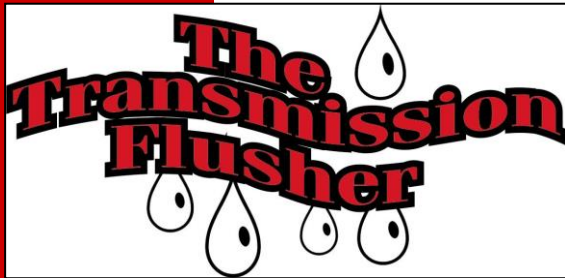


Operating Manual



Model 1524

 **Fluid
Service
Technologies Ltd.**

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IMPORTANT:

**PLEASE READ THE ENTIRE OPERATING MANUAL BEFORE
PERFORMING THE FIRST SERVICE**

ⓘ Indicates an Important Operating or Set-Up Procedure

SAFETY PRECAUTIONS

- ALWAYS WEAR EYE PROTECTION
- PERFORM SERVICE IN WELL-VENTILATED AREAS OR USE TAILPIPE EXHAUST HOSES
- NEVER LEAVE VEHICLE UNATTENDED WHILE PERFORMING SERVICE
- FOR VEHICLES REQUIRING NEUTRAL POSITION, ALWAYS APPLY PARKING BRAKE
- BE SURE HOSE CONNECTIONS ARE TIGHT
- ⓘ **BE SURE THAT THERE ARE NO PINCHED HOSES AND THAT ALL HOSES AND LINES ARE CLEAR OF FAN, EXHAUST AND ANY MOVING PARTS**
- ⓘ **CHECK CYLINDERS ON REGULAR BASIS FOR CHIPS, STRESS CRACKS OR ANY FORM OF DAMAGE. IF CYLINDERS ARE DAMAGED OR IF MACHINE HAS BEEN DROPPED, CYLINDERS MUST BE REPLACED**
- ⓘ **CHECK THREADS ON CAP AND FILLER NECK FOR WEAR. THREAD CAP ON UNTIL YOU FEEL IT CONTACT THE SEAT AND BACK OFF ½ TURN. PULL UP AND DOWN ON CAP TO TEST FOR PLAY. ANY MORE THAN 1/16th OF AN INCH THE CAP AND NECK NEEDS REPLACEMENT.**



Table of Contents

Introduction	4
Filling the 1524 without a Bulk Adaptor	5
Filling the 1524 with a Bulk Adaptor	5
Preparing the 1524 for Service	5
Connecting the 1524 to a Vehicle	6, 7
Emptying Dirty Fluid from the 1524	8
Changing ATF Types – Purging the 1524 of New ATF	8
Service Tips	9
Troubleshooting , Technical Support	10
Standard Fittings	10, 11
Specialty Fittings	12, 13
Accessories	13, 14
Limited Warranty	14



Introduction

Transmission Service with the 1524 Transmission Flusher

The number one reason for transmission failure is fluid breakdown. Over time, the automatic transmission fluid (ATF) becomes contaminated and loses its viscosity and the ability to lubricate the moving parts within the transmission. Conventional service methods of dropping the pan and changing the filter result in only about 30-40% of the total ATF in the transmission being drained out. That leaves 60-70% of the old ATF to be mixed with the new ATF introduced during service. Therefore, adequate lubrication is not achieved.

The Transmission Flusher replaces 100% of the old ATF with new, using a process much like a blood transfusion. As old ATF flows into the Transmission Flusher, new ATF is reintroduced into the transmission, including the torque converter and cooling lines. The net result is the revitalization of the transmission lubrication to virtually new specifications.

The 1524 utilizes a unique method to speed up the exchange rate of vehicles, especially those with low flow transmission cooling circuits or those with in-line thermostats in the ATF coolant lines.



Filling the 1524 without A Bulk Adaptor

Remove top cap and pour in the appropriate amount and type of clean transmission fluid required for the vehicle you are servicing. **We recommend using a funnel with a screen to prevent any debris from falling into the cylinder.** Replace cap, hand tighten only.

Filling the 1524 with a Bulk Adaptor

IMPORTANT! DO NOT ATTEMPT TO BULK FILL MODEL 1524A TRANNY FLUSHER BY CONNECTING TO THE RED SERVICE HOSE

With appropriate adapters connected to your bulk dispensing equipment and to The Transmission Flusher (see instructions with bulk dispensing kit part # 15045), connect the female end from your bulk dispensing equipment to the male fitting you installed on the back of center manifold (**DO NOT CONNECT TO THE BOTTOM WASTE OIL FITTING**) Dispense in the appropriate amount of fluid for the vehicle you are servicing.

Preparing the 1524 for Service

1. Install a nipple that coincides with your shop air lines into the 1/4" NPT bulkhead on the top (Old Fluid) side of the **Transmission Flusher**.
2. Be sure both switches on the front panel are in the "OFF" (down) position.
3. Connect your shop air line to the nipple you have just installed.

Connecting the 1524 to a vehicle

The size of the transmission and the quality of the old fluid will determine how much new fluid has to be put into the transmission before the dirty fluid will run clean. In most cases you will not have to use the full capacity of the **Transmission Flusher**. If the old fluid is very dirty, it may appear as though all the fluid has not been fully changed. The new fluid is picking up residue from inside the transmission, which changes the color of the new fluid discharging from the transmission. This does not hamper the performance of the new fluid.

ⓘ Different transmission fluids have different friction specifications. Use of the wrong fluids can cause deterioration in shift quality, shudder and even transmission failure. Know your fluids and use the proper fluid. Manuals are available that list all fluids for all vehicles.

1. Locate the transmission cooling lines and disconnect the one that is most accessible. Determine the correct transmission line fittings and securely connect to the vehicle. Some of the fittings are color coded to help identify the match. If the fitting does not have color coding, you use the hose for the opposite side.
2. Connect the two clear braided hoses to the fittings.
3. Determine the direction of flow from the vehicle's transmission. This is accomplished by starting the vehicle and watching the two clear braided hoses to see which starts to fill with dirty fluid. Shut the vehicle off as soon as this has been determined. ***It should only take a few seconds.*** Some vehicles with Chrysler transmissions will require neutral position. If this is the case, ***apply the parking brake.***
4. Connect the black service hose to the clear braided hose that filled with dirty fluid. Connect the red service hose to the other clear braided hose.
5. Once both lines are properly connected, with lines and hoses clear of moving parts, start the vehicle again.



6. Be sure your air line is connected to The Tranny Flusher, Turn on the “EXCHANGE NEW” switch
 7. The dirty fluid from the transmission will flow into the bottom portion of the cylinder. The new fluid will flow from the top portion of the cylinder into the vehicle.
 8. When the clean fluid from the top cylinder is almost empty, The Tranny Flusher goes into a bypass mode allowing the fluid from the transmission to flow through the machine and back to the transmission. The dirty fluid is trapped in The Tranny Flusher and cannot return to the vehicle.
 9. Turn the “EXCHANGE NEW” switch off.
 10. Shut the vehicle off.
 11. Disconnect the Red and Black service hoses. Then disconnect the clear braided hoses from the fittings and attach them in their place on the back of the **Transmission Flusher**. This will allow them to drain so they are ready for the next service. Depressing center pin on the upper fitting while these hoses are attached to the drip tray will speed the draining.
 12. Disconnect fittings and return the vehicles transmission cooling lines to their original position.
 13. Start the engine again and check the transmission fluid level and the cooling lines on the vehicle for leaks.
- **If the transmission pan is removed and the filter changed after servicing with the Transmission Flusher, you will need to add clean fluid to bring the level to normal.**
 - **If the transmission pan is removed and the filter changed prior to using the Transmission Flusher, you will need to add clean fluid to bring the level back to normal level before performing the service.**



Emptying Dirty Fluid from the 1524

1. Connect adapter hose with the female fitting to the male fitting on the bottom rear corner of The Transmission Flusher.
2. Secure the open end of this adapter hose into a waste oil receptacle.

(NOTE: OIL WILL FLOW QUICKLY FROM THIS HOSE! BE SURE IT IS SECURE).

For convenience, consider plumbing from work station directly to waste oil tank. ½” PVC piping works well and is easy to work with. Part # 15019 will give you the quick coupling fittings you’ll want to use for this purpose.

3. With air supply line connected to The Transmission Flusher, turn on “EMPTY OLD” switch. The lower cylinder is pressurized and old fluid is forced out the adapter hose.
4. Turn switch off when empty.

Changing ATF Types – Purging the 1524 of New ATF

There have been different types of transmission fluid introduced in recent years, such as Dextron 3E, Chrysler’s 7176, as well as type 4 and Ford’s Mercon V.

In some circumstances, manufacturers do not want cross contamination between fluid types. If you are using ATF fluid specific for each application and not using additives or fluid for multiple applications, you will want to purge all of the new fluid from The Transmission Flusher before filling with the different type of transmission fluid. This is easily and quickly accomplished with an optional Clean Purge Adapter Kit # 15032. This kit allows for purging of the cylinder as well as all the lines and control module.

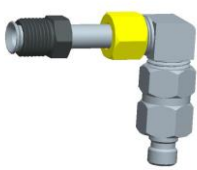
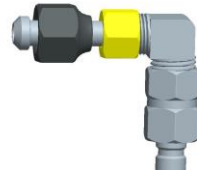
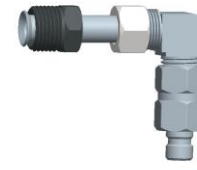


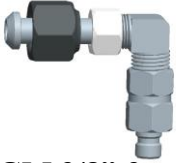
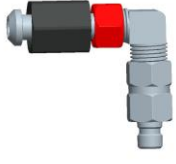
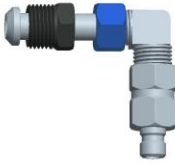
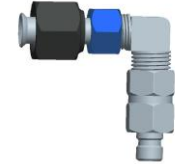
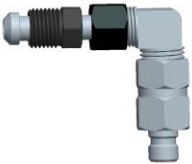

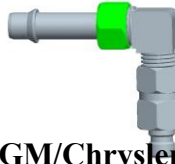
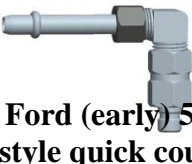





Service Tips

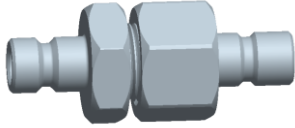


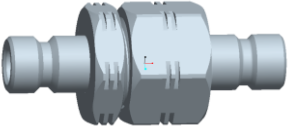

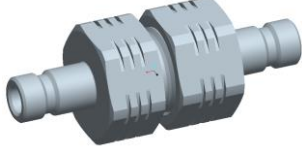
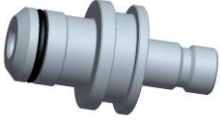
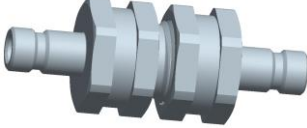
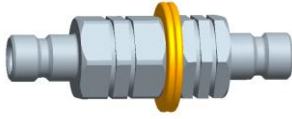
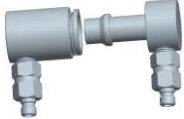


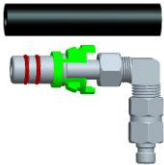
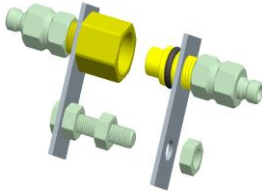
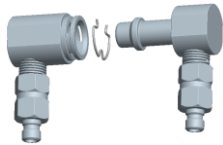
- Not all cars have cooling lines. Volkswagen, Jeep Eagle Premier and other cars that use these manufacturers' transmissions simply do not have cooling lines. You cannot flush these.
- Some late model vehicles like Ford Explorer and AeroStar have a thermostat in the transmission that works much like a coolant thermostat. If you flush one of these when it is cold, it will be very slow. Sometimes it will be slow even when it is warm because the cool new fluid going in will close the thermostat.
- Sometimes a cooling line will be so badly rusted or corroded that the technician is afraid he'll break the fitting out of the radiator trying to loosen it. For this problem, we recommend using a small "tube cutter" to cut the line. Just be sure to stock a length of various sizes of high pressure oil compatible hose and hose clamps to reconnect once the flush is done.
- Certain G.M. and Ford vehicles require a disconnect tool to release the transmission cooling line from the radiator. There are two types of tool available. The Ford tool used with fitting 15013 is the same size release tool as the one required on some Ford fuel filters. The steel version is available as OTC # 7244. We have found it stands up better; however, it does not work for fuel filters. The 15101 and the 15103 fittings for 2002 and newer Ford trucks requires the 15051 release tools.
- **GM and Chrysler use the same 3/8" Spring Clip design.** The FST fitting numbers are 15012 and 15112. A disconnect tool is also available under part number 15042. Watch carefully for leaks from these types of fittings once you have reconnected after the flush, sometimes these fittings will leak after they have been unhooked and re-connected. The "O" ring in the fitting gets hard with age and sometimes will not seal properly once it has been disturbed.
- ***Know your fluids - do not guess.*** It is not difficult to be sure you are using the right fluid. If you do not already have a manual that lists the vehicle's fluid type and capacity, you can purchase a printed or electronic version from Motor Information Systems / Chek-Chart at 1-800-426-6867

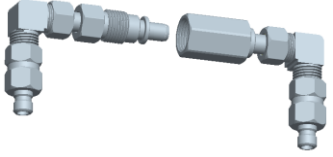
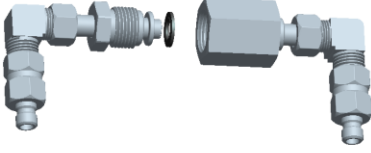
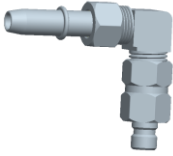
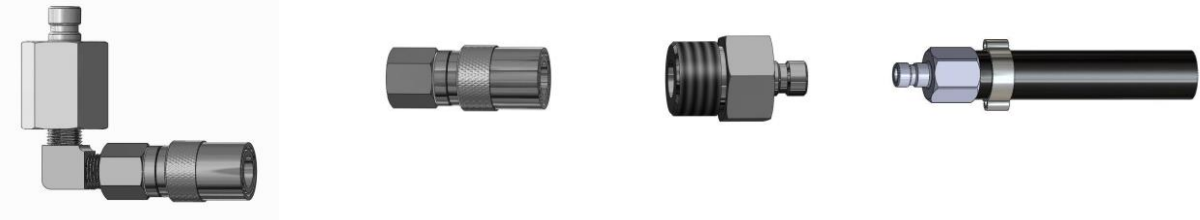
Troubleshooting/Technical Support










Symptom	Suggestion
Not enough flow from transmission to determine direction of flow	Some vehicles require neutral position before fluid circulates
	With vehicle running, use thumb to depress center of male quick connect on the end of the clear braided hoses to allow air to escape.
No fluid transfer	Ensure "Exchange New" switch is ON and "Empty Old" switch is OFF
	Are the quick-connect fittings fully engaged?
	Ensure supply air pressure to machine is at least 100 lb/in ² (do not use exterior regulator. Machine is self regulated)
Slow fluid transfer	Clean filters, Empty oil from machine, lay machine on its back to access filters from the bottom. Unthread clear plastic filter bowls (two) and clean cylinder shaped screens.
<p>If the above does not solve your problem, please phone Technical Support at 1 250 765-9452 (Pacific Standard Time)</p>	










Standard Fittings (Kit Part #15017)		
		
<p># 15001 GM 5/16" male inverted flare</p>	<p># 15002 GM 5/16" female extruded flare</p>	<p># 15003 GM 3/8" male inverted flare</p>

 <p># 15004 GM 3/8" female extruded flare</p>	 <p># 15005 Ford 5/16" male piloted inverted flare. Use with hose for female side</p>	 <p># 15006 Ford 3/8" male piloted inverted flare</p>
 <p># 15007 Ford 3/8" female piloted extruded flare</p>	 <p># 15008 Chrysler 3/8" male extruded flare</p>	 <p># 15009 Chrysler 3/8" female inverted flare</p>
 <p># 15010 Ford 5/16" male extruded flare</p>	 <p># 15011 Ford 5/16" female inverted flare</p>	 <p># 15012 GM/Chrysler 3/8" spring clip style male quick coupler</p>
 <p># 15013 Ford (early) 5/16 beaded style quick coupler requires disconnect tool. Use w/hose</p>	 <p># 15014 Chrysler/ Ford 3/8 beaded style quick coupler. Use w/hose</p>	 <p># 15015 Universal multi stepped adapter</p>
 <p># 15016 Universal 3/8 soft hose</p>	 <p># 15101 Ford (newer) 3/8 barbed style quick connect. Requires 15051 or equivalent disconnect tool</p>	 <p># 15112 GM/ Chrysler 3/8" spring clip style female quick coupler</p>

Specialty Fittings		
 15021 Ford and Dodge	 15022 Ford Escort, Mazda, Nissan, Saab 900, 9000	 15023 Mazda and Ford
 15024 Ford Contour, Mystique	 15025 Dodge diesel (early)	 15026 BMW
 15027 Volvo (early)	 15028 BMW 500 Series	 15029 Dodge Dakota, Ford Windstar, Taurus
 15038 (5/8") GM/Chevy Trucks w/Allison transmission	 15102 Dodge diesel trucks 2002 – Mid 07	 15103 Ford Super Duty 4R100 transmission Requires # 15051 Disconnect Tool
 15113 Volvo quick connect 1999 on	 15114 Audi A8, 2000 on	 15115 (1/2") Dodge Diesel mid 2007 and on

 <p>15116 O Ring Adaptor Assembly Dodge Dakota</p>	 <p>15117 Saturn Ion</p>	 <p>15118 Ford Focus</p>
 <p>15120 Ford 150 (2008 and newer)</p>		

Accessories		
 <p># 15031 Clear braided Adapter hoses for model 1524</p>	 <p># 15032 Clean oil purge kit to completely empty model 1524</p>	 <p># 15033 ATF Sample pump comes w/ 3 clear sample bottles</p>
 <p># 15034 Pkg of 10 clear ATF resistant sample bottles also fits on sample pump</p>	 <p># 15035 Spare fitting tray for model 1524</p>	 <p># 15037 Circuit completion hose (loop fittings to move vehicle)</p>
 <p># 15039 Small 3/8" spring clip for GM & Chrysler (10 pk)</p>	 <p># 15040 Large Silver 5/8" spring clip for GM with Allison Trans. mid 02 on (10 pk)</p>	 <p># 15041 Large Blue 5/8" spring clip for GM with Allison Trans. Pre mid 02 (10 pk)</p>

 <p># 15042 Removal tool for small 3/8" spring clip</p>	 <p># 15043 Removal tool for large blue 5/8" spring clip</p>	 <p># 15044 Removal tool for large silver 5/8" spring clip</p>
 <p># 15047 Large male quick coupler same as used on clear braided hoses of model 1524</p>	 <p># 15048 Large female quick coupler same as used on black & red service hoses of model 1524</p>	 <p># 15049 Small female quick coupler same as used on clear braided hoses of model 1524</p>
 <p># 15051 Ford fitting removal set for 3/8" & 1/2" fittings</p>	 <p># 15063 Mid size 1/2" spring clip for Dodge Diesel mid 07 on</p>	 <p># 15064 Removal tool for mid size 1/2" spring clip</p>

Two Year Limited Warranty

Fluid Service Technologies Ltd. (the Company) warrants the product for a period of Two Years against any defect in the materials, components, and assembly of the equipment. The Warranty does not extend to wear and tear on the side hose assemblies, nor to lost fittings, or damage to any part or assembly due to negligence or abuse. The limited warranty applies only to the original purchaser. The Warranty applies to the normal use of the unit in its intended application. The Company will not be liable for any other costs associated with a product failure such as, but not limited to lost service revenue, loss of ATF, coolant, engine oil, and brake fluid, nor non-authorized shipping costs and or labour charges other than described below.

In the case of any Warranty claim made by the original purchaser, the Company will determine, at its discretion, whether to repair or replace the unit, upon review of the nature of the Warranty claim. No unit should be returned to the Company without its prior written authorization.

Upon approval of a Warranty Claim by the Company, the customer has the following options regarding the repair of the unit:

1. The customer can ship the unit prepaid to the Service Center designated by the Company for repair.
2. The customer will be shipped the replacement part at no charge and, depending on the nature of the repair and at the discretion of the Company, will be allowed a maximum of \$100.00 labour to replace the part.

All warranty claims must be made within the specified warranty period. Proof of Purchase date must be supplied to the manufacturer.

Technical Support is available by calling 1.250.765.9452

Fluid Service Technologies Ltd.