



*Safety by Design*

# ATF 1

## OPERATION MANUAL



**Automatic Transmission  
Fluid Exchanger**

# ATF 1

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## **Introduction**

Thank you for purchasing Symtech Corporations **ATF 1** Automatic Transmission Fluid Exchange System. The **ATF 1** is state of the art and incorporates the latest technology and techniques to quickly perform all required periodic maintenance services for automatic transmissions. It is extremely easy to operate, environmentally safe, and designed for the highest efficiency.

The Operations Manual is a **MUST** to be read and **COMPLETELY UNDERSTOOD** in order to properly operate the unit and experience the highest return on investment. Refer to the manual in the future for continued safe operation. If you encounter difficulties in the operation, understanding of procedures, or have general service questions, please do not hesitate to call us at **888-884-8182**.

Please record the purchase date, serial number and distributor purchased from below for future reference and assistance in technical issues.

Purchase Date: \_\_\_\_\_

Serial Number: **T1-** \_\_\_\_\_  
Located on Back of Unit

Purchased From: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# SAFETY PRECAUTIONS

**WARNING: FAILURE TO FOLLOW PRECAUTIONS CAN RESULT IN INJURY OR DEATH**

- **Always use extreme caution and forethought when servicing automotive systems!**  
Automotive systems are **extremely hot** and contain **high pressure**.
- Always read and understand the entire Operations Manual before operating!
- Always wear proper eye and skin protection when operating equipment!
- Always keep fire extinguisher nearby for flammable conditions!
- Always keep hair, loose clothing, hoses, etc. securely away from moving parts!
- Always keep work area well ventilated to prevent carbon monoxide build up!
- Always comply with local, state, and federal regulations concerning fluid!
- Always clean up and report spill in a proper manner!
- Always read and understand the **Material Safety Data Sheets (MSDS)** for particular fluids!
- Always seek emergency medical attention for ingestion of, or eye contact with fluid!

## BATTERY SAFETY

Lead-acid batteries commonly used in vehicles, and in the unit **ATF I** to provide remote power, can be highly dangerous if the proper precautions are not taken while working in the vicinity of the battery.

**Batteries generate explosive hydrogen gas during normal operation that may ignite in the presence of sparks, flames, or smoking!**

Always have the Main Power switch of the unit in the off position when making connections to avoid sparks. Connecting the negative (black) power clip to a suitable system ground away from the battery, and never to the negative post of the battery provides additional protection from this hazard.

## **Before Starting**

- ❖ Adjust the transmission fluid level according to the manufacturer's instructions or take note of level. Be aware that some vehicles require the fluid level to be checked in "PARK" and some in "NEUTRAL." The COOLER LINE mode of service will also be done in the same manner as checking transmission fluid levels.

### **WARNING: TAKE NECESSARY PRECAUTIONS TO SECURE THE VEHICLE WHEN CHECKING TRANSMISSION FLUID LEVELS OR PERFORMING SERVICES!!**

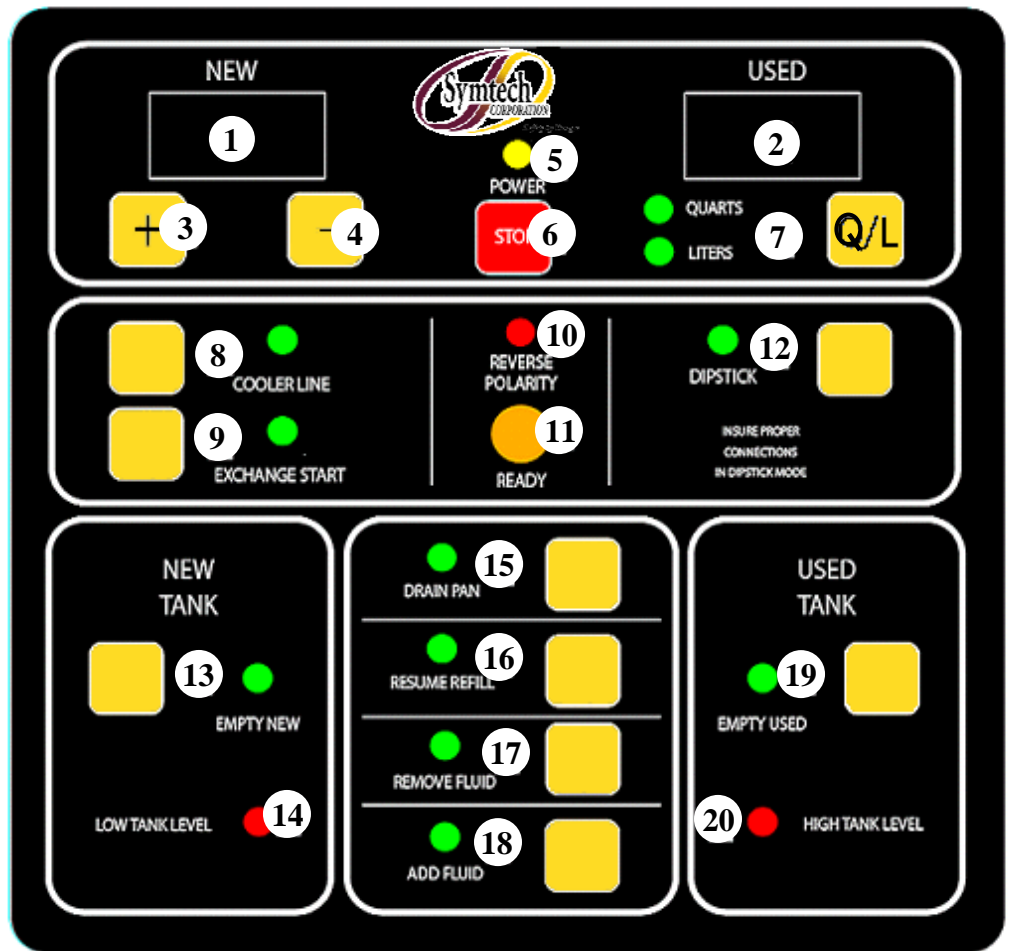
- ❖ NEVER put anything but automatic transmission fluid in the NEW tank of the **ATF I**. If transmission flush is to be used, it should be added and circulated in the transmission prior to exchange or drain pan functions being performed.
- ❖ Always use the proper type of automatic transmission fluid for the vehicle being serviced. Refer to the vehicle's Service Manual or dipstick for information on the type of fluid to be used.

NOTE: Refer to the EMPTY NEW tank procedures on page 17 for information on how to change fluid types in the unit.

- ❖ The **ATF I** is designed to operate on regulated 12V DC power **ONLY** from either the vehicle's battery or the unit's on-board battery. Use of battery chargers and other power sources are not recommended.
- ❖ Pull on all of the connections after being made in order to verify that the connections are complete and secure.
- ❖ Only use fingertips to depress control panel buttons, sharp, or pointed metal objects will ultimately destroy the control panel.
- ❖ Always keep the **ATF I** unit in the upright position and as level as possible during operation. Inverting or lying the unit down will allow fluids to escape the internal tanks. Operating the unit on a level surface will insure precise operation.
- ❖ Some transmission pumps do not create enough flow or pressure at idle to properly, or efficiently, perform the COOLER LINE transmission services. Examples are Ford Explorers and Dodge Caravans. Accelerating the vehicles engine above idle will remedy this problem.
- ❖ Turn the **ATF I** Main Power switch OFF when not in use to conserve power and prevent accidental start up.

# CONTROL PANEL LAYOUT

1. NEW Fluid Tank Readings
2. USED Fluid Tank Readings
3. INCREASE Fluid Amount
4. DECREASE Fluid Amount
5. POWER ON LED
6. STOP System Button
7. QUARTS / LITERS Mode
8. COOLER Line Mode
9. FLUID EXCHANGE Start
10. Reverse Polarity Warning
11. Process READY Indicator
12. DIPSTICK Mode Operation
13. EMPTY NEW Tank Function
14. LOW Fluid Level Warning
15. DRAIN PAN Function
16. RESUME REFILL Function
17. REMOVE FLUID Function
18. ADD FLUID Function
19. EMPTY USED Tank Fluid Function
20. HIGH Fluid Level Warning



## On Board Battery

The **ATF 1** on board battery is very similar to any other cordless tool with a battery. The more it is slowly charged at a low rate the better the charge and longer the battery life. Charging the on board battery quickly and at a high rate will shorten the life of the battery and lessen the amount of services using the on board battery.

The **MAIN POWER** switch must be in the **ON Position** while charging the on board battery.

## Power Saving Mode

The **ATF 1** has a power saving mode that protects and prevents operation of the unit under 11 volts DC. Both LCD readouts will blank and the keypad will be non-functional until the unit is connected to a 12volt DC supply or the on board battery has been adequately re-charged.

## Control Panel Descriptions and Functions

The following information is intended to familiarize the **ATF I** operator with the control panel and its functions. It is not designed to replace the guidelines and safety warnings found in the remainder of this document. The complete Operations Manual must be read and understood, and the warnings must be taken note of, before operating the machine.

**Failure to follow these instructions could endanger the operator and risk damage to the vehicle.**

The control panel is arranged in a very logical and intuitive manner that provides the required modes and functions needed to perform successful preventative maintenance on automatic transmissions.

The NEW tank values and functions are displayed and performed on the top left of the panel, while the USED tank values and functions are displayed and performed on the top right of the panel. (See page 5)

There are two modes of service that can be performed, **COOLER LINE** mode on the left side of the control panel and **DIPSTICK** mode on the right side. The exclusive **EXCHANGE START** function is also on the left, while the shared functions between both modes of operation are located down the middle of the control panel.

### Exchanges

Decide which mode of exchange will be performed, either the traditional COOLER LINE mode or the DIPSTICK mode. This unit allows the service technician or the customer to decide what mode of service will be performed and it is fully capable of performing the various functions required in either mode.

The operator starts at the top and works down the control panel. Look at the display upon power up to view tank levels, to select mode of operation (COOLER LINE or DIPSTICK), to adjust Quart/Liter amounts of fluid as required, to start functions to be performed, to verify function completed, and to continue to the next function if needed.

- 1) **NEW Fluid digital display** – Displays the amount of NEW transmission fluid in the NEW tank when no modes are selected. It also displays the amount of fluid to be exchanged, added, removed, or the decrementing (decreasing) amount of NEW fluid being pumped from the unit. Amounts are displayed to the nearest tenth in quarts or liters dependent upon unit of measure selected.

The display decreases in value for the NEW fluid being pumped out of the unit and increases in value as the desired fluid amounts are keyed in or set for the various functions.

- 2) **USED Fluid digital display** – Displays the amount of USED transmission fluid in the USED tank when no modes are selected. In all modes and functions, the USED fluid display indicates incrementing amounts of fluid being extracted from the vehicle during the process selected. Amounts are displayed to the nearest tenth in quarts or liters dependent upon unit of measure selected.

The display decreases in value for the USED fluid being pumped out of the unit and increases in value as the desired fluid amounts are keyed in or set for the various functions.

## Control Panel Descriptions and Functions (cont.)

- 3) “ + ” **Increase Button** – Adjustment button used to increase the amount of fluid, in tenths, of a quart/liter to be transferred in each applicable mode and function.
- 4) “ - ” **Decrease Button** – Adjustment button used to decrease the amount of fluid, in tenths, of a quart/liter to be transferred in each applicable mode and function.
- 5) **POWER** – Indicates that 12V DC power with a negative ground, either internally via onboard battery, or externally via power cables, has been supplied to the unit through the Main Power switch.
- 6) **STOP** – Button used to stop all modes and functions at any time and reset the unit.
- 7) “ Q/L ” **QUARTS / LITERS** – Selection button and indication LED’s used to select and depict the required unit of measure for volume measurements. Can only be utilized before mode selection.
- 8) **COOLER LINE** – Mode selection button and indicator LED used to select and depict the COOLER LINE mode of operation. This is selected when intercepting transmission cooler lines to exchange, extract, and replenish fluid through the vehicle’s transmission cooler lines.
- 9) **EXCHANGE START** – Function selection button and indicator LED used only in the COOLER LINE mode in order to start the exchange of new transmission fluid for old transmission fluid through the vehicle’s transmission cooler lines.
- 10) **REVERSE POLARITY** – Light that indicates that the battery connections to the vehicle are reversed and that they need to be corrected before the unit will receive external power. A continuous alarm accompanies the light as long as the incorrect connection exists.
- 11) **READY** – Illumination of the READY light indicates that the unit has completed the selected function and will require attention or input from the operator in order to continue. The READY light is accompanied by short beeps or continuous alarms, depending upon the function completed, in order to further alert the operator.
- 12) **DIPSTICK** - Mode selection button and indicator LED used to select and show the DIPSTICK mode of operation. This is selected when using the vehicle’s fluid fill tube to exchange, extract, and replenish transmission fluid with the unit.
- 13) **EMPTY NEW** – Function selection button and indicator LED used to start and shows when NEW transmission fluid is being pumped from the unit. Selection of this function empties the new fluid out through the RED hose, and stops when the tank level nears zero. See page 16 for complete instructions.
- 14) **LOW TANK LEVEL** – LED that indicates when the NEW tank fluid quantity is inadequate to perform the selected function, or that the NEW tank level is below one quart. The appropriate amount of new fluid must be added to the NEW tank when this LED is lit.
- 15) **DRAIN PAN** – Function selection button and indicator LED used to start and depict when draining the vehicle’s transmission sump via the COOLER LINE or the DIPSTICK mode. The LED light flashes to prompt operator and remains lit until the process is complete in



## Control Panel Descriptions and Functions (cont.)

DIPSTICK mode. The LED lights and remains lit in COOLER LINE mode until function is complete or until the USED fluid tank is filled to capacity.

- 16) **RESUME REFILL** – Function selection button and indicator LED used to start and depict the refilling of the vehicle’s transmission sump after a DRAIN PAN procedure has been performed in either mode. The LED light flashes to prompt operator and remains lit until the process is complete in DIPSTICK mode. The LED lights and remains lit in COOLER LINE mode until the function is complete.
- 17) **REMOVE FLUID** – Function selection button and indicator LED used to select the function and to start the removal of used fluid process after data input via the COOLER LINE or DIPSTICK mode.
- 18) **ADD FLUID** - Function selection button and indicator LED used to select the function and to start the addition of new fluid process after data input via the COOLER LINE or DIPSTICK mode.
- 19) **EMPTY USED** - Function selection button and indicator LED used to start and depict USED transmission fluid being pumped from the unit. Selection of this function empties the old fluid out through the large yellow hose with the ball valve. This process stops when the tank level indicates zero or when the ball valve is in the closed position. See page 16 for complete instructions.
- 20) **HIGH TANK LEVEL** - LED that indicates when the USED tank fluid quantity is inadequate to perform the selected function, or that the USED tank level is above 31 quarts. The USED fluid tank level must be lowered or the tank emptied when this LED is lit.

## MODES of OPERATION

### Cooler Line Exchange

- 1) Identify the correct cooler line adapters from the vehicle application chart located on the machine. Properly connect the adapters to the most convenient and accessible cooler line on the vehicle. The **ATF I** requires just one cooler line to perform the exchange, it does not matter which line is selected.
- 2) Connect the adapters to the most convenient intermediate hose. Included are one straight and one ninety-degree intermediate hose. Connect the red new fluid line from the unit to one of the transmission intermediate hoses. Connect the black used fluid line from the unit to the remaining intermediate hose of the transmission. It does not matter at this time if the new or used line is connected to the wrong transmission coolant line as it will be corrected in step #4.
- 3) Connect the **ATF I** to the vehicle’s 12v battery, making sure to observe all applicable safety precautions. Should the connection inadvertently be reversed, REVERSE POLARITY light will be lit, along with a steady audible alarm, until the correct connection is made. The on-board battery can be used if it is sufficiently charged from past operation of the unit.

## Cooler Line Exchange (cont.)

Once correct battery connection is made (or if using on-board battery), turn Main Power switch to the ON position. Alarm will sound for two seconds, all of the LED's will momentarily turn on, the POWER and READY lights will turn on and the NEW and USED readouts will display quantities of corresponding fluid in each tank. If fluid in the NEW tank is low or the fluid in the USED tank is high, take the appropriate steps at this time to add NEW, or empty USED fluid(s). See page 16 for instructions.

**Note:** The unit defaults to QUARTS measurement upon start up. LITERS may be selected by depressing the "Q/L" button. The LED indicates which unit of measure is being utilized.

- 4) Start vehicle. Fluid pressure should now increase on the pressure gauge located on the front panel of the unit, the READY light will remain on, and **a continuous alert indication will sound.**

**WARNING:** If zero pressure is displayed on the pressure gauge and the continuous alert does not sound upon vehicle start up, then **IMMEDIATELY** turn the vehicle off and switch the new and used hose connections.

Once the hoses have been switched, repeat the above procedure and verify that READY light comes on and alert indication sounds. This indicates that the proper connections have been made and the fluid is flowing in the right direction. Unit is now in bypass mode with fluid simply flowing through the unit.

Alert buzzer indication will continuously sound until COOLER LINE mode is selected. To silence alert, select COOLER LINE mode or turn off the vehicle.

- 5) Select COOLER LINE mode. LED will turn on and remain lit throughout the entire service, the continuous alert will stop, READY light will remain lit, NEW tank readout defaults to 12 quarts, and the USED tank readout displays the amount of used fluid in the used tank.
- 6) Set the amount of fluid to be exchanged in one-tenth quart or liter increments, increasing or decreasing the volume by depressing "+" or "-" buttons until the desired quantity to be exchanged is reached. This amount will be displayed in the NEW fluid readout on the top left of the control panel.
- 7) Press EXCHANGE START. READY light will go out and the value on the NEW fluid readout will begin to decrease as new fluid is being pumped into the vehicle. Amount shown in the NEW fluid readout also represents the remaining amount of new fluid left to exchange.

USED fluid readout will begin to increase from zero as the USED fluid from the vehicle enters the USED fluid tank of the unit. The USED fluid readout depicts amount of USED fluid removed from the vehicle during and after the process.

**NOTE:** If NEW fluid tank does not have enough fluid to perform the exchange or USED fluid tank does not have enough capacity to perform the exchange, appropriate LED will flash and beep indicating LOW TANK LEVEL in NEW tank and/or HIGH TANK LEVEL in USED tank. Take the appropriate actions to correct fluid levels and repeat Steps 3-7. See page 17 for instructions.

**NOTE:** Should pressure drop below **4 psi** during exchange for any reason, the **ATTN** defaults to a bypass circuit and a continuous alarm will sound to alert that the exchange has stopped. Upon correction of the problem, process will require restating from step #4.

## Cooler Line Exchange (cont.)

- 8) Upon completion of the fluid exchange, alarm will sound, READY light will turn on, and unit will automatically go into bypass mode.
- 9) Check vehicle's transmission fluid level. Add or extract fluid to obtain the proper fluid level by selecting appropriate ADD FLUID or REMOVE FLUID button on the control panel. READY light will turn on when either function is selected while awaiting an amount to be entered on the corresponding display using the "+" or "-" buttons of the control panel.

READY light will turn off and the proper amount of fluid will be added or removed upon depressing the ADD FLUID or REMOVE FLUID button **the second time**. The unit resetting signals the completion of fluid additions and removals and continuous alert will sound until vehicle is turned off or COOLER LINE mode is selected.

Repeat procedure if necessary by selecting the COOLER LINE function again and performing this step as required in order to obtain proper fluid level.

**NOTE:** If NEW fluid tank does not have enough fluid to perform the ADD FLUID function or USED fluid tank does not have enough capacity to perform the REMOVE FLUID function, the appropriate LED will flash and beep indicating LOW TANK LEVEL in NEW tank and/or HIGH TANK LEVEL in USED tank. Take appropriate actions to correct fluid levels and then repeat step 9. See page 16 for instructions.

- 10) Shut off vehicle. Disconnect hoses and adapters, reattach transmission cooler lines to original connections, start vehicle to check for leaks, and recheck the transmission fluid level. COOLER LINE exchange is now complete.

## *Cooler Line Exchange Process, Easy Reference*

### Preparation:

1. Identify correct adapters, one male ,one female
2. Located most convenient transmission cooler line, disconnect cooler line, connect adapters
3. Connect adapters to intermediate hoses and connect **ATF I** RED hose to one intermediate hose and BLACK hose to other.

### Operation:

1. Connect **ATF I** to vehicle battery.
2. Turn on Main Power
3. Start Vehicle, fluid pressure should register on meter  
IF no pressure is observed on meter, turn vehicle off and switch RED and BLACK hoses – Start Vehicle
4. Select Cooler Line Mode
5. Enter total amount of fluid to be exchanged
6. Press Exchange Start
7. At completion of exchange, Ready Light will turn on and Alarm sounds.
8. Check fluid level, add or extract fluid if necessary

9. Turn off vehicle – Disconnect RED and Black hoses – Disconnect adapters – Reconnect cooler line.
10. Start vehicle to check for leaks and recheck fluid level

## **Dipstick Exchange**

### **\*ATTENTION\***

**Processes performed using dipstick exchange method requires the dipstick flow control valve to be in the proper flow direction prior to each step performed. Use extra care and precaution to verify the correct positioning of the dipstick flow control valve before starting each process. Failure to do so will impede the exchange process!!!!**

- 1) Connect red and black hoses from unit to the male connectors on the three-way dipstick flow control valve. Connect the dipstick extraction/addition wand attachment to the female coupler on the dipstick flow control valve. Insert the dipstick wand into the transmission fluid fill tube as far as it will reach without excessively forcing wand. **Turn the dipstick flow control valve to the black USED fluid connection.**
- 2) Connect the **ATF I** to the vehicle's 12v battery, making sure to observe all applicable safety precautions. Should the connection inadvertently be reversed, REVERSE POLARITY light will be lit, along with a steady audible alarm, until the correct connection is made. The on-board battery can be used if it is sufficiently charged from past operation of the unit.

Once correct battery connection is made (or if using on-board battery), turn Main Power switch to the ON position. Alarm will sound for two seconds, all of the LED's will momentarily turn on, the POWER and READY lights will turn on and the NEW and USED readouts will display quantities of corresponding fluid in each tank. If fluid in the NEW tank is low or the fluid in the USED tank is high, take the appropriate steps at this time to add NEW, or empty USED fluid(s). See page 16 for instructions.

- 3) Select DIPSTICK mode. LED light will remain on during the entire process until it is complete. Displays default to 12.
- 4) Enter the total amount of fluid to be exchanged using the increase (+), or decrease (-) buttons until desired amount of fluid to be exchanged is displayed in NEW fluid display.
- 5) Select DRAIN PAN function. USED fluid will now be removed from vehicle. NEW fluid display will indicate the remaining amount to be exchanged or NEW fluid to be added, and USED fluid display will increase as USED fluid is removed from the vehicle.

Unit will sense when all of USED fluid has been removed from vehicle when USED fluid levels cease to change for a period of twenty seconds. This step is complete when DRAIN PAN LED turns off, READY light turns on, and Alarm sounds.

**NOTE:** If NEW fluid tank does not have enough fluid to perform the ADD FLUID function or USED fluid tank does not have enough capacity to perform the REMOVE FLUID function, the appropriate LED will flash and beep indicating LOW TANK LEVEL in NEW tank and/or HIGH TANK LEVEL in USED tank. Take the appropriate action to correct and then repeat Step 7. See page 17 for instructions.

## Dipstick Exchange (cont.)

- 6) The RESUME REFILL LED will begin to flash, **prompting the dipstick flow control valve direction to be turned to RED, NEW fluid connection.** At this time step “a” or “b” listed below, can be performed:
- a) The exchange process is momentarily stopped here and the transmission pan is removed to change transmission filter/screen or perform other transmission services. Upon completion of filter change or other services, continue with step “b” below.  
**OR,**
  - b) Exchange can continue by depressing RESUME REFILL button and NEW fluid, equal to the amount extracted, is pumped into vehicle. NEW fluid display will decrease from the amount extracted down to 0 and the USED fluid display is blanked. This step is complete when RESUME REFILL LED turns off, READY light turns on, and Alarm sounds.
- NOTE:** If NEW fluid tank does not have enough fluid to perform the ADD FLUID function or USED fluid tank does not have enough capacity to perform the REMOVE FLUID function, the appropriate LED will flash and beep indicating LOW TANK LEVEL in NEW tank and/or HIGH TANK LEVEL in USED tank. Take the appropriate action to correct and then repeat Step 7. See page 17 for instructions.
- 7) Start and Run vehicle at idle for one minute, Shifting through gears at least for ten seconds of this minute.

### **FOR A HIGHER EXCHANGE RATIO:**

Limited data accumulated at this time has indicated that using the following formula results in the highest percentage of NEW fluid compared to USED fluid using this exchange method based on average flow rates of vehicles tested.

$$\text{AMOUNT EXTRACTED FROM VEHICLE} / 3.25 = \text{VEHICLE RUN TIME}$$

Example: If the amount of USED fluid removed from the drain pan function is 5 quarts, divide the 5 quarts by 3.25 which results in running the vehicle 1.5 minutes at idle and shifting through the gears at least ten seconds.

Formula will provide the best ratio of new versus used fluid using this exchange method based on data gathered to date.

- 8) Should the amount of USED fluid drained or NEW fluid refilled be less than the total amount to be exchanged entered in Step 4, the DRAIN PAN LED will flash, **prompting the dipstick flow control valve to be turned to the black USED fluid connection** and NEW fluid display will indicate the remaining amount of total fluid to exchange. Select DRAIN PAN function and USED fluid will now be removed from vehicle.

NEW fluid display will indicate the remaining amount of fluid to be exchanged and USED fluid display will increase as USED fluid is removed from the vehicle.

## **Dipstick Exchange (cont.)**

The **ATF I** will sense when all of the USED fluid has been removed from the vehicle when the fluid levels cease to change for a period of twenty seconds, or if the remaining amount to be exchanged is obtained, whichever occurs first. This step is complete when the DRAIN PAN LED turns off, READY light turns on, and Alarm sounds.

- 9) RESUME REFILL LED will begin to flash, **prompting the dipstick flow control valve direction to be turned to the red NEW fluid connection.** Exchange continues by depressing the RESUME REFILL button and NEW fluid, equal to the amount extracted in step #8, is pumped into the vehicle. NEW fluid display will decrease from the amount extracted down to 0 and USED fluid display is blanked. This step is complete when RESUME REFILL LED turns off, READY light turns on, and Alarm sounds.
- 10) Start and run vehicle at idle for one minute Shifting through the gears at least for ten seconds of this minute.

**NOTE:** REFER TO HIGHER EXCHANGE RATE FORMULA (Pg. 12) for optimum vehicle run time

- 11) Steps 7 and 8 will keep repeating and need to be performed until the total amount to be exchanged, entered in step 4, is obtained. Once the total amount to be exchanged is completed from the last REFILL RESUME sequence, the unit will reset to the original power up mode.

**Please note: The correct positioning (direction) of the dipstick flow control valve must be performed and checked each and every time an addition and/or extraction is performed!!**

- 12) Check vehicle's transmission fluid level. Add or extract fluid to achieve proper fluid level by selecting DIPSTICK mode then depressing the appropriate ADD FLUID or REMOVE FLUID buttons on the control panel. Additions displayed in NEW fluid display while removals are displayed in USED fluid display. This amount can be increased or decreased using the “+” or “-” buttons on the control panel. The desired amount will be extracted or added upon depressing ADD FLUID or REMOVE FLUID button the second time. Repeat this procedure until the proper level is maintained.

**NOTE:** If NEW fluid tank does not have enough fluid to perform the ADD FLUID function or USED fluid tank does not have enough capacity to perform the REMOVE FLUID function, the appropriate LED will flash and beep indicating LOW TANK LEVEL in NEW tank and/or HIGH TANK LEVEL in USED tank. Take the appropriate action to correct and then repeat Step 7. See page 17 for instructions.

**Please Note: The correct positioning (direction) of the dipstick flow control valve must be performed and checked each and every time an addition and/or extraction is performed!!**

## **Dipstick Exchange Process, Easy Reference**

### **Preparation:**

1. Connect red and black hoses of unit to male connectors of three-way dipstick flow control valve.
2. Connect dipstick extraction wand to female coupler of three-way control valve.

### **Operation:**

1. Connect **ATF I** to vehicle battery.
2. Turn on Main Power
3. Select Dipstick Mode
4. Enter total amount of fluid to be exchange
5. Turn three-way control valve to **BLACK**
6. Select Drain Pan mode, Extract fluid
7. When resume fill light flashes, turn control valve to **RED**
8. Press resume fill mode, process will replace fluid extracted
9. When Ready light turns on, start vehicle and run for one minute – Shift through gears for at least ten seconds of run time (NOTE: Run Time Formula, *Page 12*)
10. Repeat steps **6,7,8** and **9** until total fluid amount entered at start has been exchanged

## **Drain Pan, Filter Changes, or Other Services**

The DRAIN PAN feature allows the operator to perform filter changes or other service work on the transmission. This feature can be performed in COOLER LINE mode or DIPSTICK mode. The COOLER LINE mode is outlined below while the DIPSTICK mode is described above on pages 11-12 as part of the DIPSTICK exchange process.

### **Cooler Line Drain Pan:**

- 1) Identify correct cooler line adapters from vehicle application chart on machine. Properly connect adapters to most convenient and accessible transmission cooler line on vehicle. Unit only requires one line to perform exchange, it does not matter which line is used.
- 2) Connect adapters to most convenient intermediate hose. Included are one straight and one ninety-degree intermediate hose. Connect **RED** new fluid line from unit to one of the adapters and **BLACK** used fluid line from unit to remaining adapter. It does not matter at this time if new or used line is connected to the wrong transmission coolant line because it will be corrected in step #4.
- 3) Connect unit to vehicle's 12v battery, making sure to observe all applicable safety precautions.

Should the connection inadvertently be reversed, **REVERSE POLARITY** light will be lit indicated along with a steady audible alarm, until correct connection is made. The on-board battery can be used if it is sufficiently charged from past operation of the unit.

After the correct connection has been made (or not if using on-board battery), turn Main Power switch to **ON** position. Alarm will sound for two seconds, all of the **LED's** will momentarily turn on, **POWER** and **READY** lights will turn on and **NEW** and **USED** readouts will display quantities of corresponding fluid in each tank. If fluid in **NEW** tank is low or fluid in **USED**

## **Drain Pan, Filter Changes, or other Service (cont.)**

USED tank is high, take appropriate steps at this time to add NEW or empty USED fluid(s). See page 16 for instructions.

- 4) Start vehicle. Fluid pressure should now increase on pressure gauge located on front panel of unit, READY light will remain on, and a continuous alert will sound. If zero pressure is displayed on pressure gauge and continuous alert does not sound upon vehicle start up, then **IMMEDIATELY** turn vehicle off and switch the new and used hose connections.

Once the hoses have been switched, repeat the above procedure and verify that the READY light comes on and the correct connection alert sounds. This indicates that the proper connections have been made and fluid is flowing in the right direction. The unit is now in bypass mode with the fluid simply flowing through the unit.

- 5) Select COOLER LINE mode. The LED will turn on and remain lit throughout the entire service, the continuous alert will stop, READY light will remain lit, NEW tank readout defaults to 0 quarts, and USED tank readout displays the amount of used fluid in the used tank.
- 6) Select DRAIN PAN function. READY light will turn off and USED fluid will now be removed from vehicle. The USED display will indicate amount of USED fluid removed from vehicle. The unit will sense when all of the USED fluid has been removed from the vehicle. At this time alarm will sound, DRAIN PAN LED will turn off, and READY light will turn on.

**\*\*IMMEDIATELY SHUT OFF VEHICLE\*\***

**NOTE:** Should the USED tank become filled to capacity during this procedure, the HIGH TANK LEVEL light will turn on, alarm will sound, fluid extraction procedure will stop, and the unit will reset and return to bypass mode. USED fluid tank must then be emptied before service can be resumed. See page 17 for instructions.

**Vehicle MUST to be shut off IMMEDIATELY when this occurs!**

**NOTE: Resuming the DRAIN PAN service after emptying the USED tank is not the total amount drained from the vehicle. Care must be taken to check transmission levels when DRAIN PAN function is interrupted for any reason.**

- 7) The DRAIN PAN procedure is now complete. The pan can be dropped to change the transmission filter and/or screen as well as other service work at this time.
- 8) To replace the USED fluid that was removed in previous steps, simply select the RESUME REFILL function on control panel. READY light will turn off and the NEW fluid readout will indicate amount of fluid removed. As new fluid is pumped into the vehicle's cooler line, the number will start to decrease. IMMEDIATELY after starting the RESUME REFILL procedure, start vehicle to allow the vehicle's transmission pump to fill the torque converter and prevent overfilling of the transmission sump. Once the NEW fluid readout decrements down to 0, or equals the amount previously extracted, the bypass mode is activated, the alarm sounds, and the unit resets itself for the next desired function.

**Note:** LOW TANK LEVEL light will flash if the amount of fluid in NEW fluid tank is inadequate to perform RESUME REFILL procedure. New fluid will need to be added and the RESUME REFILL function re-selected to continue.



## **Drain Pan, Filter Changes, or other Service (cont.)**

- 9) vehicle is now ready to exchange the remaining fluid in transmission system by following steps 4 through 10 in the COOLER LINE process above.

### **Empty Used Tank**

The EMPTY USED function is used to empty used transmission fluid into a bulk waste fluid storage tank for proper disposal. Depressing the EMPTY USED button on the control panel starts the process and the flow can be controlled with the manual ball valve at the end of the yellow hose. The internal pump is equipped with an internal pressure switch that shuts off the pump should blockage or “dead-heading” occur.

The USED TANK level sensor will end the process automatically when tank level nears zero in tank. Also, depressing the STOP button on control panel will stop the process.

### **Empty New Tank**

The EMPTY NEW function is used to empty new transmission fluid contained in the NEW TANK into an appropriate storage container. This allows the use of other types of transmission fluid in the unit while minimizing cross contamination of fluid types.

Connect any adapter to the intermediate adapter hose assembly. Connect the intermediate adapter hose assembly to the RED new fluid line. Insert and secure the open adapter end into the storage container. Depress the EMPTY NEW button on the control panel and the new fluid will begin to pump out of the unit into storage container. The fluid will continue to flow until the level sensor in the NEW TANK nears zero quarts in the tank. Also, depressing the STOP button on the control panel will stop this procedure.

Upon completion of this process, disassemble the adapter and the intermediate hose assembly and return them to their storage positions on the unit. Now add the desired new fluid type to the NEW TANK via the fill cap located on the front panel of the unit. The unit is now ready to perform services again.

### **Empty Hose and Dipstick Wand Drillage**

The NEW and USED coupler and the DIPSTICK extraction wand drippings are collected in a small reservoir inside the unit. To periodically empty the waste fluid (check for high fluid level on dipstick wand), connect black USED fluid hose to dipstick control valve. Connect dipstick wand to dipstick control valve. Turn dipstick control valve to black USED hose. Insert DIPSTICK extraction wand all the way into the rear storage hole, select DIPSTICK mode, press DRAIN PAN and the unit will empty the reservoir. After twenty seconds of no fluid level change the unit will stop automatically. Press STOP button to reset unit.

# Transmission Cooler Line Adapter & Hose Application Guide

## GM VEHICLES - SILVER

Vehicle Description	Year	Part # (Male/Female)
GM 5/16" diameter	All	J/J1
GM 3/8" diameter	All	K/K1
GM 7/16" inverted flare	Newer SUV's & trucks	#21/ #22
GM 1/2" inverted flare	Newer SUV's & trucks	#23/#24
GM 3/8" quick connect	1996 or newer	#2 & 3/8" female hose
GM 1/2" quick connect	Newer SUV's & trucks	#25 & 1/2" female hose
GM 5/8" quick connect for pick ups (Allison 1000 series)		#27/#28
GM 3/4" quick connect for pick ups (Allison 2000 series)		#29/#30

## FORD VEHICLES - GOLD

Ford F150	Newer	#9 & 3/8" female hose
Ford 5/16" diameter	1980 & newer	B/B1
Ford 3/8" diameter	1985 & newer	A/A1
Ford quick connect fitting	1985 & newer	#1 & 5/16" female hose
Ford Contour & Mystique	1995 & newer	D/D1
Ford Escort	1995 & newer	G/G1
Ford Diesel Truck		E/E1
Ford Aerostar, Jaguar, Mercedes & Cadillac	1985 & newer	C/C1

## CHRYSLER VEHICLES - GRAY

Jeep Cherokee	1980 to 1986	H/H1
Jeep Cherokee, Grand Cherokee	1987 & newer	#3 & 3/8" female hose with quick connect fitting
Jeep Cherokee, Grand Cherokee	1993 & 1994	I/I1
Jeep Cherokee, Grand Cherokee	1998	V/V1
Jeep Grand Cherokee	1995 & newer	#3 & 3/8" female hose
Jeep Liberty		#61/#62
Dodge Durango		F/F1
Dodge Ram 1500	1999 & newer	CA/CA1
Dodge Truck V6 & V8	1995 & newer	#3 & 3/8" female hose
Dodge Truck V10 & Diesel	1995 & newer	#4 & 1/2" female hose

## BMW/MERCEDES/VOLVO VEHICLES - BLACK

BMW & Mercedes	1985 & newer	M/M1 or Ford (Gold): G/G1
BMW flare adapter	Up to 1985	N/N1
BMW O-Ring adapter	1987 & newer	L/L1
BMW w/quick connect adapter		#37 & 3/8" female hose
Landrover	Newer	#37/#39 & #41/#42
Saab 14 mm fittings		#33/
Volvo, Jaguar, Mercedes	1985 & newer	Ford (Gold): C/C1
Volvo all models	1993 & newer	AV/AV1 & #99, also #31
Volkswagen all models		VO & #35 (total of 4 pcs)

## Most imports and all other types of vehicle optional adapters are:

**European Kit:** #400100EU

#31, #33/34, #35, #37, #38/39, #41/42, #43/44, #99, #VO

**Chrysler Kit:** #400100CH - #CA/CA1, #F/F1, #V/V1, #61/62

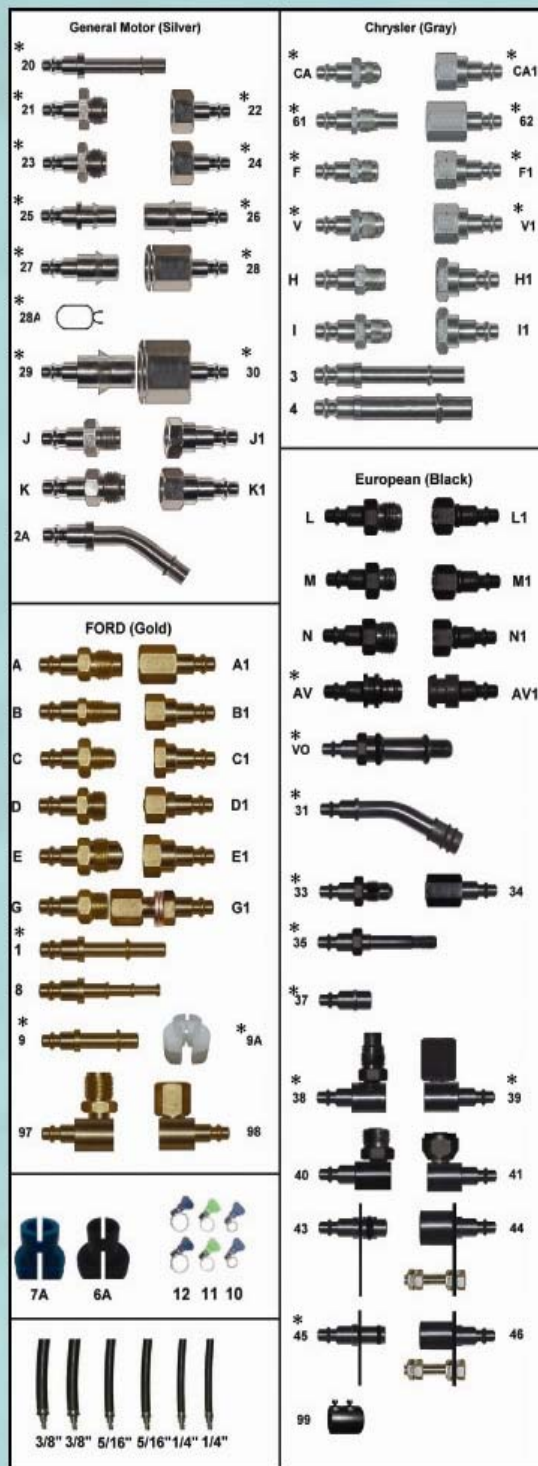
**Ford Kit:** #400100FD - #9, #9A, #97/98

\* = Optional adapter/not part of Standard Kit

**GM Kit:** #400100GM - #20, #21/22, #23/24, #25, #26, #27/28, #29/30

**Allison Kit #1:** #400100AL1 - #26, #27, #28

**Allison Kit #2:** #400100AL2 - #29, #30



## **WARRANTY STATEMENT**

All Symtech Corporation Transmission Service products are warranted to be free from defects in material and workmanship under normal use and service for a period of one year after the sale of product to service facility. Items including filters, service hoses, adapters and fittings are warranted for a period of ninety (90) days. Exception to this policy will be individually evaluated and must be approved by Symtech Corporate. The sole obligation under this warranty shall be to repair, or replace any defective product, or component thereof which upon examination are deemed to the manufacturers satisfaction to be defective.

Warranty shall not apply to any product which has been subject to misuse, negligence, or accident. Manufacturer shall not be responsible for any special or consequential damages and the warranty as set forth is in lieu of all other warranties, either expressed or implied. However, the manufacturer makes no warranty of merchantability in respect to any products for any purpose other than that stated in literature and any applicable manufacturers shop or service manuals referred to therein, including subsequent service bulletins.

**Proof of purchase MUST accompany all warranty claims.**

## **SERVICE STATEMENT / COMMITMENT**

Symtech Corporation prides itself on personal, in-depth, service communication, if you encounter difficulties in the operation, understanding of procedures or have general service questions we urge you to contact us at **1-888-884-8182** in order that we can be of assistance. This is not an empty statement as our reputation is directly dependent upon your overall satisfaction.

Symtech Corporation designs, builds and markets within North America. It is our commitment to you that your satisfaction and favorable equipment experience is foremost to us, we will endeavor to meet the high standard that you expect and deserve.

## **TECHNICAL SUPPORT**

**1-888-884-8182**  
**Central Standard Time.**