



Eaton Automated Manual Transmission - Installation Instructions

	Remove, clean and inspect end yoke for spline wear. Replace if needed.
	Remove, clean and inspect speedometer pulse wheel. A new output speed sensor is already installed in the retainer.
	Install speedo pulse wheel on transmission output shaft. <ul style="list-style-type: none"> NOTE: do not change rear bearing retainer without contacting your supplier first
	Install new or inspected yoke on to remanufactured transmission. Ensure fastener is torqued to manufacture's specification.
	Remove transmission bell housing, clean and inspect for wear. Replace clutch release bushings and input speed sensor if applicable.
	Confirm all clutch related parts are not worn. This includes release fork, release rods, hoses or any hydraulic assist components. Replace if needed.
	Install bell housing on to remanufactured transmission. Make sure a gasket is used when applicable. Fasteners are torqued to manufacture's specifications.
	Install inspected clutch release parts into transmission bell housing, grease after installation. <ul style="list-style-type: none"> If Electric Clutch Actuators (ECA) is present, inspect spline, electrical connections and that wiring is not damaged. Replace if needed. Caution when removing and replacing ECA units. Refer to transmission service manual for proper procedure.
	Inspect engine mounts for wear. Replace if needed.
Remove XY shifter:	
	1. Disconnect transmission harness from the rail and gear position sensors. Mark connections for reinstallation.
	2. Disconnect the rail select and gear select motors from the Transmission ECU (TCU). Mark connections for reinstallation.
	3. Remove XY shifter and gasket.
Remove transmission wiring harness by disconnecting the following. Mark connections for reinstallation <ul style="list-style-type: none"> Using a 5/32 hex wrench unscrew and disconnect 38 way Transmission Connector and vehicle interface. 	
Disconnect:	
	1. Input speed sensor
	2. Main shaft speed sensor
	3. Gear select sensor and rail select sensor
	4. Output shaft speed sensor
	5. Range valve solenoids

	6. ECA speed sensor
	7. 8 way ECA connector
	8. XY shifter
Remove Transmission Electronic Control Unit (TECU):	
	1. Using a 7/16 socket remove the 3 mounting nuts
	2. Remove the Transmission Controller retaining bracket.
	3. Remove the Transmission Controller assembly from the mounting studs.
Reinstall the XY shifter:	
	1. All shift blocks must be in the neutral position for the XY shifter to fit properly.
	2. The dowel pin on the XY shifter must align with the hole in the shift bar housing.
	3. Mount shifter. Toruqe bolts to manufacture's specification.
	4. Reconnect sensors and motors to wiring harness.
Reinstall the Transmission Electronic Control Unit (TECU):	
	1. Position Transmission Controller (TECU) onto locating studs
	2. Place the Transmission Controller retaining bracket over the TECU.
	3. Using a 7/16 socket install the 3 mounting nuts. Tighten to 7 - 9 ft lbs. Do not over tighten!
Reinstall the Transmission wiring harness by reconnecting the following:	
	<ul style="list-style-type: none"> Using a 5/32 hex wrench reconnect the Transmission harness 38 way connector and tighten to 25 in lbs. Do not over tighten!
Reconnect:	
	1. Gear select sensor and rail select sensor
	2. Main shaft speed sensor
	3. Input speed sensor
	4. Output shaft speed sensor
	5. ECA speed sensor
	6. 8 way ECA connector
	7. XY shifter
	8. Range valve solenoids
Service the flywheel by resurfacing, install new pilot bearing. Make sure flywheel dowels are not worn.	

	Install the resurfaced flywheel and new clutch onto engine.
	Verify flywheel runout on engine bell housing. Maximum allowed is .001" runout or face wobble per inch of flywheel radius. <ul style="list-style-type: none"> • Example: 14" clutch is allowed .007 of runout.
	Install new clutch brake over input shaft. Lightly lubricate input shaft with dry graphite lube.
	Install the transmission assembly making sure the fasteners are torqued to manufacture's specifications.
Remove the Power Take-Off from the transmission core:	
	1. Completely clean the PTO inside and outside
	2. Inspect PTO gearing for wear making sure the input gear does not have excessive side play, overhaul if needed. Reseal if leaking.
	3. Mount the PTO using PTO shim gaskets. DO NOT use cork or the sealing gasket that comes with the transmission.
	4. Set PTO backlash between .006 to .012
	Properly clean and flush the cooling system, radiator or heat exchanger. Replace if needed.
	Verify that cooler holds pressure and that oil lines are not worn or blocked.
To operate properly, the system must be calibrated as follows. The Grade Sensor and ECA must be calibrated before the vehicle is placed in operation.	
	1. Connect Service Ranger tool to Vehicle
	2. Turn on the ignition switch. Allow Transmission to power up.
	3. Turn the ignition off. Wait 2 minutes
ECA Calibration:	
	1. Start the vehicle and let the system air up.
	2. With Service Ranger connected perform clutch ECA Calibration in Service Routines Option
Grade Sensor Calibration:	
	1. Key on engine off, vehicle on level ground
	2. With Service Ranger connected perform Grade Sensor Calibration in Service Routines Option
	Fill the transmission circuit with approved OEM lubricant to the bottom of the fill plug. Do not under or overfill the system.
	If a cooling system exists, let truck idle for minute or 2 to allow the cooler and lines to fill up then re-top off the fluid.
	Confirm that the Transmission is leak free.
Inspect the driveline:	
	1. U-joints are not worn
	2. Drivelines are in phase and is properly balanced.

	3. Carrier bearings have no wear, mounts are tight, rubber is not rotted.
	4. If equipped with air ride suspension, ride height must be set to truck manufacture spec.
	With Service Ranger tool connected perform diagnostics and clear any previous codes. Address any codes still present.
	Road test the vehicle making sure proper operation and that installed transmission is free of any oil leaks or air leaks.