

TABLE OF CONTENTS

SAFETY INFORMATION	2
FEATURES & SPECIFICATIONS	7
MACHINE OVERVIEW	9
OPERATING INSTRUCTIONS	11
MAINTENANCE	12
REPLACEMENT PARTS	15
WARRANTY INFORMATION	19

CUSTOMER SERVICE CONTACT INFORMATION

For product information, tech support, or to order replacement parts, call:

1-800-303-5874

IMPORTANT SAFETY NOTICE

For your safety, read this manual thoroughly before operating this machine. Your machine is intended for use by properly trained, skilled professional automotive technicians. The safety messages presented below and throughout this user's manual are reminders to the operator to exercise care when using this unit. Before using your machine, always refer to and follow the safety messages and applicable service procedures provided by the manufacturer of the vehicle being serviced.

• Read All Safety Instructions

Read, understand and follow all safety messages and instructions in this manual. Safety messages in this section of the manual contain a signal word with a three-part message and, in some instances, an icon.

• Signal Words

The signal word indicates the level of the hazard in a situation:

DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury to the operator or to bystanders.

WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury to the operator or to bystanders.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in moderate or minor injury to the operator or to bystanders.

IMPORTANT

Indicates a situation which, if not avoided, may result in damage to the machine, or the vehicle being serviced.

• Safety Messages

Safety messages in this section contain three different type styles:

- Normal type states the hazard.
- **Bold type** states how to avoid the hazard.
- *Italic type* states the possible consequences of not avoiding the hazard.

• Safety Symbols

A safety symbol, when present, gives a graphical description of the potential hazard, and how to avoid the hazard:



Risk of Fire



Read Instructions Before Use



Risk of Explosion



Mandatory Eye Protection



Risk of Entanglement



Mandatory Protective Gloves



Dangerous Fumes



Mandatory Protective Clothing



Do Not Pull or Move



Risk of Burns

IMPORTANT SAFETY INSTRUCTIONS

DANGER



Engine exhaust contains toxic gases.

- **Vent vehicle's exhaust away from work area.**
- **Do not breathe exhaust.**

Exhaust gases will cause injury or death.

WARNING



Improper use and operation.

- **Read, understand and follow all safety messages and operational procedures in this manual before operating this machine.**
- **This equipment should be operated only by qualified personnel.**
- **Use this equipment only as described in this manual.**

Improper use and operation of this product can result in injury.

WARNING



Engine systems can malfunction expelling fuel, oil vapors, hot steam, hot toxic exhaust gases and other debris.

- **Wear safety goggles and protective clothing, user and bystander.**

Engine systems that fail can cause serious injury.

WARNING



Risk of expelling pressurized fluids.

- **Wear safety goggles and protective clothing, user and bystander.**
- **Verify that engine and machine are off before connecting or disconnecting cooler lines and adapter hoses.**
- **Always unplug the machine from its power source when not in use.**
- **Keep the service hoses away from hot or moving engine parts. Hoses can split or burst causing fluid to be expelled.**
- **Tighten all connections properly. Insufficient or excessive torque can result in fluid leakage.**
- **Avoid contact with automatic transmission fluid.**
- **Treatment methods are as follows:**
 - Eyes: Flush eyes with plenty of water.**
 - Skin: Wash with soap and water.**
 - Inhalation: Move to uncontaminated area.**
 - Ingestion: If large amount, get medical attention.**
 - If any irritation persists, get medical attention.**

- **Dispose of used fluid according to environmental laws and regulations.**

Although automatic transmission fluid poses no significant health hazards, some individuals may experience adverse reactions upon contact. Pressurized fluid can cause serious injury.

WARNING

Risk of unexpected vehicle movement.

- **Block drive wheels before starting vehicle's engine to begin an exchange.**
- **Unless instructed otherwise, set parking brake and put gear selector in park.**
- **Do not leave a running vehicle unattended.**

A moving vehicle can cause injury.

WARNING



Engine has moving parts. Risk of entanglement.

- **Do not place tools on fenders or other places in engine compartment.**
- **Keep yourself, clothing, battery cables and service hoses clear of moving parts such as fan blades, belts and pulleys.**

Contact with moving parts can cause injury.

WARNING



Risk of fire or explosion.

- **Do not operate this machine in the vicinity of open containers of flammable liquids such as gasoline.**
- **Keep hoses and jumper cables away from heat sources and sharp edges.**
- **Do not operate equipment with damaged cords or hoses until they have been examined by a qualified serviceman.**

Fire or explosion can cause injury.

WARNING



Risk of fire or explosion. Gases produced by a battery are highly explosive.

- **Wear safety goggles and protective clothing, user and bystander.**
- **This machine is equipped to operate on 12-volt DC power only. A power source greater than this can result in serious injury to the user as well as damage to the machine.**
- **Do not smoke, place metal tools on battery or allow a spark or flame in vicinity of battery.**
- **Clean battery terminals before hooking the machine's battery clips to them. During cleaning, keep airborne corrosion from eyes, nose and mouth.**
- **Be sure both battery cables are tightly connected to the battery terminals as instructed before proceeding with a fluid exchange.**
- **Never remove battery cables from the battery terminals while the machine is operating.**

Battery explosion can cause injury.

WARNING



Battery acid is a highly corrosive sulfuric acid.

- **Wear safety goggles and protective gloves, user and bystander.**
- **Have plenty of fresh water and soap nearby. If battery acid contacts skin, clothing, or eyes, flush exposed area with soap and water for 10 minutes.**
- **While cleaning battery's terminals, keep airborne corrosion from eyes, nose and mouth.**
- **Do not touch eyes while working near battery.**

Battery acid can burn eyes and skin.

WARNING



Risk of burns.

- **Wear gloves when working near hot engine components.**
- **Do not touch hot exhaust systems, manifolds, engines, radiators, etc.**
- **The automatic transmission fluid coming from the vehicle along with some of the machine's components that the fluid comes into direct contact with (i.e. external: hoses and quick-disconnect fittings; internal: hoses and all fittings) may reach temperatures uncomfortable to the touch. Exercise caution in avoiding contact with these items.**

Hot components can cause injury or discomfort.

CAUTION

Ratchet mechanisms and tools may slip or break if dirty. Mismatched or partially worn parts can cause ratchet or any tool to slip or break.

- **Frequently inspect and clean any tools used, and lubricate all non-sealed ratchet mechanisms with light oil.**
 - **Do not replace worn parts individually. If adapter hose fittings become worn, see “Appendix C – Replacement Parts” to order new hoses.**
 - **The use of any other accessories not specified in this manual may create a hazard.**
- Tools that slip or break can cause injury.*

CAUTION



Risk of injury.

- **This equipment should be operated by qualified personnel only.**
- **Use this equipment only as described in this manual.**
- **Always unplug the machine from its power source when not in use.**
- **Loop the power cord loosely in its proper location when machine is not in use.**
- **Do not operate equipment with a damaged battery cables or hoses, or if the equipment has been dropped or damaged, until it has been examined by a qualified service representative.**
- **Care should be taken to arrange the battery cables and service hoses so that they will not be tripped over or pulled.**
- **Never pull on the power cables or service hoses to transport the machine. Damage may occur to these components, or machine may tip over.**
- **Keep area of operation clear of unnecessary tools and equipment.**
- **Never leave the machine running unattended.**
- **This machine is not designed for any other purpose than the exchanging of automatic transmission fluid.**

Operation of this unit by anyone other than qualified personnel may result in injury.

IMPORTANT

Risk of equipment damage.

- **Flushing high mileage cars that have not been previously serviced can cause operating problems in the transmission.**
- **Connect battery cables to a 12-volt power source only (i.e. vehicle’s battery).**
- **Servicing, transporting, or storing this machine in an attitude other than the normal operating position can result in fluid spillage and/or component damage.**
- **Use only the manufacturer’s recommended attachments.**
- **This machine is fully automatic. Refer to your control panel at all times.**
- **Never pull on the power cables or service hoses to transport this machine. Damage may occur to these components, or machine may tip over.**
- **Periodically clean the machine by wiping down with a clean, soft, dry cloth.**

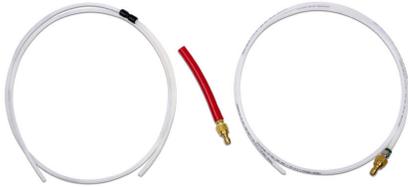
Improper operation of equipment may result in damage to machine or components.

SAVE AND FOLLOW THESE INSTRUCTIONS!

FEATURES & SPECIFICATIONS

E-100 ATF EXTRACTION FEATURES:

- Graduated fluid level scale on waste tank for gallons, quarts and liters
- 12V DC powered, rated 4 GPM pump used for extracting used fluid and emptying waste tank
- Large capacity, 4 gallon (16 quart) waste tank
- 6' extraction tubes 5/16" & 1/4" (see extraction rates below)



Included with E-100

EXTRACT & FILL RATES TRANSMISSION FLUID @ 72° F

	Extraction E-100 & EF-100	Fill EF-100
5/16"	1.75 qt./min.	4 qt./min.
1/4"	.6 qt./min.	2qt./min.

E-100 ATF & MOTOR OIL EXTRACTION MACHINE



EF-100

ATF & MOTOR OIL EXTRACT & FILL MACHINE



EF-100 ATF EXTRACTION AND FILL FEATURES:

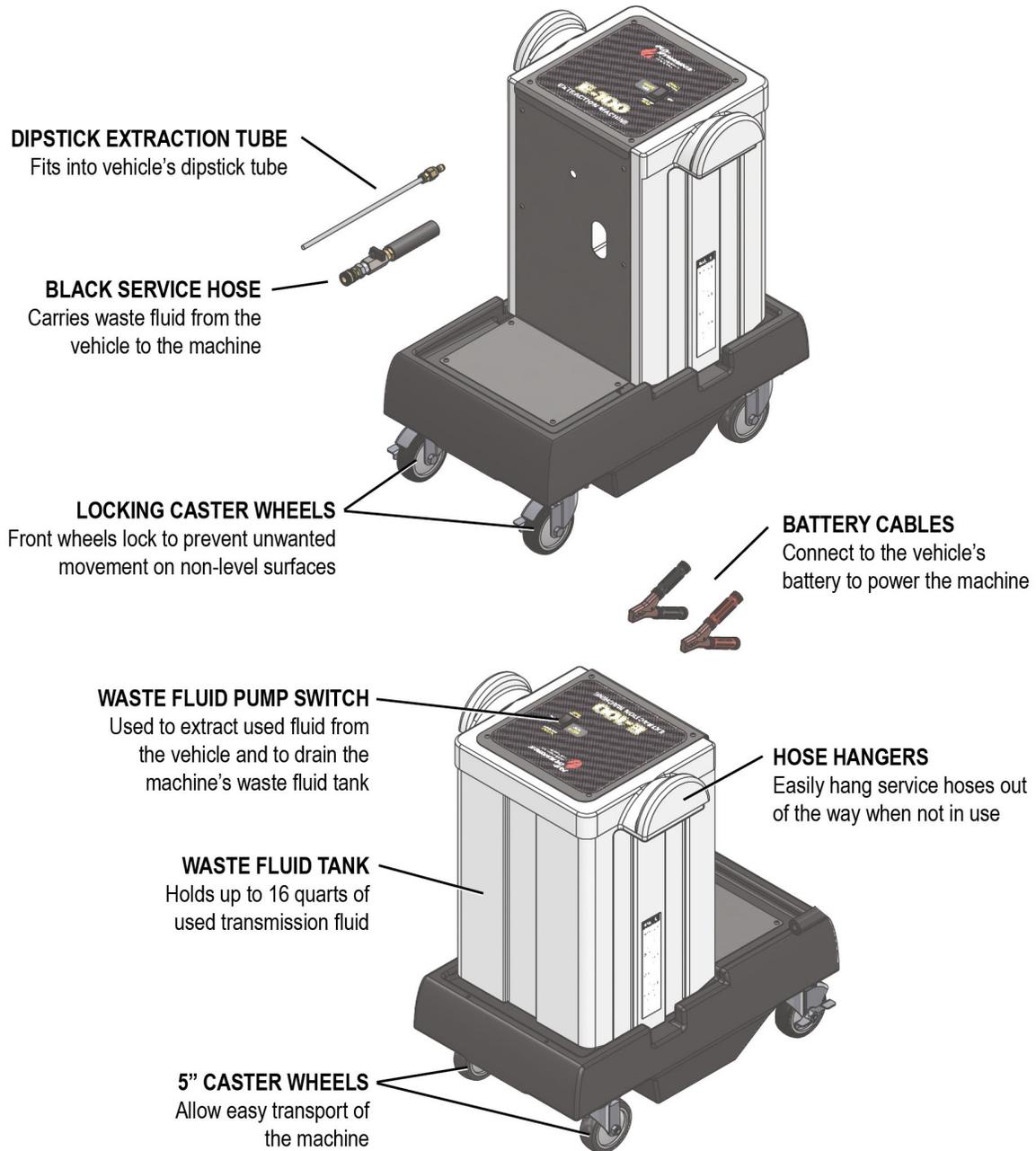
- Everything listed in the E-100, plus Y Adapter
- 12V DC powered, new fluid diaphragm pump
- Large 3 gallon (12 quart) capacity new fluid tank



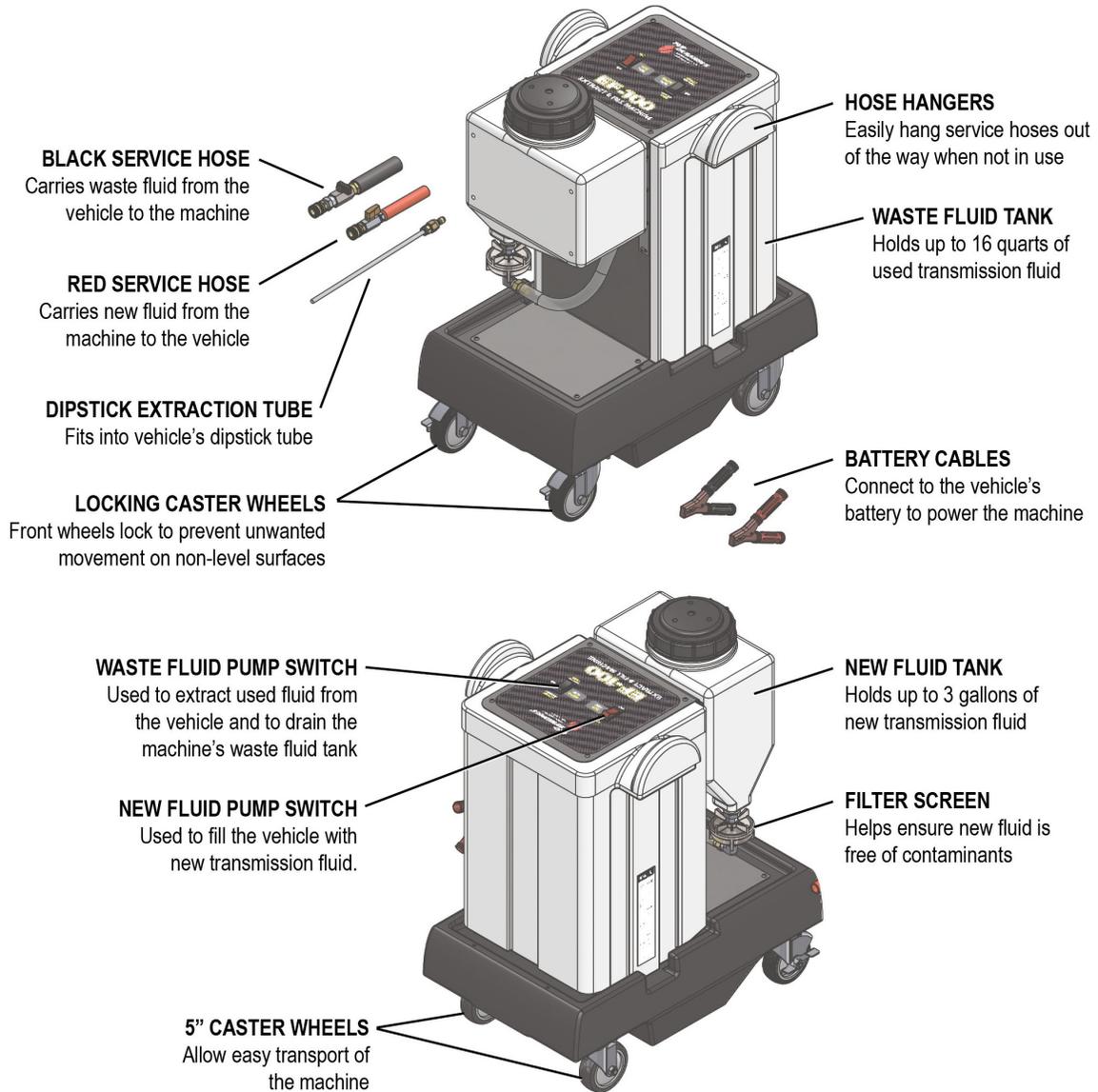
Included with EF-100

SPECIFICATIONS	E-100	EF-100
Dimensions	30" H x 18" W x 28" D	
Shipping Weight	45 lb.	48 lb.
Waste Fluid Tank	4 gallon (16 quart)	
New Fluid Tank	NA	3 gallon

E-100 MACHINE OVERVIEW



EF-100 MACHINE OVERVIEW



E-100 OPERATING INSTRUCTIONS

CONNECTION

Connect the adapter to the largest of the two dipstick extraction tubes that will fit into the vehicle's dipstick tube, and fully insert the tube to the bottom of the pan.

Connect the black service hose.

Connect machine's battery cables to vehicle's battery.



EXTRACTION

Open the ball valve on the black service hose.

Note the fluid level on the waste tank, and then move the WASTE FLUID switch to the **EXTRACT** position. Move the switch to the **OFF** position when fluid is no longer being removed.

Close the ball valve on the black service hose.

Note the level on waste fluid tank and subtract the original waste tank level from this amount after removal. This is the amount that has been extracted from the vehicle.



DRAIN WASTE TANK

Connect the larger 3/8" I.D. red drain hose to the end of the black service hose, and open the ball valve.

While holding the end of the hose into an approved waste container, move the WASTE FLUID switch to the **WASTE TANK DRAIN** position. When the tank is empty (zero mark), move the switch to the **OFF** position.

Close the ball valve before removing the red drain hose from the black service hose.

NOTE: The gear pump protection circuit shuts off the pump if the ball valve on the black service hose is closed when draining the waste tank. If this happens, reset by moving the drain switch to the off position. Open the ball valve and resume draining the waste tank.



MAINTENANCE

To keep your machine working properly:

- Keep debris out of new fluid.
- Avoid spilling fluid on the control panel.
- Periodically wipe down exterior using a soft, damp cloth.
- Periodically clean filter screen (EF-100 only)

EF-100 OPERATING INSTRUCTIONS

CONNECTION

Connect the Y-adapter to the largest of the two dipstick extraction tubes that will fit into the vehicle's dipstick tube, and fully insert the tube to the bottom of the pan.

Connect both the black and red service hoses to the Y-adapter.

Connect machine's battery cables to vehicle's battery.



EXTRACT & FILL

Open the ball valve on the black service hose, and ensure the ball valve on the red service hose is closed. **NOTE: Failure to close the red hose ball valve will pull fluid or air from the new fluid tank.**

Carefully note the fluid level on the waste tank, and then move the WASTE FLUID switch to the **EXTRACT** position. Move the switch to the **OFF** position when fluid is no longer being removed.

Close the ball valve on the black service hose.

Note the level on waste fluid tank and subtract the original waste tank level from this amount after removal. This is the amount that has been extracted from the vehicle.



Fill the new fluid tank with the same amount of fluid that was extracted in the previous step.
NOTE: Do not fill the new fluid tank with more fluid than was removed in previous step.

Open the ball valve on the red service hose, and ensure the ball valve on the black service hose is closed.

Move the **NEW FLUID** switch to the **FILL** position. When the new fluid tank is empty, move the switch to the **OFF** position.

Remove the dipstick adapter from the dipstick tube, and close the red ball valve.

Check fluid level and top off as required.



DRAIN WASTE TANK

Connect the larger 3/8" I.D. red drain hose to the end of the black service hose, and open the ball valve.

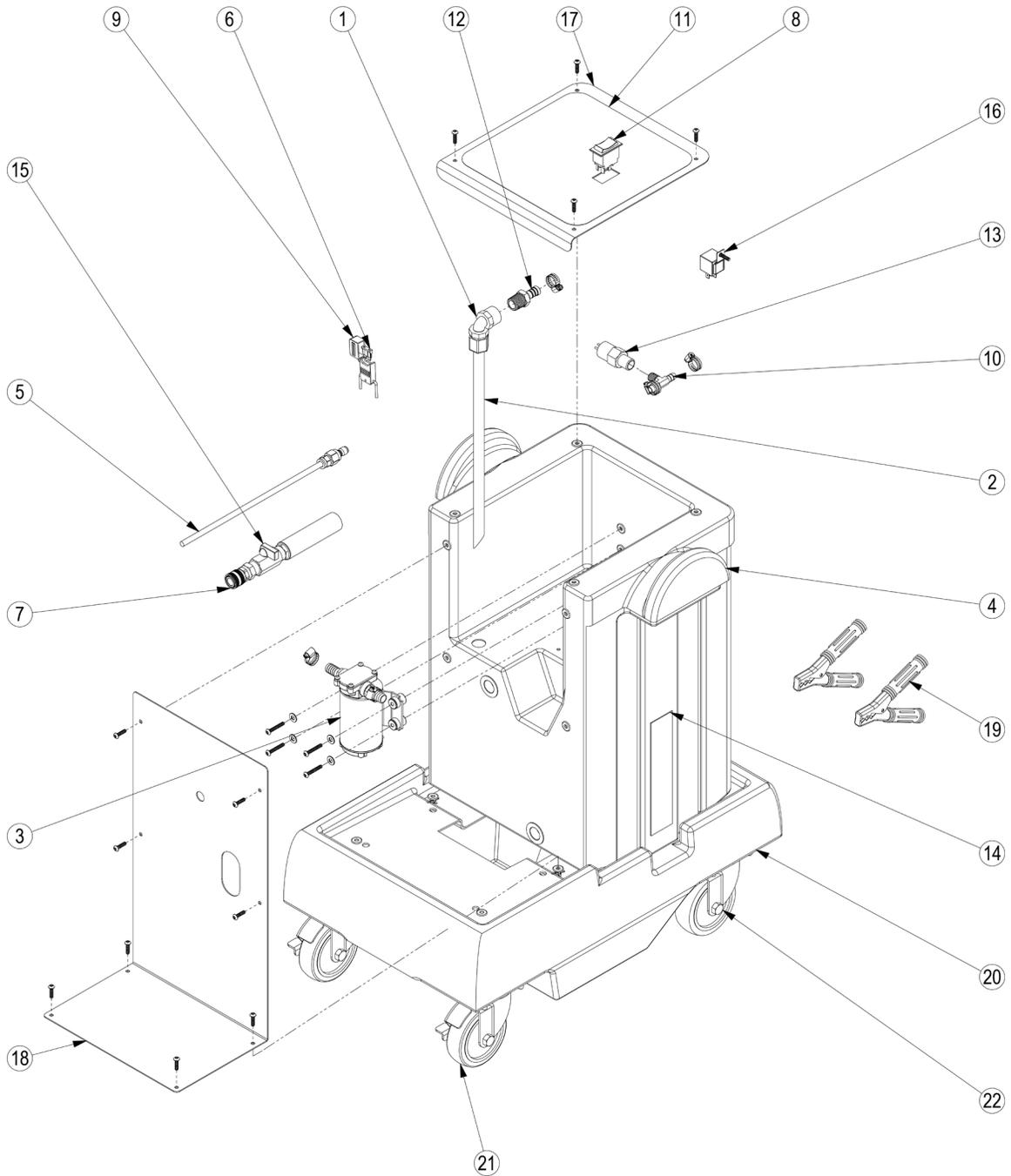
While holding the end of the hose into an approved waste container, move the **WASTE FLUID** switch to the **WASTE TANK DRAIN** position. When the tank is empty (zero mark), move the switch to the **OFF** position.

Close the ball valve before removing the red drain hose from the black service hose.

NOTE: The gear pump protection circuit shuts off the pump if the ball valve on the black service hose is closed when draining the waste tank. If this happens, reset by moving the drain switch to the off position. Open the ball valve and resume draining the waste tank.

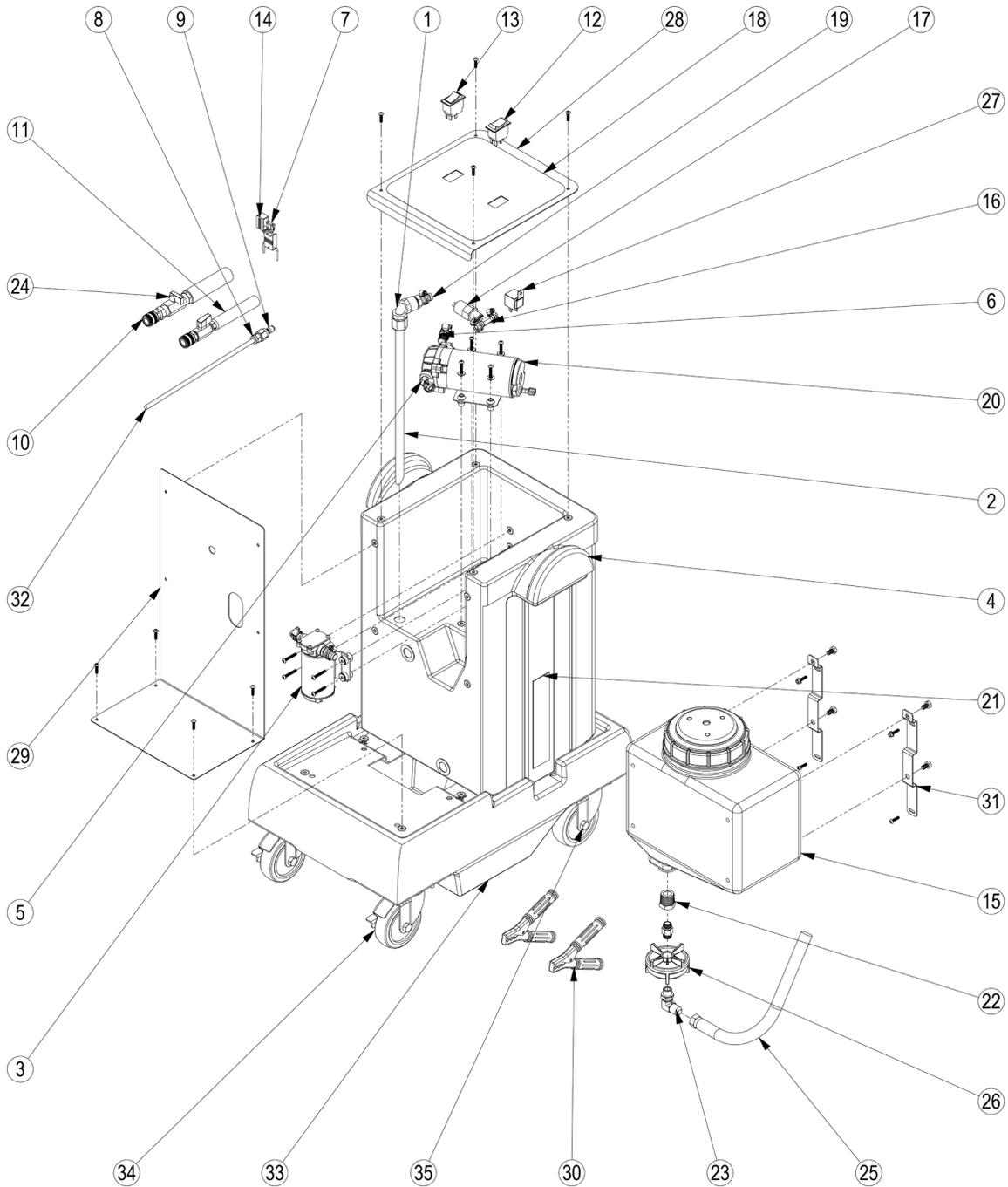


E-100 REPLACEMENT PARTS LIST



ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	941226	ELBOW PLASTIC FEM 1/2NPTX5/8TU	1
2	941262	TUBE ALUM 5/8 X 15.5 1 MITER	1
3	944022	PUMP-SMALL GEAR PUPPY DFX3500	1
4	944026	WASTE FLUID TANK-CLEAR-EVACUMAX	1
5	40100097	WAND ADAPTER, EXTRACT/FILL 5/16"OD X 0.40"TH	1
6	40200728	BLADE FUSE - 20 AMP	1
7	40200734	SIZE 1/4 SLEEVE LOCK SOCKET X 1/4 NPTF MALE COUPLER (6537K63)	1
8	40200934	ROCKER SWITCH ON-OFF-ON BLACK	1
9	40200991	WIRE HARNESS - E100	1
10	40200996	TEE FITTING 3/8 ID BARB X 3/8 ID BARB X 1/4 NPT MALE	1
11	40201010	CONTROL PANEL OVERLAY E-100	1
12	40201018	HOSE, 1/2 ID X 1/2 NPT MALE BARBED FITTING	1
13	40201024	PRESSURE SWITCH 70 PSI	1
14	40201030	OVERLAY MEASURING STRIP E SERIES	2
15	40201036	BLACK EXTRACTOR SERV HOSE	1
16	40201039	RELAY SWITCH - E SERIES MACHINES	1
17	40300349	PANEL-OIL DRAIN CONTROL	1
18	40300350	PANEL-FRONT OIL DRAIN	1
19	40300354	ASSEMBLY-12FT BATTERY CABLE 10GA	1
20	R940750	ATF/PSX CHASSIS-BLK	1
21	R942118	CASTER 4 W/BRAKE ATFX	2
22	R942137	CASTER 4 SWIVEL ATFX	2

EF-100 REPLACEMENT PARTS LIST



ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	941226	ELBOW PLASTIC FEM 1/2NPTX5/8TU	1
2	941262	TUBE ALUM 5/8 X 15.5 1 MITER	1
3	944022	PUMP-SMALL GEAR PUPPY DFX3500	1
4	944026	WASTE FLUID TANK-CLEAR-EVACUMAX	1
5	40200548	3/8 NPT MALE X 3/8 ID HOSE BARB 45 DEG (53525K48)	1
6	40200671	HOSE BARB 1/2 X 3/8 MALE NPT	1
7	40200728	BLADE FUSE - 20 AMP	1
8	40200732	3/8 TUBE OD PRESTOLOK X 1/4 NPTF MALE STRAIGHT ADAPTER (51025K184)	1
9	40200733	SIZE 1/4 PLUG X 1/4 NPTF FEMALE COUPLER (6537K11)	1
10	40200734	SIZE 1/4 SLEEVE LOCK SOCKET X 1/4 NPTF MALE COUPLER (6537K63)	2
11	40200735	RED SERVICE HOSE NEW STYLE	1
12	40200934	ROCKER SWITCH ON-OFF-ON BLACK	1
13	40200935	ROCKER SWITCH ON-OFF RED	1
14	40200992	WIRE HARNESS - EF100	1
15	40200993	RINSE TANK 3 GALLON	1
16	40200996	TEE FITTING 3/8 ID BARB X 3/8 ID BARB X 1/4 NPT MALE	1
17	40200997	PRESSURE SWITCH 90 PSI	1
18	40201013	CONTROL PANEL OVERLAY EF-100	1
19	40201018	HOSE, 1/2 ID X 1/2 NPT MALE BARBED FITTING	1
20	40201019	PUMP TRANS 50PSI BYPASS	1
21	40201030	OVERLAY MEASURING STRIP E SERIES	2
22	40201034	REDUCER MALE NPT X FEM BSPP	1
23	40201035	ELBOW BSPP X JIC	1
24	40201036	BLACK EXTRACTOR SERV HOSE	1
25	40201037	NEW FLUID TANK HOSE - EXTRACTOR UNIT	1
26	40201038	UP3 FITTING AND FILTER KIT	1
27	40201039	RELAY SWITCH - E SERIES MACHINES	1
28	40300349	PANEL-OIL DRAIN CONTROL	1
29	40300350	PANEL-FRONT OIL DRAIN	1
30	40300354	ASSEMBLY-12FT BATTERY CABLE 10GA	1
31	40300358	EF NEW FLUID TANK BRACKET	2
32	R940557	TUBE 5/16 POLY PER FOOT	1
33	R940750	ATF/PSX CHASSIS-BLK	1
34	R942118	CASTER 4 W/BRAKE ATFX	2
35	R942137	CASTER 4 SWIVEL ATFX	2

LIMITED ONE (1) YEAR WARRANTY

Flo-Dynamics warrants only to the original Purchaser that under normal use, care and service, the Equipment (except as otherwise provided herein) shall be free from defects in material and workmanship for one year from the date of original invoice. External hoses, remote control modules, adapters and all other attachments, supplies and consumables (except as otherwise provided herein) are warranted for 90 calendar days from the date of original invoice. Filter elements are not warranted. Printed circuit boards purchased from, but not installed by Seller are not warranted.

SELLER'S OBLIGATIONS UNDER THIS WARRANTY ARE LIMITED SOLELY TO THE REPAIR OR, AT SELLER'S OPTION, REPLACEMENT OF EQUIPMENT OR PARTS WHICH TO SELLER'S SATISFACTION ARE DETERMINED TO BE DEFECTIVE AND WHICH ARE NECESSARY, IN SELLER'S JUDGEMENT, TO RETURN THE EQUIPMENT TO GOOD OPERATING CONDITION. NO OTHER WARRANTIES EXPRESS OR IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, SHALL APPLY AND ALL SUCH WARRANTIES ARE HEREBY EXPRESSLY DISCLAIMED.

This warranty does not cover (and separate charges for parts, labor and related expenses shall apply to) any damage to, malfunctioning, inoperability or improper operation of the Equipment caused by, resulting from or attributable to (A) abuse, misuse or tampering; (B) alteration, modification or adjustment of the Equipment by anyone other than Seller's authorized representatives; (D) improper or negligent use, application, operation, care, cleaning, storage or handling; (E) fire, water, wind, lightning or other natural causes; (F) adverse environmental conditions, including, without limitation, excessive heat, moisture, corrosive elements, or dust or other air contaminants, radio frequency interference, electric power failure, power line voltages beyond those specified for the equipment, unusual physical, electrical or electromagnetic stress, and/or any other condition outside of Seller's environmental specifications; (G) use of the Equipment in combination or connection with other equipment, attachments, supplies or consumables not manufactured or supplied by Seller; or (H) failure to comply with any applicable federal, state or local regulation.

Repairs or replacements qualifying under this Warranty will be performed on regular business days during Seller's normal working hours within a reasonable time following Purchaser's request. **All requests for Warranty service must be made during the stated Warranty period.** This warranty is non-transferable.