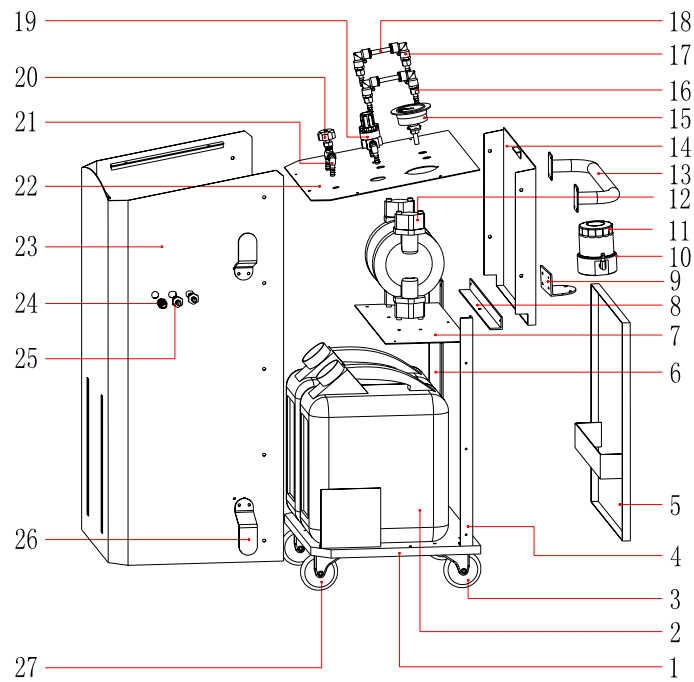


Fig.3

No.	Name	Number	No.	Name	Number
1	Base seat	1	15	Air pressure gauge	1
2	Plastic tank	2	16	Tower connector(Inside thread)	6
3	Directional caster	2	17	Pneumatic connector	4
4	Left pole	1	18	Transparence tube	2
5	Back door	1	19	Air pressure adjusting valve	1
6	Right pole	1	20	Needle valve	1
7	Clapboard	1	21	Tower connector(elbow, outside thread)	4
8	Back beam	1	22	Control panel	1
9	Support board	1	23	Body case	1
10	Filter seat	1	24	Quick male connector	1
11	Gasoline filter	1	25	Tower connector	2
12	Pneumatic pump	1	26	Hook	2
13	Handle	1	27	Universal caster	2
14	Back side panel	1			

Main Unit and Main Fittings

1. Main unit



Fig.4

2. Main Fittings

No.	Part No.	Part Name	Picture
1	103160020	Needle valve	
2	199010005	Pressure gauge	
3	104990009	Pneumatic pump	
4	103160003	Pressure adjusting valve	
5	104130086	Durable rubber hose, Inside diameter : $\text{C} 8$; Outside diameter: $\text{C} 15$	

3.Main Adapters

No.	Parts Number	Picture	Size	Applicable Car Type
Φ8 Hose	103240175		Φ8	General type (TOYATA, MITSUBISHI SPACE WAGON HONDA and NISSAN GLXI) LEXUS ES300
Φ10 Hose	103240176		Φ10	
A01	103240173		Φ8, Φ10, Φ5	General type (TOYATA, MITSUBISHI SPACE WAGON GLXI) LEXUS ES300, HONDA and NISSAN car type
A03A	103240178		M16×1.5 (outside)	one group CADILLAC, BMW 750 A/T type 4HP-22 4HP-24 A421, MITSUBISHI V6,3000
A03B	103240118		M16×1.5 (inside)	one group CADILLAC, BMW 750 A/T type 4HP-22 4HP-24 A42
A05A	103240121		M18×1.5 (outside)	EUROPEAN Eg: New VECTRA
A05B	103240122		M18×1.5 (inside)	EUROPEAN New VECTRA
A06A	103240123		G1/4 (outside)	CHRYSLER GRAND VOYAGER, CHRYSLER 300
A06B	103240124		G1/4	CHRYSLER 13.157mm GRAND VOYAGER, CHRYSLER 300
A10A	103240131		UNF1/2-20 (outside)	FORD, eg: VOLVO, FORD CHRYSLER: DAIMLER-BENZ
A10B	103240132		UNF1/2-20 (inside)	FORD, eg: VOLVO, FORD CHRYSLER: DAIMLER-BENZ
A11A	103240133		Z1/4 *18 13.616	FORD LINCOLN, VOLVO
A11B	103240134		Z1/4	FORD LINCOLN, VOLVO

No.	Parts Number	Picture	Size	Applicable Car Type
A12A	103240135		UNF5/8-18 (outside)	FORD
A12B	103240136		UNF5/8-18 (inside)	FORD CADILLAC
A13A	103240137		UNF5/8-18 (Outside)	GENERAL MOTORS CHRYSLER
A13B	103240138		UNF5/8-18 (Inside)	CHRYSLER GENERAL MOTORS
A15A	103240141		UNF5/8-18 (outside)	CHRYSLER Benxc200,s325i GENERAL MOTORS
A15B	103240142		UNF5/8-18 (inside)	CHRYSLER Benxc200,s325i GENERAL MOTORS

Installation & Adjustment

1. Installation Environment

- 1) The distance between the unit and outside wall or other goods should be kept over 200mm. The unit should be put in well-ventilated area and its temperature is within -10 ~+40 .
- 2) Check air supply pipeline of the unit and use air source with 3~10 bar to supply for the unit. When connecting the air source, please check if there is leakage in connector for air source and ensure that a certain distance between the air hose and heat source should be kept.
- 3) To ensure safety. Before connecting the air source, please confirm that the air pressure adjusting valve is closed. Never point the air outlet to personnel.

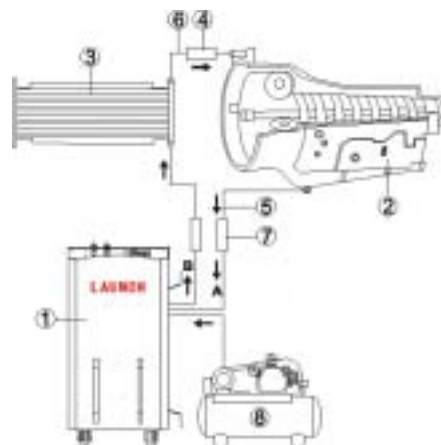


Fig.5

1-CAT-303 Main unit; 2-Automatic transmission; 3-Radiator ; 4-Adapter; 5-Fluid return hose; 6-Fluid inlet hose; 7-Connector; 8-Air compressor; A-Fluid return; B-Fluid outlet.

2.Tools Required

Name	Purpose
Auto with automatic transmission	To supply power.
ATF	Use for adjustment.
Air compressor	To supply compressed air with 3~10 bar.
Screwdriver	Tool
Lifter	Lift the vehicle

3. Connecting Hose

- 1) Lift the vehicle to proper height with lifter.
- 2) Remove the hose between the auto transmission and radiator. See Fig.5.
- 3) Fill desired quantity of new ATF into the unit according to the vehicle type.
- 4) Connect the return hose of the unit to the outlet hose of the auto transmission.
- 5) Connect the outlet hose of the unit to the inlet hose of the radiator.
- 6) Connect the air inlet on the unit to compressed air. Please be sure that the needle valve is in the open state and the air pressure adjusting valve is in the closed state before connecting the compressed air.

4. Exchange

- 1) Keep the needle valve is in fully open state. Start the engine and meanwhile slowly turn on the air pressure adjusting valve clockwise (It is advisable to adjust up to 10PSI~15PSI, and then adjust according to the quantity of the fluid inside the new/used tank), the unit will perform exchange. In this case, the fluid level inside new fluid tank should decrease and the fluid inside used tank should rise.
- 2) Equal adjustment: observe the quantity of the decreased new fluid and the quantity of the increased used fluid; meanwhile adjust the air pressure valve and the fluid return valve to make sure that the level inside the used tank is equal to the new tank. If the quantity of the increased used fluid is more than that of the decreased new fluid, adjust the return valve clockwise to slow the flow speed; If the quantity of the increased used fluid is less than that of the decreased new fluid, adjust the air pressure valve counterclockwise to decrease the filling quantity of the new fluid.
- 3) When the color of the used fluid becomes equal to the new fluid, stop the engine and turn off the unit.

Note:

- 1) *It is necessary to stop the engine first and then turn off the unit before the new fluid is used up.*
- 2) *To ensure the exchange quality, the quantity of new fluid inside the unit should be 2L~3L more than that of the fluid required by auto transmission.*

After exchanging, disconnect the connection of the unit and resume the hoses of the transmission. Start the engine and check if there is leakage in the auto pipeline

first, and then check the fluid level inside the transmission and supply it if the fluid level is not enough.

5. Fill

- 1) Fill desired quantity of ATF into the unit.
- 2) Take the used fluid tank out from the unit and turn off the fluid return valve.
- 3) Draw the outlet hose with a proper adapter chosen

from the fittings to the used fluid tank and disconnect the return hose or turn off the fluid return valve. See Fig.6 for the connection of the air inlet and compressed air.

- 4) Turn on the air pressure adjusting valve and the ATF inside the new fluid tank is filled into used tank. When the filled quantity of fluid is proper, turn off the air pressure adjusting valve to finish filling.

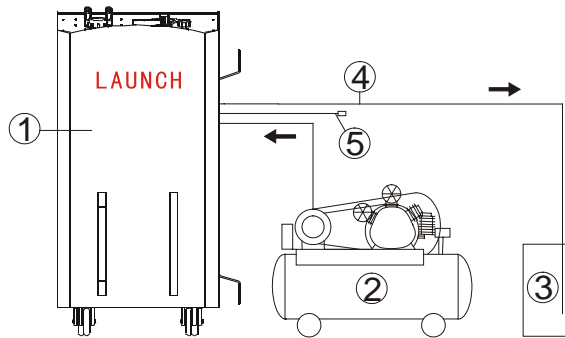


Fig.6

1-CAT-303 Main unit; 2-Air compressor; 3-Used fluid tank;
4-Outlet hose of the unit; 5-Return hose of the unit.

Troubleshooting

- 1) Trouble 1: The unit does not work when connecting pneumatic source.
 - Cause 1: The pneumatic adjusting valve is in the closed state.
 - Solution: Slowly unscrew the air pressure adjusting valve clockwise (it is advisable to adjust up to 10 PSI~15PSI).
 - Cause 2: The pneumatic pump is damaged.
 - Solution: Replace the pneumatic pump.
- 2) Trouble 2: There is no fluid inside the used tank when performing exchange.
 - Cause: The needle valve is in closed state.
 - Solution: Open the needle valve.

Appendix: Optional Adaptors

No.	Parts Number	Picture	Size	Applicable Car Type
Φ12 Hose	103240177		Φ12	General type (TOYATA, MITSUBISHI SPACE WAGON HONDA and NISSAN GLXI) LEXUS ES300
A02	103240174		Φ9.55(H) Φ12.75(H) Φ15.85(H)	General type (TOYATA 、 MITSUBISHI SPACE WAGON GLXI) LEXUS ES300, HONDA and NISSAN car type
A04A	103240119		G1/4	CHRYSLER Eg: DODGE, BENZ
A04B	103240120		G1/4	CHRYSLER Eg: DODGE, BENZ
A07A	103240125		M18×1.5 (outside)	EUROPEAN New VECTRA
A07B	103240126		M18×1.5 (inside)	EUROPEAN New VECTRA
A08A	103240127		UNF1/2-20 (outside)	GENERAL MOTORS LINCOLN, CADILLAC
A08B	103240128		UNF1/2-20 (inside)	GENERAL MOTORS LINCOLN, CADILLAC
A09A	103240129		M16×1.5 (outside)	EUROPEAN
A09B	103240130		M16×1.5 (inside)	CHRYSLER
A14A	103240139		UNF5/8-18 (Outside)	FORD, VOLVO
A14B	103240140		UNF5/8-18 (Inside)	FORD, VOLVO
A16A	103240143		M18×1.5 (outside)	EUROPEAN

No.	Parts Number	Picture	Size	Applicable Car Type
A16B	103240144		M18×1.5 (inside)	EUROPEAN
A17A	103240146		Φ14.85 (outside)	
A17B	103240145		Φ14.95 (inside)	EUROPEAN
A18A	103240147		Φ15	
A18B	103240148		Bore:Φ16	
A19A	103240149		Bore:Φ13	
A19B	103240150		Outside port diameter: Φ12	
A20A	103240151		UNF1/2-20 (outside)	FORD
A20B	103240152		UNF1/2-20 (inside)	FORD
A40	103240153		G1/4	
A41	103240154		G1/4	
A42	103240155		M10×1.0	
A43	103240156		M12 1.5	
A44	103240157		M12	
A45	103240158		G1/4	

No.	Parts Number	Picture	Size	Applicable Car Type
A 46	103240159		Bore:Φ12	
A47	103240160		M14×2.0 (outside)	
A48	103240161		M20×1.5 (outside)	
A49	103240162		UNF3/4-18 (outside)	
A50	103240163		Φ9.5 (H)	GENERAL MOTORS, BUICK, CHEVROLET, CADILLAC, EUROPEAN, OPEL, SAAB quick insert-connect type fuel hose
A51	103240164		Φ8.0 (H)	FORD, LINCOLN, MAZDA, VOLVO, quick insert-connect type fuel hose
A52	103240165		Φ9.5(H)	CHRYSLER, DODGE quick insert-connect type fuel hose
A53	103240168		Φ12.5(H)	CHRYSLER, DODGE quick insert-connect type fuel hose
A54	103240169		Φ6.0(H)	HOSE ADAPTERS General adapter
A55	103240170		Φ7.5(H)	HOSE ADAPTERS General adapter
A56	103240171		Φ9.5(H)	HOSE ADAPTERS General adapter
A57	103240172		Φ12.5(H)	HOSE ADAPTERS General adapter