Manual Transmissions and Transfer Cases
Quality Remanufactured Products by WELLER for the Following Applications
Light to Heavy Duty
Eaton/Fuller • Borg Warner • New Process • Clark • IHC • TTC Spicer • Isuzu
• GMC • Mack • Nooter • ZF • Meritor
A complete line of Auxiliaries and Transfer Cases

Automated Manual Transmissions
Quality Remanufactured Products by WELLER for the Following Applications
ZF AS-Tronic® • Meritor Freedomline® • Volvo I-Shift® • Mack M Drive®
• Eaton/Fuller • Detroit DT 12

Automatic Transmissions
Quality Remanufactured Products by WELLER for the Following Applications
Allison Transmissions® • Clark • Funk • CAT • ZF

Differentials
Quality Remanufactured Products by WELLER for the Following Applications
Complete Stock for quick exchange.
Spicer • Clark • FWD • GMC • IHC • Industrial/Off Road • Mack/PAL • Dana/Eaton
• Terex • Freightliner/Alliance • Meritor/Rockwell • Volvo

Steering Gear Boxes and Pumps
Quality Remanufactured Products by WELLER for the Following Applications
All units are tested on our state-of-the-art XLT3 Road Simulator.
TRW-Ross • Saginaw • Sheppard • Vickers Pumps • ZF • Eaton • Luk

Electronics
Quality Remanufactured Products by WELLER for the Following Applications
All units are tested for performance and quality.
Cummins • Eaton/Fuller • ZF • Allison® • Volvo
Weller’s Unit Exchange program eliminates down time by getting you the parts you need when you need them. With over 17,000 transmissions and differentials ready to ship, we can help you eliminate your or your customer’s downtime. Consider becoming a key partner in the industry’s leading drivetrain program today. With no commitments and no minimums, we are the industry partner for you!

**Our aggressive reman program includes:**
- All Makes Coverage – One Call
- Same Day Service
- Obsolete and Discontinued Specialists
- One-year Warranty
- Two Year Warranty on Eaton/Fuller Transmissions
- 17,000 Unit Stock – It’s Available Today!
- Excellent Core Policy (call for details)
- Technical Assistance

**WELLER REMAN HAS THE ADVANTAGE!**
WELLER APP

Check Out Our New App!

We are excited to announce our new app! Designed with our customers in mind, we wanted to bring a user-friendly way for you to access the information you need when you need it most.

Features

Schedule a Core Return: Easily schedule core returns from your phone!

View Warranty Status: Have a warranty you want to know the status of? View all of your warranties with the Warranty Tracker.

Quickly Locate a Store: We are always adding new locations to better serve you.

Weller Literature: Find our Owner’s Manuals and other sales literature like our Core Return Program and sales catalogs

Training Videos: Visit our growing collection of videos designed to educate and prevent common issues across a wide range of our products.

How to Download

The new Weller Truck Parts app can be downloaded for free from the Apple App Store and Google Play.

Supported devices include iPhone (iOS 11.0 or later) and Android smartphones (5.0 Lollipop and up).
All transmissions are dyno tested with a load to simulate real truck conditions. Every transmission is evaluated to ensure proper torque, no leakage, accurate shifting, oil flow and performance on our state-of-the-art dynomometers.
Quality Parts Offered Individually by Weller

New TECU

Reman Control Housing

New Clutch Actuator

New Clutch Actuator Solenoid
I. This transmission contains NO LUBRICANTS. Use Volvo approved transmission fluid SAE 75W-80 (See Bulletin SB175-61 for approved lubricants).

II. TECU Top Cover Removal & Installation Job Aid (See pgs. 17-14)

III. Check clutch, and related components
- Inspect all clutch related parts for wear. (Forks, pins hydraulics, etc...) .................................................. ☐
- Did the flywheel get resurfaced? ............................................................................................................... ☐
- Inspect the dowel pins for wear.................................................................................................................. ☐
- Pre lubricate the input shaft with dry graphite or light amount of white lithium grease .................. ☐
- Ensure no grease or oil is on any friction surfaces! .................................................................................. ☐

IV. Check driveline for worn or failed components
- U-Joints ...................................................................................................................................................... ☐
- Carrier Bearing........................................................................................................................................... ☐
- Yoke seal surface, and splines .................................................................................................................. ☐
- Ride height.................................................................................................................................................. ☐
- Driveline phasing ....................................................................................................................................... ☐
- Drive shaft balance ..................................................................................................................................... ☐
- Drive-line Angles (See job aid on pgs. 15-18) .......................................................................................... ☐

V. PTO (If equipped)
- See Volvo PTO installation bulletin PV776-89169795................................................................................... ☐

VI. Transmission heat exchanger (If equipped)
- Clean, and flush cooler system.................................................................................................................. ☐
- Weller recommends pressure testing cooler for leaks.................................................................................. ☐

VII. Air system
- Check air dryer ............................................................................................................................................... ☐
- Check truck pressure & inspect for leaks ...................................................................................................... ☐

VIII. After Installation
- Perform clutch calibration and gear re-learn............................................................................................... ☐

Check out our install video here!
Please note: Call Weller Reman Center 1-800-872-6697 at any time during installation you have any concerns.

**CAUTION!** Do not lift the transmission from the control housing (see below for identification). Lifting the transmission from the control housing will cause the rails to slip out of position causing additional down time!

Lift the Transmission using only lift points on Transmission Main Box using the approved Volvo Part# - 9990031 & 9996905 lifting device.

Transmission consists of three (3) main components

- TECU Top Cover
- Control Housing
- Transmission Main Box
Step #1: Disconnect the harness going to the clutch control valve assembly and remove the Clutch Control Valve.

Step #2: Remove 6 bolts with a 13 mm head and Remove 14 bolts with a 15 mm head.

WARNING! Damage to the ribbon cable will occur if the TECU Top Cover slides forward or if the TECU Top Cover is lifted too high while disconnecting the ribbon. Assistance for this step may be required.
Step #3: Lift the back of the TECU Top Cover from the Control Housing.

Step #4: Disconnect the ribbon cable from the TECU Top Cover before removing the TECU from the control housing.
Step #1: Remove protective cover from your Weller Remanufactured replacement transmission

Warning! Ensure no dirt, debris or foreign items enter the control housing!
Step #2: Install one (1) O-ring, one (1) gasket and two (2) profile seals on the control housing.

Ensure all old gasket material has been removed from your TECU Top Cover.

Step #3: Visually inspect your TECU Top Cover, for any damage, cracks, dirt or debris before installation!

Contact Weller Truck Parts 1-800-872-6697 if your TECU Top Cover is damaged.
Step #4: Carefully lower your inspected TECU Top Cover on to the control housing while preventing the TECU Top Cover from sliding forward.

**WARNING!** Damage to ribbon cable will occur if TECU Top Cover slides forward while connecting ribbon, assistance for this step may be required.

Gently reconnect ribbon cable to your TECU Top Cover. Ensure O-ring, gasket and seals remain aligned.

Step #5: Tighten bolts to specs, 6 bolts with 13mm head 18±3lbs/ft and 14 bolts with a 15mm head 81 ± 7lbs/ft.
Step #6: Connect harness going to clutch control valve assembly and install the Clutch Control Valve.

Step #7: Remove the service plug located on the clutch control valve assembly. Compress the clutch actuator. Immediately reinstall the service plug into the clutch control valve and tighten to specs (5ft/lbs.) while the clutch actuator is compressed. The clutch actuator should remain compressed after the plug is installed. If the clutch actuator extends back out, the actuator or control valve may be faulty and require replacement. **Assistance for this step may be required.**

*This step will make it easier to get the bell housing up to the mating surface of the engine flywheel housing during installation.*
Inspect your clutch for wear. *Replacement clutch and actuators are available at all Weller Truck Parts locations.*

*Weller Truck Parts recommends replacing the pilot bearing on all I-Shift Transmissions*

**Step #8:** After installation, there are two reset functions that need to be performed. Using Volvo Premium Tech Tool or Jaltest software, perform a clutch calibration and gear relearn. This step resets adaptives in your TECU Top Cover. Failure to do these steps will lead to a high probability of poor shift quality and excessive wear to the gear box.

If you have any issues after installation such as shifting, etc. Please call our tech line 1-800-872-6697
### EXAMPLE: 2007 Volvo Model VNL

Volvo Air Suspension Service Manual PC776-TSP27725  
Volvo Service Bulletin Ride Height and Pinion Angle Specification PV766-89216187

**NEW**  
**WORN**

Excessively worn suspension wear plates are a common cause of poor working angles

#### Table: U-Joint Angles

<table>
<thead>
<tr>
<th>Description</th>
<th>Angle</th>
<th>Initial</th>
<th>Final</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ride Height</td>
<td>NA</td>
<td>7.75&quot;</td>
<td>7.75&quot;</td>
</tr>
<tr>
<td>Bottom of frame to center of front axle tube</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Driveshaft Angle</td>
<td>1</td>
<td>2.4°</td>
<td>1.5°</td>
</tr>
<tr>
<td>Front Axle Angle</td>
<td>2</td>
<td>0.7°</td>
<td>2.6°</td>
</tr>
<tr>
<td>Interaxle Driveshaft Angle</td>
<td>3</td>
<td>10.3°</td>
<td>7.8°</td>
</tr>
<tr>
<td>Rear Axle Angle</td>
<td>4</td>
<td>8.6°</td>
<td>12°</td>
</tr>
<tr>
<td>First Working U Joint Angle</td>
<td>5</td>
<td>1.7°</td>
<td>1.1°</td>
</tr>
<tr>
<td>Difference between 1 and 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second Working U Joint Angle</td>
<td>6</td>
<td>9.6°</td>
<td>5.2°</td>
</tr>
<tr>
<td>Difference between 2 and 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Third Working U Joint Angle</td>
<td>7</td>
<td>1.7°</td>
<td>4.2°</td>
</tr>
<tr>
<td>Difference Between 3 and 4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Out of spec u-joint operating angles reduces component life and is a leading cause of premature failure to transmissions, differentials, transfer cases, and PTO’S!

Note: Many resources are available regarding u-joint operating angles, yoke phasing, vehicle ride height, and driveline inspection; this bulletin will not cover them all.
You will need:

- Inclinometer for measuring angles and phasing
- Tape measure to measure length of tube and ride height
- Flat surface to park the vehicle and wheel chocks for stabilization
- Driveline worksheet for recordings

**Safety FIRST!** Review owners manuals, service manuals, and other OE provided instructions. Confirm driveline series and length is correct for torque, RPM, and vehicle specifications. Wear appropriate PPE.
General U-Joint Angle Rules:

i. Should have a minimum angle of 1°

ii. Angles on each end of a shaft should ALWAYS be within 1° of each other

iii. U-Joint angles should NOT be larger than 3°

iv. Yoke phasing is driveline specific

Inspection:

2. Print corresponding worksheet.

3. Park the vehicle on a flat surface, chock the wheels, and release the parking brake.

4. Inspect driveline for u-joint endplay and worn components.

   Note: Spicer recommends U-Joint endplay should not exceed .006

5. Measure and record angles, shaft length, and u-joint phase.

   *Make Corrections as needed*

Measure Shaft length from u-joint cap centers

Front of Vehicle

Positive and negative angles

Yoke Phased
Yoke caps ARE aligned

90° Out of Phase
Yoke caps NOT aligned
The Weller Truck Parts core return program is designed to facilitate an efficient and cost effective way of returning your cores. Following the instructions listed below will ensure your core is processed quickly and correctly.

1. **Attach the Core Return Tag provided with the remanufactured unit to core.**
   - For warranty units, obtain a Warranty Repair Authorization (RA#) from your Weller Truck Representative. If you are not sure who your representative is call the Reman Center at 1-800-872-6697 or email warranty@wellertruck.com.

2. **Prepare the unit for shipping.**
   - Drain oil from unit.
   - Band, wrap, or strap unit(s) to a pallet.
   - Attach a copy of the warranty invoice, core tag or RA# to the unit for identification.

3. **Notify Weller Shipping Department when unit is ready for pick up.**
   - Email corereturn@wellertruck.com or call 1-800-872-6697 Ext. 3794 or 3759
   - Provide the following:
     - Core return tag # or Weller Truck Parts invoice # or the RA# if the unit is a possible warranty
     - Your contact information
     - Hours of operation
   - Weller will prepare the bill of lading and schedule your unit to be picked up by a Weller approved carrier.

**Thank you for choosing Weller Truck Parts.**

*Failure to follow these procedures could result in core credit delays and freight charge backs.*

www.wellertruck.com
## WELLER WARRANTY

- **Nationwide**
- **One Year Coverage**
- **Two Year Coverage on Eaton/Fuller Transmissions**
- **Unlimited Mileage**

### Call Us!

800-872-6697

- **for-**
- **Technical Assistance**
- **Return Authorization**

### Warranty Statement

<table>
<thead>
<tr>
<th>Warranty Coverage</th>
<th>Standard Warranty Coverage</th>
</tr>
</thead>
</table>

**Authorized Repair Points** – Our Nationwide Warranty may be administered only by an authorized warranty repair facility. Call 1-800-872-6697 for authorization.

**Exclusions** – Subject to the conditions stated herein, Weller warrants to the original retail purchaser thereof that its Reman products will, when used in a motor truck for on-highway or on/off-highway applications in the United States and properly installed and assembled on vehicles approved by the O.E.M. for such purpose, be and remain under normal conditions of use and operation free from failure due to defects in materials and workmanship from the date of sale.

This warranty covers parts and labor to repair or replace, at Weller's option, the failed Weller component. Units installed as replacements under this warranty are warranted only for the remainder of the original warranty period.

This warranty shall not extend to failures or damage due to improper lubrication or operation in excess of original design limitations, failure to follow normal published preventive maintenance guidelines of the O.E.M., abuse or damage by improper installation, casualty or shipment.

This warranty shall not extend to repairs for noise (including idle rattle), excessive operating temperature, transmission rear seal leakage, nor does it cover failures caused by engine, clutch, driveline; including transmission synchronizer pin breakage, or other truck components or system.

This warranty does not cover failures caused by a worn, damaged or defective part or component mounted to the unit by the dealer or retail purchaser, including without limitation, the transmission end yoke.

All warranty claims shall be made to Weller and shall be supported by satisfactory evidence in respect of the conditions stated herein. As a condition precedent to the allowance of such claims, the component or assembly involved shall, if requested by Weller, be returned prepaid to Weller for examination.

EXCEPT FOR THE EXPRESS WARRANTY STATED HEREIN, WELLER DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE FOREGOING IS THE LIMIT OF THE LIABILITY OF WELLER, AND IS THE EXCLUSIVE AND SOLE REMEDY OF THE PARTY TO WHOM THIS WARRANTY IS MADE. LIABILITY ON THE PART OF WELLER FOR DAMAGES, EXPRESSLY INCLUDING CONSEQUENTIAL DAMAGES IS DISCLAIMED.

This warranty may not be changed or modified in any way except in writing by Weller.
CALL WELLER FIRST!

Possible Warranty
- Have the Weller Tag or Invoice Number ready when calling.
- Provide the Make/Model and vocation of the truck.
- Provide a detailed description of the problem
- Weller will issue a Repair Authorization #

Customer Repair
(In Place Fix)
Customer to determine failure/repair cost and get Weller approval before work is started.

Weller Repair
(R&R)
Weller to determine failure/repair cost and get customer approval before work is started.

Unit Replaced
(Exchange)
- Weller ships replacement unit
- Replacement unit is installed
- Truck is up and running
- Invoice your customer until warranty process is complete

Warranty
- Complete the work
- Send the invoice to Weller. The Repair Authorization # will become the purchase order #.
- Weller will pay agreed amount

Non-Warranty
- If non-warrantable failure, repair and dealers invoice your customer.
- Weller will invoice for unit repaired by Weller.

Failure Analysis Not Complete
- Dealers Invoice your Customer

Failure Analysis Complete

Warranty
- Complete the work
- Send the invoice to Weller. The Repair Authorization # will become the purchase order #.
- Weller will pay agreed amount

Non-Warranty
- If non-warrantable failure, repair and dealers invoice your customer.
- Weller will invoice for unit repaired by Weller.

Customer returns possible warranty unit to Weller for failure analysis

Weller performs failure analysis and determines failure responsibility
# Warranty Claim Form

**Date:**

**TAG #:** ______________________

---

## Claim Contact Information:

Name, Company, and Address:

Phone: ___________________________

Fax: _____________________________

E-Mail: __________________________

---

## Vehicle Owner Information:

Name, Company, and Address:

Phone: ___________________________

Fax: _____________________________

E-Mail: __________________________

---

## Truck Information:

Make:  
Model:  
Mileage:  
Vocation:  
Engine:  
VIN:  

---

## Complaint

<table>
<thead>
<tr>
<th>Description of the Problem:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

---

## Fluid Leak:

- [ ] Yes  
- [ ] No  

## Shifting:

- [ ] Yes  
- [ ] No  

## Noise:

- [ ] Yes  
- [ ] No  

## Vibration:

- [ ] Yes  
- [ ] No  

## Hard Steering:

- [ ] Yes  
- [ ] No  

## Contamination:

- [ ] Yes  
- [ ] No  

## Other:

- [ ] Yes  
- [ ] No  

---

## Additional Info

<table>
<thead>
<tr>
<th>Description of the Problem:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

---

## Change with Speed?

- [ ] Yes  
- [ ] No  

## Change with RPM?

- [ ] Yes  
- [ ] No  

## During Acceleration?

- [ ] Yes  
- [ ] No  

## During Deceleration?

- [ ] Yes  
- [ ] No  

## When Stationary?

- [ ] Yes  
- [ ] No  

## Fluid at Proper Level?

- [ ] Yes  
- [ ] No  

## Fluid Clean?

- [ ] Yes  
- [ ] No  

## Is the Unit Getting Hot?

- [ ] Yes  
- [ ] No  

## Vehicle Towed?

- [ ] Yes  
- [ ] No  

## Running PTO?

- [ ] Yes  
- [ ] No  

---

EMAIL TO: WARRANTY@WELLERTRUCK.COM  
FAX TO: 616-365-5679, WELLER TRUCK PARTS WARRANTY
WELLER WARRANTY

Warranty

It is essential that Weller is contacted before the unit is removed from the vehicle for warranty. Weller’s technician will assist in troubleshooting the problem. If the unit failed, the unit will be filmed, documented, and warranty determined.

The following are the maximum flat rates for failures due to defective products or workmanship:

<table>
<thead>
<tr>
<th>Manual Transmissions</th>
<th>Flat Rate Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid Range</td>
<td>$500</td>
</tr>
<tr>
<td>Heavy Duty</td>
<td>$700</td>
</tr>
<tr>
<td>Auxiliary/Transfer Case</td>
<td>---</td>
</tr>
</tbody>
</table>

Authorized Weller Dealers call for warranty labor hours guidelines.

Call Weller First! 1-800-872-6697