## WELLER

100% Associate Owned



**OWNER'S MANUAL:** HT700

Tag #\_

Mileage In: \_\_\_\_\_

Date Installed:

## WELLER REMAN

#### Quality Remanufactured



#### **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 • Noster • ZF • Meritor A complete line of Auxilaries 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/PAI • 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





## PROGRAM DESCRIPTION



Weller's Unit Exchange program eliminates down time by getting you the parts you need when you need them. With over 17,000 remanufactured 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 Shipping/Delivery
- 17,000 Unit Stock It's available today
- Technical Support
- ASE-certified, manufacturer-trained mechanics

**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).









## DYNO TESTING



All our transmissions are dyno tested with a load to simulate real truck conditions.

Every transmission is evaluated to ensure proper torque, no leakage, accurate shift points, correct main psi, and clutch pressure.







### ALLISON TRANSMISSIONS



Weller Reman Center is an Allison Authorized Rebuilder, bringing you 100% genuine parts. All 1k/2k units have new genuine Allison Torque

Converters. Every unit is dyno tested and our valve bodies are quality remanufactured and matched to the original units. Priced for the best value with outstanding availability and quality remanufacturing by experts in Allison



transmissions, why buy anywhere else?

## Allison On and Off Highway Transmissions

- AT Series
- MT Series
- HT Series
- 1000-2000 Product Families
- 3000-4000 Product Families
- 5000 Series
- 6000 Series
- 8000 Series
- 9000 Series

We are proud to offer the following warranties on our Allison units!

- Two years, unlimited miles on On-Highway applications
- Six month warranty on Off-Highway applications



## INSTALLATION GUIDE

VEHICLE MAKE AND MODEL		TRANSMISSION ASSEMBLY NO
ME	CHANIC'S NAME	VEHICLE ID NO
ı.	PROPER TORQUE	
		), 3/8 X 24: 41-49 Ft lb
		ighten to vehicle manufacturers specifications)
	Transmission to frame or mounting bolts – 164-192	
	· · · · · · · · · · · · · · · · · · ·	
		manufacturer's specifications)
	• Manual selector lever nut - 15-20 Ft lb (20-27 N-m)	
	Modulator control retaining bolt, early models – 15-2 (18-22 N-m)	20 Ft lb (20-27 N-m); later models – 13-16 Ft lb
	* * * * * * * * * * * * * * * * * * * *	" Pans 40-50 Ft lb, lf Bolts 14-18 Ft lb
		5-50 Ft lb (61-68 N-m)
		) Ft lb (68-81 N-m)
	• Reverse signal switch to transmission housing – 4-5	Ft lb (5-7 N-m)
	• Parking brake mounting bolts – 164-192 Ft lb (222-	260 N-m)
	• Oil lines to transmission – 50-60 Ft lb (61-68 N-m)	
	Bell cranks and cable support brackets to transmissi	on – 54-65 Ft lb (73-88 N-m) $\Box$
II.	OIL COOLER, AIR AND VACUUM LINES	
	•	
	Check for recommended line and fitting sizes (refer to the commended line).	to AS45-035 or AS45-038)
III.	LINKAGE	
	Manual Selector	
		anual, SA 1142, Section IV)
		only)
	Check shift tower for correct detent and freedom of	movement
	Mechanical Modulator Control  • Check adjustment for proper shift points (full travel 1)	-3/16 to 1-9/16 in.; 30.16 to 39.69 mm)
	Check routing	
	Parking Brake	
	Adjust for full apply and release	

## INSTALLATION GUIDE



TES 389-295 fluid being used  Oil level correct for operating conditions.  Dipstick properly marked (refer to Mechanic's Tips, MT 1366 Section V).  Filler cap tight and vented  Filler tube tight at oil pan.  Breather clean and free of restriction.  Checked for oil leaks during operation.  VI. POWER TAKE OFF  Backlash established.  Controls connected and operative.  Properly coupled to driven equipment.  Lube line from transmission properly routed and connected.  VII. INSTRUMENTS, ELECTRICAL COMPONENTS  Speedometer and odometer – operable.  Oil temperature and pressure gauges.  Wiring and electrical connections – functional.	IV.	DRIVELINE	
Check for excessive backlash			
Lubricate universals and slip joints.  V. FLUID SYSTEM  TES 389-295 fluid being used.  Oil level correct for operating conditions.  Dipstick properly marked (refer to Mechanic's Tips, MT 1366 Section V).  Filler cap tight and vented.  Filler tube tight at oil pan.  Breather clean and free of restriction.  Checked for oil leaks during operation.  VI. POWER TAKE OFF  Backlash established.  Controls connected and operative.  Properly coupled to driven equipment.  Lube line from transmission properly routed and connected.  VII. INSTRUMENTS, ELECTRICAL COMPONENTS  Speedometer and odometer – operable.  Oil temperature and pressure gauges.  Wiring and electrical connections – functional.		Determine if angles are within recommendations	
V. FLUID SYSTEM  TES 389-295 fluid being used.  Oil level correct for operating conditions.  Dipstick properly marked (refer to Mechanic's Tips, MT 1366 Section V).  Filler cap tight and vented.  Filler tube tight at oil pan.  Breather clean and free of restriction.  Checked for oil leaks during operation.  VI. POWER TAKE OFF  Backlash established.  Controls connected and operative.  Properly coupled to driven equipment.  Lube line from transmission properly routed and connected.  VII. INSTRUMENTS, ELECTRICAL COMPONENTS  Speedometer and odometer – operable.  Oil temperature and pressure gauges.  Wiring and electrical connections – functional.		Check for excessive backlash	
TES 389-295 fluid being used  Oil level correct for operating conditions.  Dipstick properly marked (refer to Mechanic's Tips, MT 1366 Section V).  Filler cap tight and vented  Filler tube tight at oil pan.  Breather clean and free of restriction.  Checked for oil leaks during operation.  VI. POWER TAKE OFF  Backlash established.  Controls connected and operative.  Properly coupled to driven equipment.  Lube line from transmission properly routed and connected.  VII. INSTRUMENTS, ELECTRICAL COMPONENTS  Speedometer and odometer – operable.  Oil temperature and pressure gauges.  Wiring and electrical connections – functional.		Lubricate universals and slip joints	
Oil level correct for operating conditions. Dipstick properly marked (refer to Mechanic's Tips, MT 1366 Section V). Filler cap tight and vented. Filler tube tight at oil pan. Breather clean and free of restriction. Checked for oil leaks during operation.  VI. POWER TAKE OFF Backlash established. Controls connected and operative. Properly coupled to driven equipment. Lube line from transmission properly routed and connected.  VII. INSTRUMENTS, ELECTRICAL COMPONENTS Speedometer and odometer – operable. Oil temperature and pressure gauges. Wiring and electrical connections – functional.	V.	FLUID SYSTEM	
Oil level correct for operating conditions. Dipstick properly marked (refer to Mechanic's Tips, MT 1366 Section V). Filler cap tight and vented. Filler tube tight at oil pan. Breather clean and free of restriction. Checked for oil leaks during operation.  VI. POWER TAKE OFF Backlash established. Controls connected and operative. Properly coupled to driven equipment. Lube line from transmission properly routed and connected.  VII. INSTRUMENTS, ELECTRICAL COMPONENTS Speedometer and odometer – operable. Oil temperature and pressure gauges. Wiring and electrical connections – functional.		• TES 389-295 fluid being used	
Dipstick properly marked (refer to Mechanic's Tips, MT 1366 Section V)     Filler cap tight and vented     Filler tube tight at oil pan.     Breather clean and free of restriction     Checked for oil leaks during operation.  VI. POWER TAKE OFF     Backlash established.     Controls connected and operative.     Properly coupled to driven equipment.     Lube line from transmission properly routed and connected.  VII. INSTRUMENTS, ELECTRICAL COMPONENTS     Speedometer and odometer – operable.     Oil temperature and pressure gauges.     Wiring and electrical connections – functional.		Oil level correct for operating conditions.	
Filler cap tight and vented  Filler tube tight at oil pan.  Breather clean and free of restriction  Checked for oil leaks during operation.  VI. POWER TAKE OFF  Backlash established.  Controls connected and operative.  Properly coupled to driven equipment.  Lube line from transmission properly routed and connected.  VII. INSTRUMENTS, ELECTRICAL COMPONENTS  Speedometer and odometer – operable.  Oil temperature and pressure gauges.  Wiring and electrical connections – functional.			
Filler tube tight at oil pan			
Breather clean and free of restriction. Checked for oil leaks during operation.  VI. POWER TAKE OFF Backlash established. Controls connected and operative. Properly coupled to driven equipment. Lube line from transmission properly routed and connected.  VII. INSTRUMENTS, ELECTRICAL COMPONENTS Speedometer and odometer – operable. Oil temperature and pressure gauges. Wiring and electrical connections – functional.			
Checked for oil leaks during operation			
VI. POWER TAKE OFF  Backlash established. Controls connected and operative. Properly coupled to driven equipment. Lube line from transmission properly routed and connected.  VII. INSTRUMENTS, ELECTRICAL COMPONENTS Speedometer and odometer – operable. Oil temperature and pressure gauges. Wiring and electrical connections – functional.			
Controls connected and operative	VI.	POWER TAKE OFF	
Controls connected and operative		Backlash established	
Properly coupled to driven equipment			
Lube line from transmission properly routed and connected  VII. INSTRUMENTS, ELECTRICAL COMPONENTS      Speedometer and odometer – operable			
Speedometer and odometer – operable      Oil temperature and pressure gauges      Wiring and electrical connections – functional			
Speedometer and odometer – operable      Oil temperature and pressure gauges      Wiring and electrical connections – functional	VII	. INSTRUMENTS, ELECTRICAL COMPONENTS	
Oil temperature and pressure gauges		·	
Wiring and electrical connections – functional			
		Wiring and electrical connections – functional	
		Reverse signal circuit checked	

#### **VIII. ROAD TEST VEHICLE**

• Refer to Mechanic's Tips, MT 1366, Section VI, for points to check



## APPROVED LUBRICANTS

TES-295 Approval Number	Approved Marketer	Product Brandname
AN-011001	Castrol Heavy Duty Lubricants	TranSynd
AN-031002	BP Lubricants	Autran Syn 295
AN-031003	Cognis Corporation	Emgard 2805
AN-031004	International Truck & Engine Company	Fleetrite Synthetic ATF
AN-051005	ExxonMobil Lubricants and Petroleum Specialties Company	Mobil Delvac Synthetic ATF
AN-071006	John Deere & Company	HD SynTran
AN-1010007	Volvo Trucks North America	Bulldog Synthetic ATF
AN-121009	Case New Holland	CNH HD Synthetic ATF
AN-121008	Shell International Petroleum Co. LTD.	Shell Spirax S6 ATF A295



TES-389				
Product Marketer	Product Brandname	NAmerica	CAmerica	Approval Number
BP Castrol	Castrol ATF Heavy Duty	Yes	Yes	AA-33182010
BP Castrol	Castrol ATF Heavy Duty	Yes	Yes	AA-33192010
BP Lubricants	Castrol Heavy Duty Multi-Purpose ATF	Yes	Yes	AA-32252007
BP Lubricants	Castrol Heavy Duty Multi-Purpose ATF	Yes	Yes	AA-32362007
Chevron Products Company	Chevron Automatic Transmission Fluid HD-389	Yes	Yes	AA-32012007
Chevron Products Company	Chevron Automatic Transmission Fluid HD-389	Yes	Yes	AA-32202007
Chevron Products Company	Chevron Automatic Transmission Fluid HD-389	Yes	Yes	AA-32242007
Chevron Products Company	Chevron Synthetic Automatic Transmission Fluid Heavy Duty	Yes	Yes	AA-31992007
Chevron Products Company	Texaco Automatic Transmission Fluid HD-389	Yes	Yes	AA-32002007
ExxonMobil Lubricants & Petroleum Specialties Co.	Mobile ATF D/M	Yes	Yes	AA-32792008
Fuchs Petrolub AG	Fuchs Titan ATF 4000	Yes	Yes	AA-32822010
Petro-Canada	Petro-Canada ATF D3M	Yes	Yes	AA-32082007
Ravensberger Schmierstoffvertrieb GMBH	Ravenol ATF III H	Yes	Yes	AA-33072010
Shell International Petroleum Co. LTD.	Spirax S2 ATF A389	Yes	Yes	AA-33242011
Shell Lubricants	Donax TA-389	Yes	Yes	AA-32212007
Shell Lubricants	Donax TX	Yes	Yes	AA-32332007

### WHY SHIFT LINKAGE IS IMPORTANT



The shift lever on a transmission moves inside the valve body, which distributes main pressure to the various clutches in the transmission. If the valve is between two clutch ports, main pressure is restricted to the clutches when the valve is operating. This can result in transmission failure.

#### Typical shift linkage adjustment complaints:

- 1. Shift lever (in cab) does not line up with the gear selected.
- 2. Slow engagement to forward or reverse.
- 3. Truck creeps forward or backward in neutral.
- 4. Reverse beeper operates intermittently in reverse or in neutral or not at all.

#### **Correction:**

One person is needed inside the cab and another person at the transmission shift lever. At the transmission, remove the cotter key or retaining clip and remove the cable clevis pin from the transmission shift lever. Have the person in the cab select each gear with the cable removed. Lock the shifter in each gear while the person at the transmission moves the lever to its corresponding position and reinserts the clevis pin in and out freely. This needs to be done in each gear. If the clevis pin fails to line up with the lever after adjusting, some further diagnosis will be needed. Common issues for these symptoms are a sticking cable, the lever or cable geometry is incorrect, or the lever id is too long or too short. These are just some of the common causes to be checked if this problem would arise.

#### **Why Modulator Adjustment Is Important:**

The modulator is an external component attached to the transmission. They are typically mounted to the rear half of the transmission directly behind the shift lever and neutral safety switch. Its function is to vary the shift points depending on the throttle position. In other words, a part throttle condition (i.e. city driving) will result in an "early" or lower up shift and a full throttle condition will result in a "later" or higher up shift. What happens when the modulator is not working properly is an early or too soon up shift at full throttle conditions. You may notice the engine RPM "flare" 200-300 RPM between shifts. Driving a truck that shifts "too soon" will lug the engine and place undue stress on the transmission. Imagine driving a manual transmission truck and you attempt a 3rd or 4th gear shift from a rolling stop. The clutch will try to absorb this load from the output but the clutch will slip if it cannot. This same theory applies with automatics.

#### There are Four Different Types of Modulators:

- Cable Operated One end will attach to the throttle linkage or directly to the accelerator pedal. The transmission end uses a fulcrum to move the modulator pin. This cable will either push or pull to full throttle depending on your vehicles set up.
- Air This modulator uses an air signal from the engine governor to move the modulator pin.
   Williams Controls recommends changing the air modulator at each transmission service
   (50,000 Miles).
- Electric Most commonly used with electronically governed engines where the governor has no mechanical moving parts. Electric modulators are either on or off. They get their signal from the engines ECU or data link translator to move the modulator pin.

(continued on page 11)



## WHY SHIFT LINKAGE IS IMPORTANT

(continued from page 10)

4. Vacuum- Only used on gas engines. Under full engine load, vacuum will drop off. This signal is relayed to the modulator via a tube or hose, actuating a diaphragm inside the modulator and releasing the plunger outward. Once there is no load, vacuum will return, pulling the plunger back against spring pressure.

#### **Typical Modulator Complaints:**

#### **Downshifts Hard**

<u>Cable Modulator</u> - Cable at pedal or throttle linkage is not fully returning to its relaxed position. You may need a return spring to help the cable back.

Vacuum Modulator - No vacuum signal or a torn diaphragm in modulator.

Air Modulator - Stuck plunger in modulator or full air pressure under all throttle positions.

Electric Modulator - Power to modulator, under all throttle positions.

#### Up shifts Hard (low RPM or too early)

<u>Cable modulator</u> - Cable not adjusted correctly or inoperable. To correctly adjust, push or pull the throttle to full fuel. There should be no more than 1/8" slack left in the cable. Keep in mind there are mechanical parts inside the box end of the cable that do wear.

Replacement of the cable may be necessary if adjustment won't cure an early up shift.

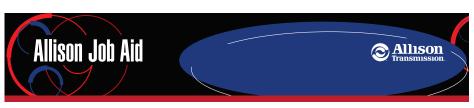
<u>Air modulator</u> - Seals inside the modulator have worn allowing air pressure into the case. If there is a lack of air pressure, or too low of pressure, the modulator may not function properly. If you notice oil leaking out the breather, chances are the air modulator is leaking.

<u>Electric Modulator</u> - Modulator malfunction or no power to the modulator. This test will require one person in the cab and one at the transmission. To check, loosen the retaining clip but do not remove. With the ignition key on and the engine off, fully depress the throttle. This should push the modulator away from the transmission if working properly. If there is no movement of the modulator, further diagnosis will be required. Many times the problem is found with the relay or in the vehicle wiring.

A harsh downshift may also be caused by higher than normal idle or slow to return throttle. It may also be caused by a sticky transmission governor valve. An early up shift may be caused by using two o-rings in the modulator valve. This happens quite often as most reman units are shipped with an o-ring already installed in the case. BE SURE TO ONLY USE ONE "O" RING WHEN INSTALLING MODULATOR OR MODULATOR PLUG!

## ALLISON JOB AID





#### SHIFT SELECTOR AND CABLE ADJUSTMENT PROCEDURE

#### For Allison Transmission Models:

1000 Product Family, 2000 Product Family, AT 500 Series, MT 600 Series, HT / CLT 700 Series

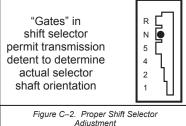
The shift cable must be adjusted after the shift selector has been installed in its permanent mounting location, the shift cable routing is finalized, and the cable has been secured.

NOTE: All changes to the shift cable routing, including changes to the shift selector location, will affect the adjustment of the shift cable. Therefore, the shift cable must be readjusted if its routing is modified by a body builder or during transmission or vehicle service.

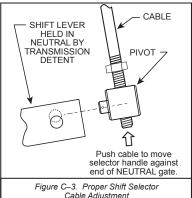
When properly adjusted, the handle of a lever shifter should be centered in each gate position when the transmission selector shaft is held in place by the internal transmission detent. See Figure C-2.

Follow procedure below to attach and adjust the shift selector cable at shift lever on the transmission.

- 1. With the engine off, set the park brake and block the wheels to prevent vehicle movement.
- 2. Place both the shift selector and the transmission selector shaft in the Neutral position.
- 3. Attach the cable to the shift selector at the operator's station.
- 4. At the transmission end of the cable, push the cable to move the shift handle against the end of the shift selector Neutral gate. Note the position of the pivot at the end of the cable with respect to the hole in the shift lever. Refer to Figure C-3.



Adjustment



Cable Adjustment

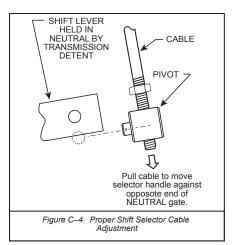
- 5. Pull the cable to move the shift handle against the opposite end of the shift selector Neutral gate. Note the position of the pivot at the end of the cable with respect to the hole in the shift lever. Refer to Figure C-4.
- 6. Center the position of the cable at the midpoint of the travel determined by Steps 3 and 4. See Figure C-5.

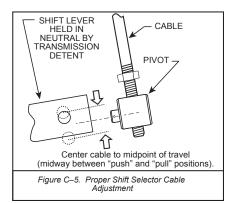
JA3344EN (2008/01)

P.O. Box 894 Indianapolis, Indiana 46206-0894 (317) 242-5000 www.allisontransmission.com



## ALLISON JOB AID





- 7. Holding the cable at the position determined in Step 5, rotate the pivot on the threaded section of the cable end until it is aligned with the hole in the shift lever. See Figure C–6.
- 8. Verify that the attachment pin of the pivot does not bind in the shift lever hole and that the detent in the transmission is positively engaged. This condition is sometimes called "free-pin-fit," referring to lack of friction at the cable / shift lever interface once

Inclined at the cable? Smill lever interface once the transmission detent is engaged. Repeat Steps 4 through 6 as necessary to create this condition.

9. Attach the pivot to the shift lever and secure with the lock pin. If a jam nut is provided with the cable hardware, torque the jam nut to lock the pivot to the cable end as noted in Figure C-6. If the cable manufacturer does not provide a jam nut with the cable assembly, do not add one during the installation process.

<u>CAUTION:</u> Once the jam nut is tightened, the pivot pin should slide freely into the hole in the lever. Do not twist the cable to insert it into the lever. Loosen the jam nut, reorient the pivot to insert freely into the lever, then tighten the jam nut again.

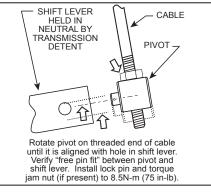


Figure C–6. Proper Shift Selector Cable Adjustment

10. Once this attachment is made, move the selector through all the range positions at the operator's station. Verify that free-pin-fit exists in each range position, and that the position of the shift lever is determined by the internal transmission detent — not by tension or compression on the shift cable. Special attention should be devoted to the free-pin-fit in the Neutral position, in the lowest forward range (1), and, if available, in the Park or Park Brake position.

JA3344EN (2008/01)

www.allisontransmission.com

## SERVICE TIPS



#### **FLUID LEVEL**







Tranemieeion

#### Fluid Types:

Use TranSynd™ or Dexron-III® for general vocations and C-4 qualified fluids for off-highway vocations.

#### Checking Fluid:

Cold Check:

Temperature 60-120 °F (16-49 °C) Fluid Level Within (Cold Run) Reference Fill

Temperature 160-220 °F (71-104 °C) Fluid Level Within Hot Run

- · Vehicle on level surface, parking brakes applied (wheels chocked)
- Engine at idle

Fluid Change Interval

- . Transmission in N (Neutral)
- · Add or drain fluid as necessary

#### Fluid Change Interval (Non-TranSynd™):

Refer to SIL 10-TR-99 for change intervals for Non-TranSynd™/Non-TES 295 or a mixture of Non-TranSynd™/Non-TES 295 and TranSynd™/TES 295 fluids.

Refer to 10-TR-98 for off-highway fluid applications.

Lube/Auxiliary\*\*

#### Fluid Change Interval - General Vocations (TranSynd™/TES 295) Fluid)

Hallollission	i idid Orlange interval	Manifilternari itter	LuberAuxillary
AT 500 Series	100,000 miles*(160 900 km)	Main – N/A	50,000 miles*(80 400 km)
	48 months /4000 hours	Internal	24 months /2000 hours
		Wire Mesh - 100,000 miles*(160 900 km)	
		48 months/4000 hours	50 000 H 1/00 100 L
		Polyester – overhaul	50,000 miles*(80 400 km)
		1 diyester – overriadi	24 months /2000 hours
MT 600 Series	100,000 miles*(160 900 km)	Main – N/A	
	48 months /4000 hours	Internal – overhaul	50.000 11.000.000 1
			50,000 miles*(80 400 km)
			12 months /1200 hours
HT 700 Series	100,000 miles*(160 900 km)	50,000 miles*(80 400 km)	
	48 months /2400 hours	12 months /1200 hours	
		Internal -overhaul	
* Whichever occu	urs first		

Main/Internal Filter

#### Fluid Change Capacity

Transmission	Pan Depth	Capacity (External Circuits Not Included)
AT 500 Series	3.8 inches / 97 mm	9 quarts / 8.5 liters
	5.3 inches / 135 mm	16 quarts / 15 liters
MT 600 Series	4.3 inches / 108 mm	12 quarts / 11 liters
	5.0 inches / 127 mm	15 quarts / 14 liters
	7.0 inches / 178 mm	17 quarts / 16 liters
HT 700 Series	4.5 inches / 114 mm	34 quarts / 32 liters
	6.0 inches / 152 mm	30 quarts / 28 liters
	7.0 inches / 178 mm	30 quarts / 28 liters
	8.5 inches / 216 mm	43 quarts / 41 liters
Transfer Case		26 quarts / 25 liters (Use C-4 SAE 30 Fluid)

<sup>\*\*</sup> Use an Allison high-efficiency filter until the Change Filter light indicates it is contaminated or until the filter has been in use for 3 years. No mileage restrictions apply.



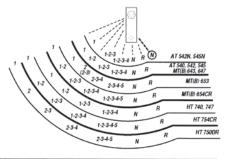
### SERVICE TIPS

#### SHIFT SELECTOR LINKAGE

#### Checks:



- · Hold lever
- Torque 15–20 lb ft (20–27 N·m)
- Clean and lubricate all moving joints



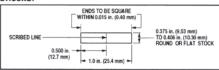
#### Adjustments:

Be sure the selector lever moves easily and is properly positioned by the transmission detents.

 Check Neutral Start Switch. The engine starter must not operate in any shift selector position except N (Neutral).

#### VACUUM MODULATOR Be sure there are no leaks in the vehicle vacuum system

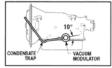
#### Checks:



- · Spring strength using fabricated tool
- Known good modulator and modulator being tested
- Squeeze modulators together until either modulator touches scribed line
- Maximum gap between modulator sleeves to qualify modulator as being tested — 0.060 inch (1.52 mm)

- Modulator diaphragm
- Obtain 10 inches
- (254 mm) of vacuum
   Hold vacuum for 15 seconds.

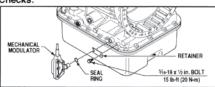
#### Adjustments:



- Modulator neck 10° down from oil pan splitline.
- Torque retaining bolt to 10-16 lb-ft (14-22 N·m)

#### **MECHANICAL MODULATOR**

#### Checks:



- Check cable routing. Bends in cable must be no less than 8.0 inch (203.2 mm) radius.
- Cable should be no closer than 6.0 inches (152.4 mm) to the engine exhaust pipe or manifold.

# MOUNTING PULLING BRACKET PULLING 1.2 in. (30.5 mm) MOUNTING BRACKET CONNECTING ROD PIN CABLE CORE CORE CABLE HOUSING CABLE HOUSING

- Connecting pin must pivot freely in hole through throttle lever and slot in rod end.
- Full to closed throttle positions, cable travel 1.187 inches (30.15 mm) to 1.560 inches (39.6 mm).
- · Adjust as required

#### PNEUMATIC MODULATOR

#### Checks:



- Apply 80 psi (552 kPa)
- Submerge in water
- Leaks are not permitted.

## Checks:

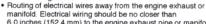
RETAINING BOLT TORQUE

12VDC OR 24VDC

MODULATOR ASSEMBLY

#### ELECTRIC STEP MODULATOR Do not ground electrical modulator to transmission

#### Connector tightness



6.0 inches (152.4 mm) to the engine exhaust pipe or manifold.
Routing of electrical wires to avoid strain on connections and chafing of the wires.

JA2574EN 200509

www.allisontransmission.com

Printed In USA 200509

## CORE RETURNINSTRUCTIONS



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.
  - 1. Drain oil from unit.
  - 2. 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.
  - Download the Weller App!
    - Scan the QR code or go to wellertruck.com/app



- Email corereturn@wellertruck.com or call 1-800-872-6697 Ext. 3794 or 3759
  - Provide the following:
    - Core return tag, 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.

\*Core eligibility is one year from invoice date



- Metal tag must <u>not</u> be removed or warranty will be void
- Nationwide
- Two Year Coverage
- Unlimited Mileage

Call Us! 800-872-6697

- Technical Assistance
- Return Authorization

#### **WARRANTY STATEMENT**

#### Warranty Coverage

Standard Warranty Coverage

Weller Reman Automatic Transmissions for "on-highway" applications – Two year, unlimited mileage – parts and labor. Weller Reman Automatic Transmissions for "off-highway" applications – Six months, unlimited hours – parts and labor.

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.

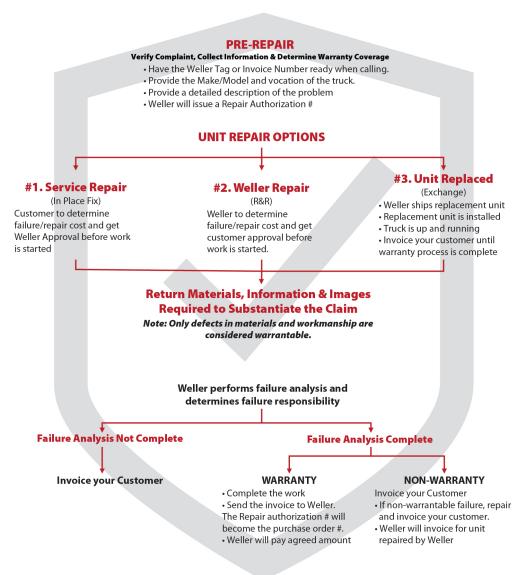
All warranty claims shall be made to Weller and shall be supported by satisfactory evidence in respect of the conditions stated herein. As a condition precedent to the allowance of such claims, the component or assembly involved shall, if requested by Weller, be returned prepaid to Weller for examination.

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.

### Weller Warranty Procedure

Don't Buy the Paper. Buy the Performance. Weller Reman.



CALL WELLER FIRST 800-872-6697





Fax: \_\_\_\_\_

E-Mail: \_\_\_\_\_

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

#### **WARRANTY CLAIM FORM**

TAG #:\_\_\_\_

1500 Gezon Parkway SW Grand Rapids, MI 49509 616-724-2000 800-872-6697 Fax 616-365-5679

Claim Contact Information:	Vehicle Owner Information:	Truck Information:
Name, Company, and Address:	Name, Company, and Address:	Make:
		Model:
		Mileage:
		Vocation:
Phone:	Phone:	Engine:

Fax: \_\_\_\_\_

E-Mail: \_\_\_\_\_

COMPLAINT			
Fluid Leak:	□ Yes	□ No	Description of the Problem:
Shifting:	☐ Yes	□ No	
Noise:	☐ Yes	□ No	
Vibration:	☐ Yes	□ No	
Hard Steering:	☐ Yes	□ No	
Contamination:	☐ Yes	□ No	
Other:	☐ Yes	□ No	

ADDITIONAL INFO	
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

ADDITIONAL INFO

Suspension Modified Recently?	□ Yes □ No	)
Driveline in Phase?	□ Yes □ No	)
Engine Mounts Checked?	□ Yes □ No	)
King Pin Checked?	□ Yes □ No	)
Hydraulic Brakes?	□ Yes □ No	)
System Flushed & Filter Replaced?	□ Yes □ No	)

VIN:

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

## WELLER WARRANTY



#### Warranty

It is essential to contact Weller and start the claim prior to removing the transmission from the vehicle for warranty consideration. Weller's technicians can assist with diagnosing the complaint to reduce downtime. If the transmission 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:

- Units do not have to be installed at a Dealer to receive flat rate warranty
- Flat Rate Warranty is available on over the counter sales



The following table shows warranty flat rates for Allison transmissions:

Automatic Model	Flat Rate Credit
1000 SERIES GM APPL	\$500
1000 SERIES STD APPL	\$500
2000 SERIES	\$500
2400 SERIES	\$500
AT540, 542, 542N, 545	\$500
AT545N, 545R	\$500
B400R	\$800
B500	\$800
B500R	\$800
HD4060, HD4060P, HD4560	\$800
HT70, HT740, HT740RS	\$800
HT750, HT750CRD, HT750DR	D \$800
HT754, HT754CR, HT754CRD	\$800
MD3060, MD3060P, MD3066	P \$700
MD3560, MD3560P	\$700
MT640, MT643	\$600
MT650, MT653	\$600
MT654	\$600

Authorized Weller Dealers call for warranty labor hours guidelines.



## NOTES

## NOTES





## NOTES


### THE WELLER REMAN NETWORK



- 1 Reman Center 1500 Gezon Pkwy S.W. Grand Rapids, MI 49509 616-724-2000 800-872-6697
- 2 Atlanta, GA 5007 Clark Howell Hwy., Suite A Atlanta, GA 30349 404-768-9577 877-768-9577
- 3 Baltimore, MD 899 Airport Park Rd., Ste. N Glen Burnie, MD 21061 410-553-0443 877-550-0443
- 4 Birmingham, AL 116 Total Solutions Way Alabaster, AL 35007 205-685-0777 866-535-0777
- 5 Boise, ID 8484 W. Victory Road Boise, ID 83709 208-331-1061 888-331-1061
- 6 Boston, MA Auburn Industrial Park C Street, Building 15B Auburn, MA 01501 774-374-8015 888-739-7191
- 7 Chicago, IL 14407 S Gougar Rd Ste 500 Lockport, IL 60491 708-974-9919 888-974-9319
- 8 Cleveland, OH Coming Soon!
- 9 Columbus, OH 2885 International St. Columbus, OH 43228 614-771-9500 866-771-9501

- Dallas, TX
  3113 Skyway Circle N
  Irving, TX 75038
  972-258-0460
  855-258-0460
- Denver, CO 11333 East 55th Ave Unit A Denver, CO 80239 303-375-6633 833-375-6633
- Detroit, MI 29826 W. Eight Mile Road Farmington Hills, MI 48336 248-473-1900 800-473-1905
- Gaylord, MI 353 Expressway Court Gaylord, MI 49735 989-731-6700 888-731-6700
- Houston, TX
  4549 Aldine Bender
  Houston, TX 77032
  281-442-8855
  877-677-8855
- 15 Indianapolis, IN 6903 E. 32nd St. Indianapolis, IN 46226 317-547-3190 888-547-3190
- Jacksonville, FL 10330 Chedoak Court Suite 205 Jacksonville, FL 32218 904-757-0777 888-474-0777
- Kansas City, MO 3824 N. Skiles Ave. Kansas City, M0 64161 816-454-2237 844-341-4578

www.wellertruck.com

- 18 Las Vegas, NV 2985 Coleman St., Suite 14 North Las Vegas, NV 89032 702-638-8222 866-764-8222
- 19 Los Angeles, CA 9355 Cherry Ave. Fontana, CA 92335 909-356-8322 877-356-8322
- Lubbock, TX 603 CR 7150 Lubbock, TX 79423 806-516-8112 844-389-1766
- Memphis
  7520 Appling Center Dr.
  Ste 102
  Memphis, TN 38133
  901-386-8604
  833-270-3220
- Milwaukee, W I 8625 North 107th Milwaukee, WI 53224 414-354-6400 877-354-6400
- Minneapolis, MN 3201 85th Avenue North Brooklyn Park, MN 55443 763-424-3800 877-424-3802
- Nashville, TN
  230 Molly Walton Drive
  Hendersonville, TN 37075
  615-264-2750
  866-426-2750
- Omaha, NE 8623 S. 117th St. LaVista, NE 68128 402-597-9000 855-597-9001
- Phoenix, AZ 702-638-8222 866-764-8222

- Portland, OR 13150-2 NE Airport Way Portland, OR 97230 503-255-1924 888-839-9758
- 28 Sacramento 1424 N Market Blvd. Unit 80 Sacramento, CA 95834 279-972-4170 888-553-9753
- 29 Salt Lake City, UT 3450 W. California Ave. Suite 400 Salt Lake City, UT 84104 801-886-0100 855-847-0100
- 30 Seattle, WA 6408 South 196th Street Kent, WA 98032 253-872-0321 877-572-0321
- 31) South Bend, IN 3303 William Richardson Ct. Suite 200 South Bend, IN 46628 574-237-1000 800-968-8860
- 32 St. Louis, MO 2388 Chaffee Drive Maryland Heights, MO 63146 314-692-2227 877-992-2227
- 33 Syracuse, NY 4530 Morgan Place Liverpool, NY 13090 315-457-7098 844-320-4288
- 34 Tampa, FL 217 Hobbs Street Suite 103 Tampa, FL 33619 813-685-6100 866-685-6109