

OPERATION OF THE U.S. GEAR DUAL RANGETM AUXILIARY TRANSMISSION

The U.S. Gear Dual Range Auxiliary Transmission is a highly versatile unit offering a variety of separate and distinct final drive ratios while providing the necessary strength requirements that are mandatory in many vehicle applications. The 20% Overdrive OR Underdrive ratios are uniquely designed to complement the driveline of your vehicle while, at the same time, retaining the existing factory, direct-drive ratios.

The Dual Range is designed to offer you the option of selecting up to twice the number of forward and reverse driving ratios. However, unlike many auxiliary transmissions, the Dual Range offers you these ratios **WHEN YOU NEED THEM!** And, by maintaining a 35,000 lb. GCVW (Gross Combined Vehicle Weight) rating, the Dual Range sets the standard as the heaviest unit in the industry.

The Dual Range is an electronically-controlled, mechanically-shifted transmission which when operated properly, can provide a controlled shift between auxiliary and direct ratios. This shift can be accomplished at ANY speed; however, because the unit requires a certain level of gear rotation to ensure proper gear alignment, **THE UNIT SHOULD NEVER BE SHIFTED WHILE THE VEHICLE IS STOPPED!**

Although the unit is adaptable to both manual and automatic transmissions, the methods of operation of these two, distinct types of transmission applications are very different.

AUTOMATICS - In automatic applications, the main shift from direct to auxiliary range (or vice versa) is accomplished through the utilization of a high-torque spring lever assembly. This spring assembly, which is loaded by the electronically-controlled shift motor rotating a worm gear (drive screw assembly), then forces a collar gear (slider), which couples the output shaft to the direct input gear, to mesh with the auxiliary ratio output gear. This complete action is induced when the control module inside the vehicle is actuated.

To shift the Dual Range:

- 1) While the vehicle is moving and the driveline is under load (the accelerator is depressed), push the control module button on the transmission control lever.
- 2) **WAIT APPROXIMATELY 2 SECONDS!** This will allow the spring assembly to load the Dual Range shift mechanism.
- 3) Quickly, relax the pressure on the accelerator pedal and then re-apply full pressure. This action will NOT require the removal of your foot from the accelerator pedal.

It should be noted that the quicker this complete action can be accomplished the more likely the unit will be to shift smoothly. If properly shifted, a CLUNK should be noticeable upon gear change along with an obvious change in engine RPM.

When using the Dual Range to split-shift from 1st O/D to 2nd Direct, or similar change, it is strongly suggested that the automatic transmission be shifted to the higher gear prior to shifting the Dual Range from HIGH to LOW. This will allow for more flexibility in driveline stress and ensure proper load transferral to the subsequent gear.

MANUALS - As with automatics, the internal shift design of the unit (and the mechanics of the shifting) remain the same; however, the method of electronically inducing the shift mechanism does, in fact change.

To shift the Dual Range:

- 1) While the vehicle is moving and the driveline is loaded, either pull UP or push DOWN on the shift actuation switch connected to the transmission lever.
- 2) **WAIT APPROXIMATELY 2 SECONDS!** This will allow the Dual Range shift assembly to load.
- 3) Quickly, flash the clutch pedal to briefly relax the driveline pressure. Complete depression of the clutch pedal is not required and can cause substantial momentum loss.

Again a small CLUNK and a change in engine RPM should be noticeable upon the gear change.

***** NOTE *****

If using the Dual Range to split-shift in the manual applications, at least 2-seconds should still be given for the spring assembly to load prior to clutch depression. However, because the clutch depression during the shift of the manual transmission will completely relax the driveline, it is not necessary that the primary transmission be shifted to the higher gear before the Dual Range is engaged.

It is very important in any application that the shift assembly of the unit be allowed to load before the driveline pressure is relaxed. Failure to do so will cause all of the shift load to be transferred to the shift motor, which is not designed to accept this load on a prolonged basis.

By providing for the use of additional gearing with minimal effort, the Dual Range Auxiliary Transmission offers complementary driving ratios to, in most cases, an already over-taxed driveline. By using gearing as a "partner" with your engine's horsepower, properly operated, the Dual Range can give you miles of worry-free service and substantial gains in both performance and economy.

Dual Range Electrical Installation

ALL MODELS

Please read these instructions completely before you start the installation.

Familiarizing yourself with all of the components mentioned will make the installation much easier.

(Graphics appear at bottom of document.)

AUTOMATIC TRANSMISSION

The Dual Range electrical wiring for the automatic consists of a two-circuit system. The first, the control circuit, includes the shift control module, and gray signal switches, protected by an in-line, low amperage fuse. The second, the power circuit, includes the control module and the shift motor protected by a 15 amp automatic re-set circuit breaker.

Under Vehicle

With the Dual Range installed and the vehicle raised, start the harness installation at the right side cover of the Dual Range as follows:

Plug the green terminal with the brown and white wire into the motor (Fig. 1). Attach the green ground wires to the existing screw at the rear of the shift motor.

Plug the signal switch wires on to the appropriate gray switch:

Underdrive: Orange and green wire to front side switch, black and green wire to rear switch.

Overdrive: Orange and green wire to rear switch, black and green wire to front side switch.

Circle harness up and forward and attach with "J" clip to upper top side cover bolt (Fig. 1 or Fig. 2).

Run the main harness up the back of the transmission and through the engine compartment in the left rocker cover area. Pickup trucks exit at point 1, vans and Class "C" motor homes point 2 and Class "A" motor coaches point 3 (Fig. 3). Lower the vehicle and continue the underhood procedure.

Under Hood

Locate a cool area for the control module and mount (Fig. 4 and Fig. 5). Pickup trucks have adequate firewall or side panel room, but vans and Class "C" homes are tight. We suggest wire tying the control module to an existing object (harness, etc.) located in an active air area. Ground the green wires to an appropriate body panel and mount the circuit breaker within the length of red harness wire. Attach the red harness wire to the "Aux" side of the circuit breaker and within the length of red harness wire. Attach the red harness wire to the "Aux" side of the circuit breaker and attach loose red wire provided to the "Bat" side of the circuit breaker and attach to an appropriate 12-volt source (direct to "+" post of battery or junction block).

Run the harness for the shift module through the firewall using existing openings or provide a new hole for same. **Caution:** Be very sure that all wires are properly protected where they pass through the firewall.

Passenger area

Install the shift module on the gear shift lever in the most comfortable position for the thumb to reach and

for viewing the high and low lights. Wire tie the wiring harness to the shift lever and pass under the dash and plug into the main harness. Run the in-line fuse holder wire to a 12-volt source that is off when the ignition key is in the "off" position.

Caution: Do not shift the Dual Range while in park or neutral or when the vehicle's cruise control is engaged.

MANUAL TRANSMISSION

The Dual Range electrical wiring for the manual transmission uses a simple power circuit consists of a vertical push-pole shift switch, a six wire version of the control module, and the shift motor, all again protected by a 15 amp automatic re-set circuit breaker. No indicator lights are used; the gear selection is indicated by the up or down position of the shift switch.

Under Vehicle

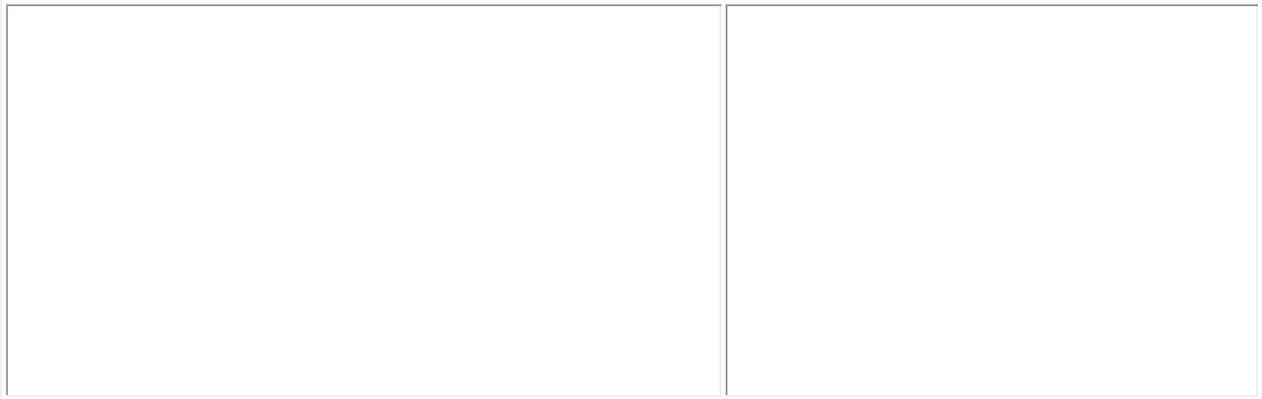
The manual transmission harness has only two wires to be connected to the Dual Range. Plug the green terminal with the brown and white wire into the motor as shown in Fig. 1 of the automatic transmission.

Underdrive: White wire to front terminal.

Overdrive: Brown wire to front terminal.

Use the "J" clip in the upper front screw of the side cover. Feed the two-wire harness to the transmission and up the shift lever through the rubber boot, position the shift switch as preferred. Plug the wires in the switch as pictured (Fig. 6). Blue wire to the *top* for overdrive...Blue wire to the *bottom* for underdrive. Wire tie the harness to the shift lever.

Run the four wire harness under the vehicle following the floor pan to the firewall. Plug the six-wire male terminal into the female terminal of the control module in a cool active air area (firewall, fender panel, etc.). Run red wire from control module to "Aux" post of the circuit breaker; green wire remaining, to a good ground. Attach red wire provided to the "Bat" side of the circuit breaker and attach to an appropriate 12-volt source (direct to "+" battery or junction block).



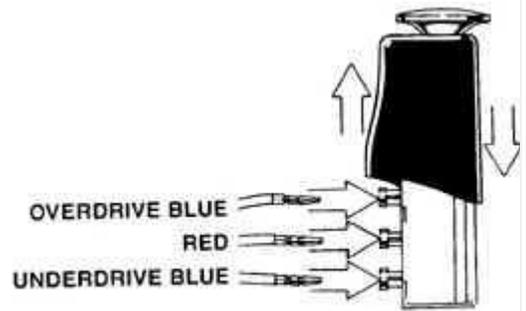
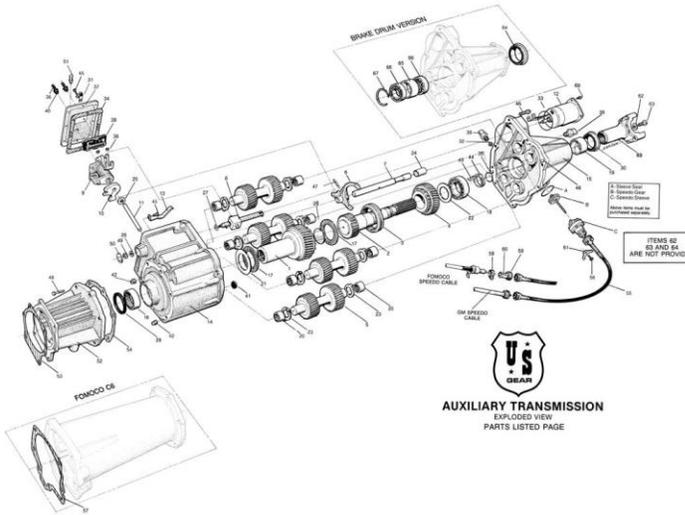
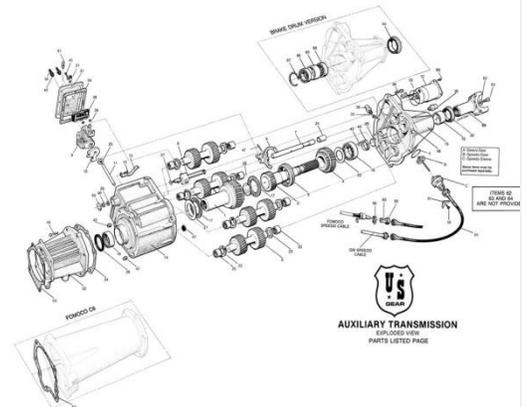


FIG. 6



Typical Class "C" Motorhome or van with **automatic** transmission
 Click on the picture or [here](#) to access a full-sized graphic.
 Use the "back" button on your browser to return to this page.



Typical pickup truck with **manual** transmission
 Click on the picture or [here](#) to access a full-sized graphic.
 Use the "back" button on your browser to return to this page.

Parts List (Automatic)			
Item	Part Number	Description	Qty.
1	59-80007	Shift module	1
2	93-80042	Main wiring harness	1
3	59-80011	Control module	1
4	80-80024	Circuit breaker kit	1
5	*	Power lead	1
6	59-80004	Gray limit switch	2
7	80-80031	Gray limit switch, gasket	2
8	*	Wire ties	6
* Included with wiring harness (Numbers refer to rendering for automatic)			

Parts List (Manual)			
Item	Part Number	Description	Qty.
1	93-80029	Push-pull shift switch	1
2	90-80144	Mounting bracket	2
3	93-80043	Main wiring harness	1
4	59-80012	Control module	1
5	80-80024	Circuit breaker kit	1
6	*	Power lead	1
7	*	Wire ties	6
* Included with wiring harness (Numbers refer to rendering for manual)			

Dual Range Electrical Troubleshooting Guide

(Automatic Transmission)

How the Dual Range Electronics Works

With the ignition on, when you push and release the shift control switch with your thumb, it sends a 12V signal to the control module through the blue wire. That signal activates the control module, which has been receiving 12V power from the battery. The signal from the shift control switch causes the control module to open the “gate” and send power to the electric motor of the Dual Range. That power is sent to the motor for 1.6 seconds and then the “gate” closes again. The power from the control module to the motor is sent through the brown or the white wire alternately. The control module sends power through one wire (brown or white) when the switch is depressed, and the next time the switch is depressed, the control module sends power through the other wire. The module alternates back and forth between brown and white because the Dual Range motor is unidirectional.

Power is continuously being sent to the control module through red wire to the battery. The shift control switch receives power from a red wire connected to a switched 12V source only when the ignition is ‘on’. The electric motor gets power only in 1.6 second bursts from the control module through the brown or white wire.

Note: The gray switches on the passenger side rear of the Dual Range are simply position switches which control the lights on the thumb control switch. They have nothing to do with shifting.

Components Used in Electrical System

Thumb control switch — mounted to transmission shift lever

Control module — black box 4x4x1½ mounted in the engine compartment on the driver’s side firewall or fenderwell (has white six position connector with wires as listed below).

15 amp circuit breaker — located between the control module and the battery

Dual Range electric shift motor — located in the Dual Range

Tools needed to troubleshoot electronics — 12 volt test lite

Control module (PN 59-80011) schematic:

1. Red to battery (12V +)
2. Green to good ground
3. Blue from shift switch on lever. (12V when shift control switch is pushed)
4. Brown to motor in Dual Range (right motor rotation)
5. White to motor in Dual Range (left motor rotation)

Automatic transmission shift control switch (PN 59-80007) schematic:

1. Red - power 12V controlled by ignition key
2. Blue - has 12V when button depressed (key on)
3. Black - provides ground for low light (when closed)
4. Orange - provides ground for high light (when closed)

Note: The following instructions are sequential. In other words, if there is a problem with a component early in the list, every component shown after that problem will fail. If you encounter a problem, you must remedy it before you continue troubleshooting. For troubleshooting purposes, you may shift the Dual Range while the vehicle is not moving.

1) With the key on, the shift control switch should have either high (green) or low (yellow) light lit. (If there is no light, check in-line fuse in the red wire from shift control switch to ignition source or possibly at the fuse box.)

2) At control module

1. Red - 12V + from battery

- a. if no power - check the wire and circuit breaker to battery
- b. if 12 volts - proceed

2. Green - is Ground. Be sure to grind paint or undercoating on metal, frame, firewall, etc. Use only bright, non-anodized (uncoated) screw.

3. Blue - Will have 12V when the shift control switch is depressed (hold button for a moment).

- a. if no 12V - verify power to thumb control switch; if there is 12V to the switch and no break in the blue wire, then you have a bad thumb control switch.
- b. if 12V - proceed

4. Brown - powers up motor in gear box (will cause motor to rotate a specific direction).

Remember, the control module alternates between the brown wire and the white wire when sending power to the motor. It is impossible to tell which wire will be hot when the thumb switch is depressed. So to check the brown wire, you may have to depress the thumb control switch twice before getting a light.

a. brown wire should have 12V for 1.6 seconds. If no power, depress the switch again. Now the wire must have 12V power. If no 12V power after two consecutive pushes of the button, the module is bad.

b. if 12V present, move to white wire

5. White - should power up 12V alternately with the brown wire each time

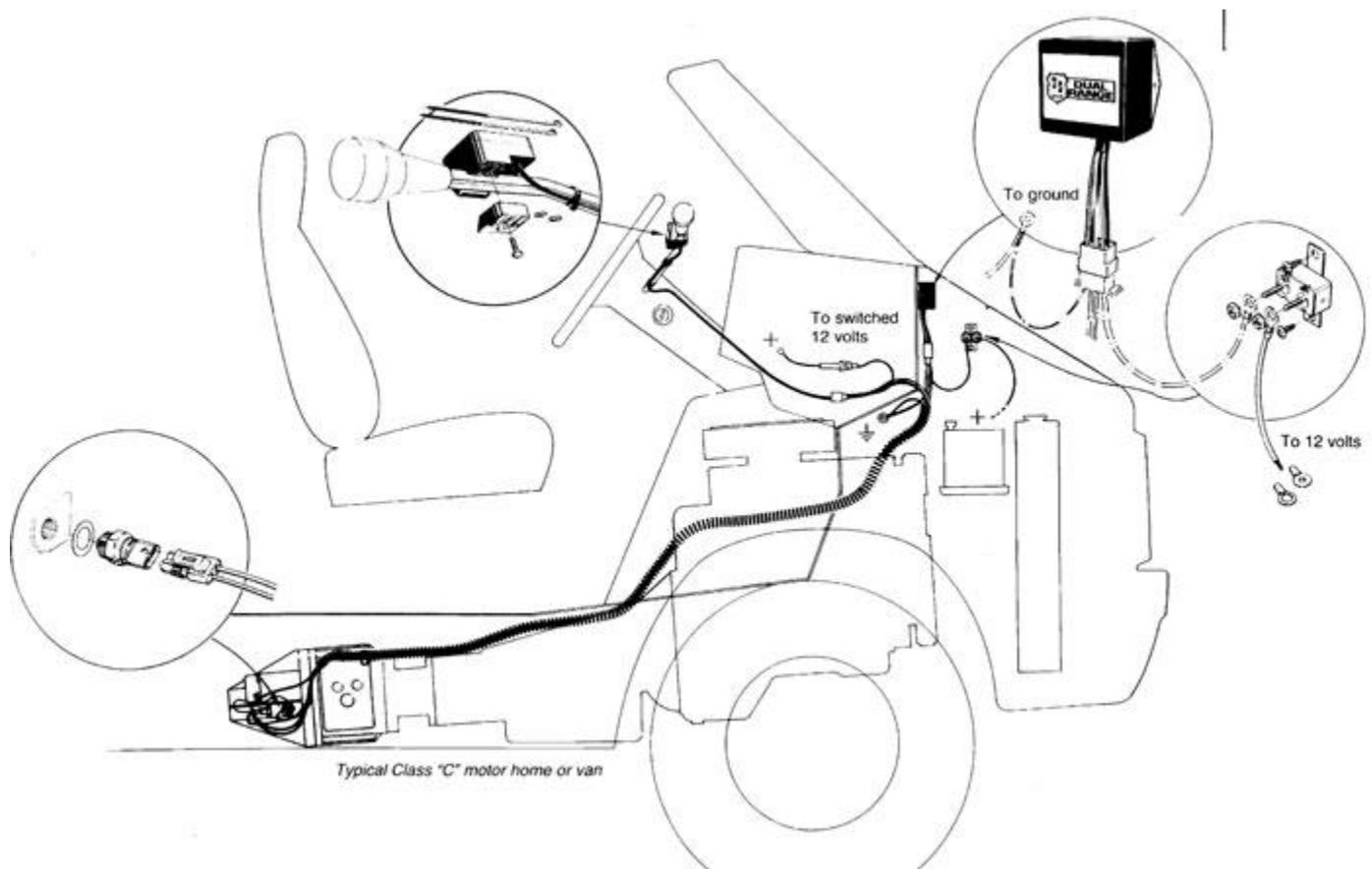
6. If there is no power at brown or white wires, then you have a bad module. If you have power on one wire or the other only, or not on any wire, then you have a bad module. You must have power on each wire alternating between the brown wire and the white wire.

7. Repeat steps 4 and 5 at the motor to confirm there is no pinch, melt, or other break in any of the wires.

a. if there is power at the motor at the correct times, but there is no motor noise (running sound), then you have a bad motor connection

b. if power at motor and motor sounds as if it is running, the electrical system appears to be functioning properly.

c. if the Dual Range still will not shift properly, then you probably have a mechanical shift problem such as a worm screw, shift fork, etc.



Dual Range Electrical Troubleshooting Guide (Manual Transmission)

There are four major components of the Dual Range electrical system:

- a. Harness (#93-80043)– used to connect components and allow electrical current flow
- b. Push/pull switch (#93-80029) – 2-speed axle type of switch usually clamped on gear shift lever
- c. Shift module (#59-80012)– Black box (3"x3"x1 ") with wire connector attached to bottom of box. This is the controller of the electrical system.
- d. Shift motor (#80-80055) – permanent magnet hi-torque motor. When in use it applies pressure to the shift spring. This motor will rotate both clockwise and counter-clockwise depending on direction of current flow. This motor is not internally grounded.

If the Dual Range fails to shift on command, first re-boot the computer shift module (#59-80012). To re-boot module, unplug the harness from the shift module for a couple minutes and then plug the harness back into the module. Attempt to shift the Dual Range. If re-booting the shift module does not correct the problem, continue with the following steps.

Visual Inspection – Inspect harness associated with Dual Range transmission from the push/pull switch in the cab of the truck to connections on the Dual Range itself. Once you are satisfied that there are no broken or damaged wires, proceed to operation check.

Locate shift module with harness attached to *bottom* of module. With 12 volt test light check:

- a. Red wire – 12 gauge for *battery* power, not key control
- b. Green wire – Good ground to clean metal connection (VERY critical).
- c. Small red wire – 12 volts at push/pull switch
- d. Blue wire – 12 volts only when push/pull switch is closed. No voltage when open.
- e. White wire – 12 volts for approximately two seconds immediately after push/pull switch closes
- f. Brown wire – 12 volts for approximately two seconds immediately after push/pull switch opens

Using 12 volt test light, bridge light between brown and white wires

Move push/pull switch up and down and test light should light each time the switch is moved. The test will also indicate that the module is providing ground circuit.

Motor test only – At connector of harness to module (black box), remove connector from module and, using two small 4" jumper wire, make connection between red wire pin and brown wire pin in connector, and from white wire pin to green wire pin. This should cause motor to operate and continue to run as long as both wires are connected. Motor should sound smooth and quiet. This is a bi-polar motor, so if it runs one direction it will run the other direction.

Any component not operating as outlined should be considered suspect and replaced. If you have any questions, please call the U.S. Gear Tech Line at 1-800-874-3271 (extension 650).

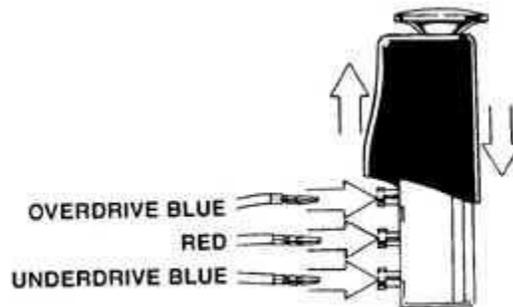
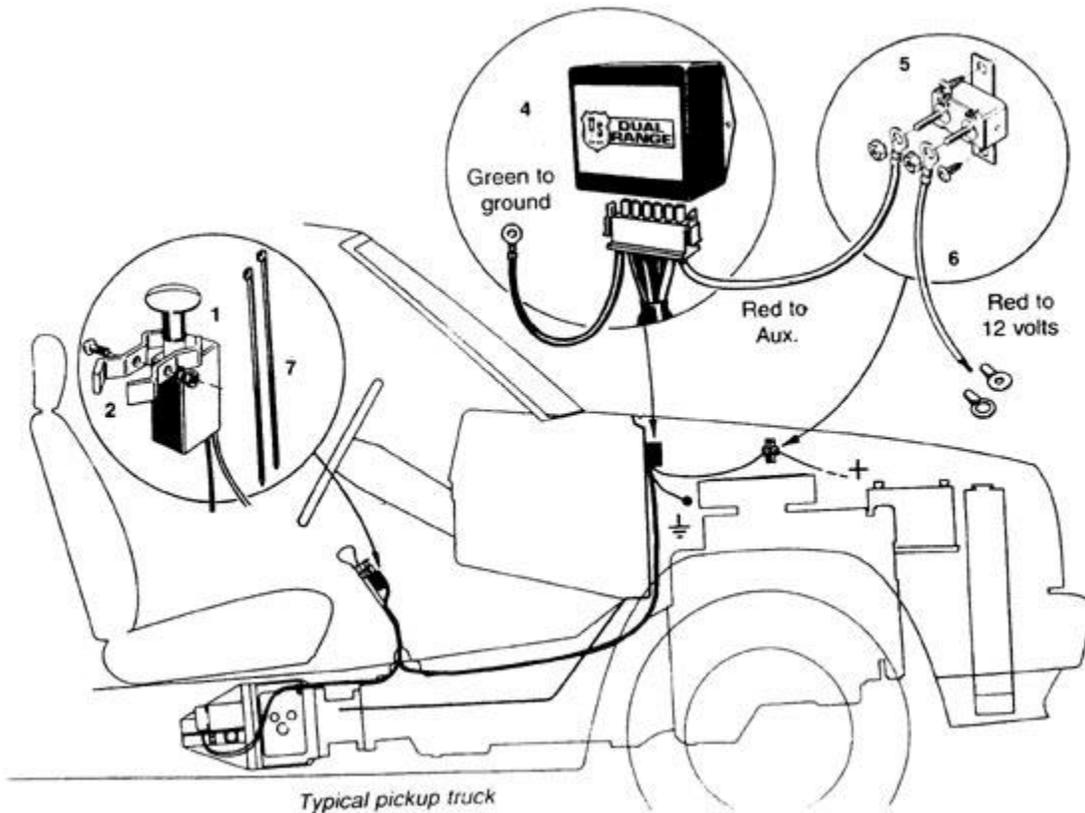
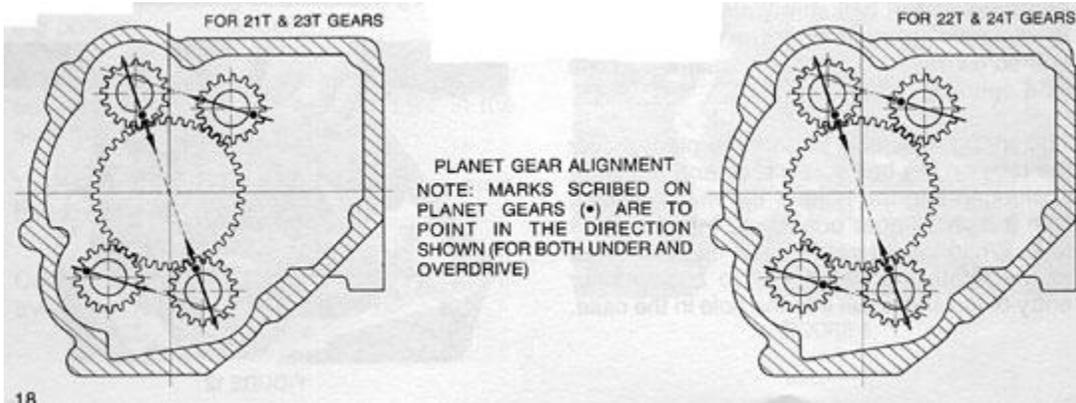


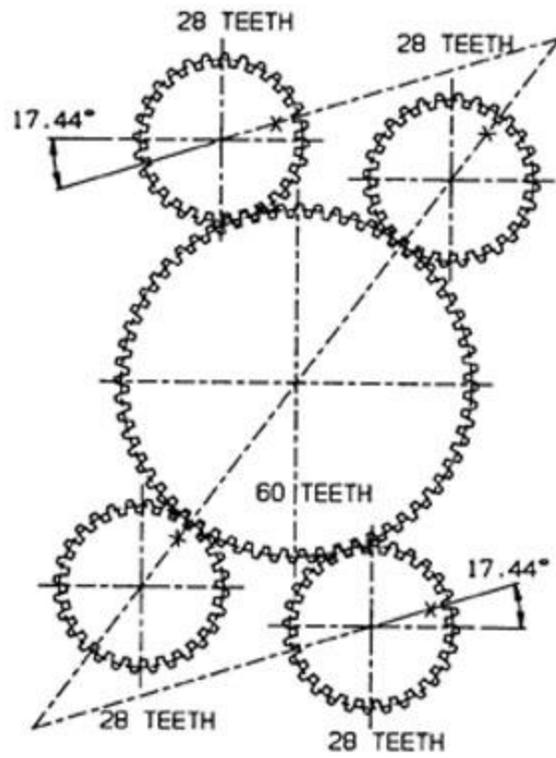
FIG. 6

Dual Range Timing Diagrams

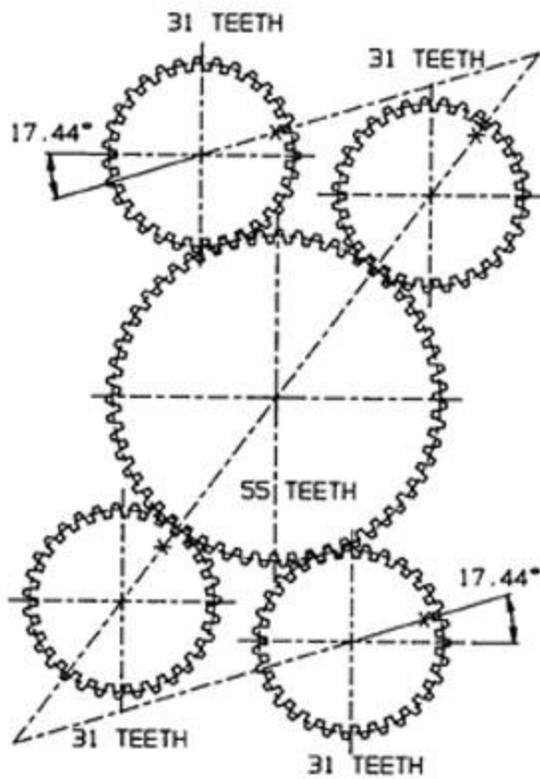
The diagram you use will depend on the tooth count of the gears.

Torque case bolts to 35 lbs, and yoke bolt to 90 lbs.
Be sure to use a lock washer and a flat washer.





16 PITCH



If I install the Dual Range, will it void my vehicle warranty?

No, the addition of the Dual Range doesn't void your vehicle warranty. Automotive manufacturers such as Dodge, General Motors, Ford, Freightliner, and Spartan have publicized the fact that the addition of aftermarket products does not void their warranties. There has been a lot of confusion about this issue, but federal law actually prohibits manufacturers from voiding warranties based on the addition of aftermarket parts unless they can prove that the aftermarket item caused a failure in the vehicle.

What is the warranty on the U.S. Gear Dual Range?

U.S. Gear warrants the product from defect for one full year, with unlimited mileage, from the date of purchase. The warranty covers 100% of parts, 100% of labor, and all freight charges. A copy of the written warranty is included with each product.

What is the ratio of the Dual Range?

The Dual Range is available in two different models: Direct and 20% Overdrive or Direct and 20% Underdrive. The 20% overdrive ratio is .80 and the 20% underdrive ratio is 1.25.

How does the Dual Range work?

The Dual Range works exactly like an electric 2-speed axle commonly found in commercial trucks. The Dual Range bolts directly to the back of your factory transmission giving you the equivalent of two axle ratios or twice the transmission ratios (gear splitting). At the flip of a switch, you can select a high speed ratio for highway cruising or solo driving, or you can select a low range for highway towing, city driving, or mountain terrain. Shifting back and forth from high range to low range can be done at any speed (shift-on-the-fly).

How does the Dual Range compare to the competition?

The U.S. Gear Dual Range is the only American-made, electric-operated auxiliary transmission in the industry. It has the heaviest GVCW rating (35,000#) and is the only auxiliary transmission available as either overdrive or underdrive. The Dual Range is also priced \$500-\$800 less than the competitors. The Dual Range is the only unit that has no limitations on how it is used. It can be used in forward or reverse, 2 or 4 wheel drive, uphill and downhill. No other auxiliary transmission manufacturer can say that.

What vehicles will it fit?

The Dual range will fit all Dodge, GM, and Ford full-size pick-ups, vans, Suburbans, class C and class A motorhomes with automatic or manual transmissions, 2 or 4 wheel drive.

Is installation difficult?

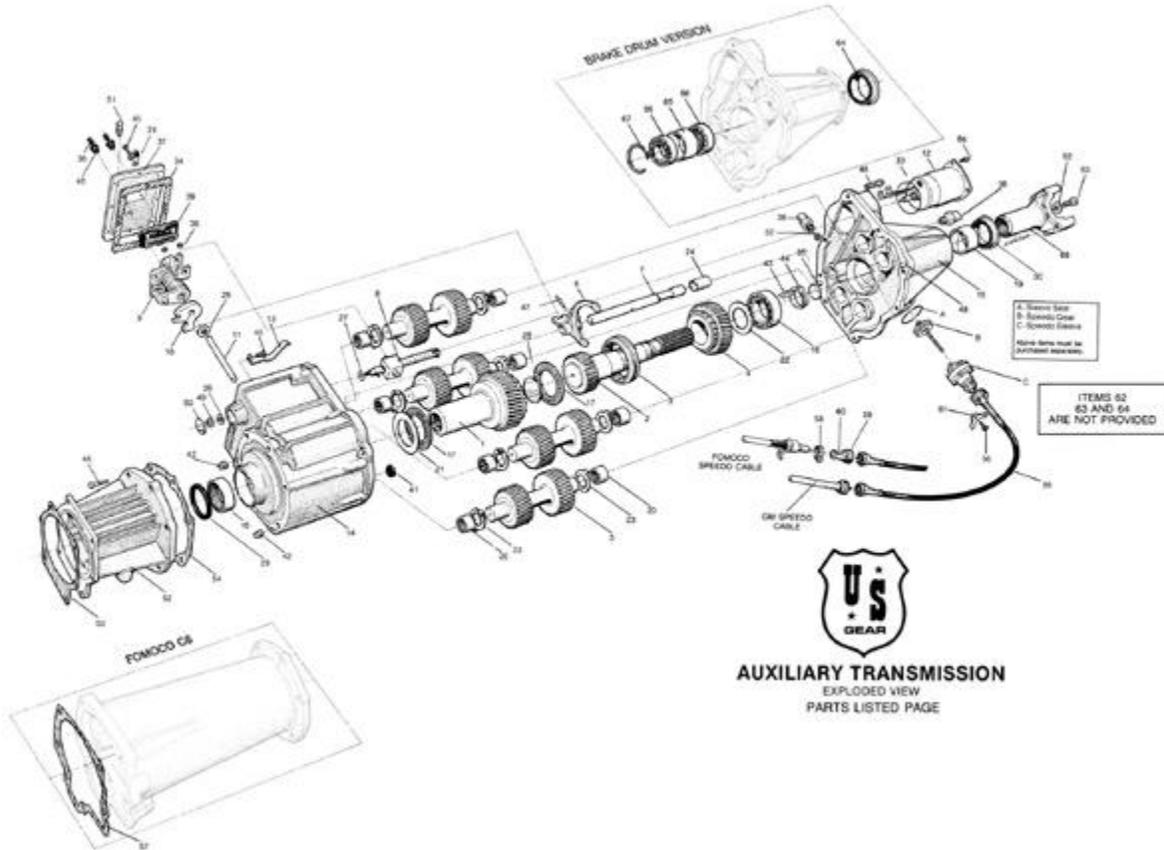
Installation of the Dual Range always requires shortening and balancing of the drive shaft. In most applications, this is the only modification required; however, on occasion modifications may be necessary to the exhaust system, floor pan, and in some 4WD applications, modification to the fuel tank. The balance of the installation is a simple bolt-on and wiring the driver control that is supplied in each kit.

What kind of fluid does the Dual Range use?

The unit uses one quart of 80-90 weight gear lube. A good synthetic equivalent is acceptable, also. We recommend changing the gear lube every year or 20,000 miles.

C6/C6B 3 Speed Automatic Underdrive					
Axle Ratio	3.55	3.73	4.10	4.56	4.88
Under	10.91	11.48	12.61	14.03	15.00
First	8.73	9.48	10.09	11.22	12.00
Under	6.48	6.81	7.49	8.33	8.90
Second	5.18	5.45	5.99	6.66	7.12
Under	4.44	4.66	5.13	5.70	6.10
Third	3.55	3.73	4.10	4.56	4.88
C6/C6B 3 Speed Automatic Overdrive					
Axle Ratio	3.55	3.73	4.10	4.56	4.88
First	8.73	9.18	10.09	11.22	12.00
Over	6.98	7.34	8.07	8.98	9.60
Second	5.18	5.45	5.99	6.66	7.12
Over	4.14	4.36	4.79	5.33	5.70
Third	3.55	3.73	4.10	4.56	4.88
Over	2.84	2.98	3.28	3.65	3.90

Dual Range Components



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AUXILIARY TRANSMISSION PARTS LIST

O.D. — OVERDRIVE

U.D. — UNDERDRIVE

ITEM NO.	DESCRIPTION	PART NO.	QTY
1	INPUT SUN GEAR		1
	10 SPLINE U.D.	DURJ01735	
	GM O.D. 32 SPLINE	DURJ01740	
	FORD O.D. 31 SPLINE	DURJ01742	
	FORD U.D. 31 SPLINE	DURJ01743	
	GM U.D. 32 SPLINE	DURJ01745	
	GM U.D. 27 SPLINE	DURJ01746	
	GM O.D. 27 SPLINE	DURJ01747	
	10 SPLINE O.D.	DURJ01770	
	DODGE 518 4x4 U.D. 23 SPLINE	DURJ01823	

	DODGE 518 2x4 U.D. 30 SPLINE	DURJ01900	
	DODGE NV4500 4x4 O.D. 29 SPLINE	DURJ01909	
	DODGE NV4500 2x4 O.D. 31 SPLINE	DURJ01910	
	DODGE NV4500 4x4 U.D. 29 SPLINE	DURJ01924	
	DODGE NV4500 2x4 U.D. 31 SPLINE	DURJ01925	
	DODGE 518 2x4 O.D. 30 SPLINE	DURJ01937	
	DODGE 518 4x4 O.D. 23 SPLINE	DURJ01824	
2	OUTPUT SHAFT		1
	32 SPLINE	DURJ01739	
	27 SPLINE	DURJ01748	
	31 SPLINE	DURJ01749	
	10 SPLINE	DURJ01850	
	29 SPLINE	DURJ01908	
	23 SPLINE	DURJ01928	
3	SLIDER	DURJ01432	1
4	OUTPUT SUN GEAR (OD)	DURJ01741	
	OUTPUT SUN GEAR (UD)	DURJ01744	
5	PLANET GEAR	DURJ01429	4
6	SHIFT FORK	DURJ01448	1
7	SHIFT RAIL	DURJ01435	1
8	DRIVE SCREW ASSEMBLY	98-80086	1
9	SPRING (LEVERS ASSEMBLY)	62-80039	1
10	SHIFT FINGER	66-80022	1
11	SHIFT SHAFT	DURJ01449	1
12	SHIFT MOTOR	93-80040	1
13	LEAF SPRING	62-80034	1
14	MAIN HOUSING ASSEMBLY	71-80031-A	1
15	STD. TAIL HOUSING ASSEMBLY	72-80015-A	1
	TAIL HOUSING (BRAKE) ASSEMBLY	72-80012-A	1
16	INPUT SUN BEARING	78-80023	1
17	THRUST BEARING	78-80025	2
18	BALL BEARING	78-80029	1
19	OUTPUT BUSHING	83-80008	1
20	PLANET BEARING	78-80022	8
21	THRUST WASHER	86-80027	1
22	THRUST WASHER	86-80029	1
23	PLANET THRUST WASHER	86-80025	8
24	BUSHING BRONZE	83-80006	1
25	WASHER FLAT	90-80119	1
26	WASHER 5/16 I.D. FLAT	90-56500	1
27	WASHER FLAT (DRIVE SCREW)	90-80123	1
28	EXPANSION PLUG (INPUT SUN)	82-80091	1
29	INPUT SEAL	82-80090	1
30	OUTPUT SEAL	82-55132	1
31	WIRING HARNESS CLIP	92-80013	1
33	'O' RING	82-80117	1
34	SIDE COVER GASKET	81-80037	1
35	'O' RING	82-80096	1
36	NUT #8-32	90-80102	6
37	SIDE COVER	96-80008	1

38	LIGHT SWITCH	59-80004	2
41	MAGNETIC	93-80001	1
42	PLUG (Fill & Drain)	82-80116	2
43	CLIP SPEEDO GEAR	84-80004	1
44	SPEEDO DRIVE GEAR	10-00002	1
45	SCREW #10-24x $\frac{3}{4}$	90-80116	9
46	SCREW 3/8-16x1- $\frac{1}{2}$	90-80126	14
47	PIN (SHIFT FORK)	10-00-043- 016	1
48	DOWEL PIN	79-80029	1
49	LOCKNUT BALL SCREW	90-80100	1
50	EXPANSION PLUG	96-80002	1
51	BREATHER PLUG	82-56375	1
52	ADAPTER, GM THM 400	DURJ01750	1
	ADAPTER, FORD C6	DURJ01751	1
53	GASKET (ADAPTER, TURBO 400)	81-80036	1
54	GASKET (MAIN HOUSING)	81-80038	1
55	SPEEDO EXTENSION CABLE	84-80007	1
56	SCREW (SPEEDO BRACKET)	90-80112	1
57	GASKET (ADAPTER FD C6)	81-80039	1
58	CLAMP	90-80124	1
59	SPEEDO CABLE NUT	84-80011	1
60	SLEEVE (SPEEDO CABLE ADAPTER)	84-80012	1
61	BRACKET (SPEEDO SLEEVE)	63-80034	1
62	WASHER (OUTPUT YOKE)	90-80118	1
63	SCREW (YOKE)	90-80112	1
64	OUTPUT SEAL (BRAKE)	82-80092	1
65	BEARING SPACER	79-80028	1
66	BEARING	78-80028	2
67	SNAP RING	80-80020	1
68	SCREW	90-80151	3
69	YOKE	89-80001	1

Dual Range® Auxiliary Transmission
Application Chart & Price Schedule

Vehicle Transmission	Application	Part Number		Price Code	Adapter Kit
		U/D	O/D		
GM 2WD Automatics					
3-spd. (T350)	Pick-ups, vans, Suburbans, equipped small block engines (6" tail hsg.)	170-28725	170-28780	A	80-80029
3-spd. (T350-9")	Same as above with 9" tail hsg.	170-28725	170-28780	A	80-80032
3-spd. (T400)*	Pick-ups, vans, Suburbans ('73-'87), big block engines '88-'90 Crew-Cabs/Suburbans*	170-28025	170-28080	A	80-80025
	Note: All 2WD T400 GM vehicles 1979 & older will require a floor pan kit (PN 92-80012) for proper installation				
3-spd. (T400E)	Pick-ups ('88 - '90) exc. Crew-Cabs/ Suburbans big block engines	170-28025M	170-28080M	A	80-80025
3-spd. (T475B)	P-30 Chassis w/ transmission parking brake	170-28025B	170-28080B	D	80-80025B
4-spd. (T700R4)	Pick-ups, vans, and Suburbans w/ small block engines and cable-driven speedometer	170-28725	N/A	A	80-80029
4-spd. (T700R4E)	'88-'95 Pick-ups, vans, and Suburbans w/ small block engine and electric speedometer	170-28725M	N/A	A	80-80029M
4-spd. (T4L80E)	'91-'93 3/4 & 1-ton pick-ups, vans, Crew-Cabs/Suburbans w/ big block engines	170-28025M**	170-28080M**	C	80-80035**
4-spd. (T4L80E)	'94-'95 3/4 & 1-ton pick-ups, vans, Crew-Cabs/Suburbans w/ big block engines	170-28025M	170-28080M	C	80-80035M
4-spd. (T4L80E)	'96 & Up 3/4 & 1-ton pick-ups, vans, Crew-Cabs/Suburbans w/ big block engines	170-28025M	170-28080M	C	80-80035C
4-spd. (T4L80E-B)	'91-'95 P-30 chassis w/ Transmission Parking Brake	170-28025BM	N/A	C	80-80035B
4-spd. (T4L80E-B)	'96 & Up P-30 chassis w/ Transmission Parking Brake (4 wheel ABS)	170-28025BM	N/A	E	80-80035BC
4-spd. (T4L80E-BH)	'91-'95 P-30 chassis w/ Transmission Parking Brake (Hydraulic Assist)	170-28025BM	N/A	E	80-80035BH
4-spd. (T4L80E-BH)	'96 & Up P-30 chassis w/ Transmission Parking Brake (Hydraulic Assist) (4 wheel ABS)	170-28025BM	N/A	E	80-80035BHC
Manuials					

5-spd. (NV4500)	Pick-ups ('94& up)	170-28525M	170-28580M	C	80-80070
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* Some '88-'90 Crew-Cabs/Suburbans have electronic speedometer pickup. Those applications use (T400E)

** '91-'93 4L80E Pick-ups, vans, Crew-Cabs, and Suburbans w/ big block and diesel applications require a VSSB Calibrator, our Part # 80-80001

GM 4WD Automatics

3-spd. (T400)	Pick-up/Suburban w/ NP208 or BW1370, '80-'87 big block engines	140-28025	140-28080	C	80-80046
3-spd. (T400)	Pick-up/Suburban w/ torsion bar w/ NP241 & BW4110 big block engines '88-'90	140-28025	140-28080	D	80-80048
4-spd. (4L80E)	Pick-up/Suburban w/ torsion bar w/ NP241 & BW4110 big block engines '91-'95	140-28025	140-28080	D	80-80048M
4-spd. (700R4)	Pick-up/Suburban w/ NP208 or BW1370 '80-'87 small block engines	140-28725	N/A	C	80-80046
4-spd. (700R4/4L60E)	Pick-up/Suburban w/ NP241. '88-'95 small block engines	140-28725	140-28780	D	80-80049

Manuals

4-spd. (SM465)	Pick-ups, Crew-Cabs, & Suburbans w/ NP208 or BW1370 '80-'87	140-28025	140-28080	C	80-80045
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Note: All 4WD Pick-ups with Standard Cabs will require fuel tank modifications.

Dodge 2WD Automatics

3-spd. (727)	Pick-ups w/ Cummins Diesel engine. '89-mid '91	170-28025	170-28080	D	80-80043
3-spd. (727)	Pick-ups Gas w/ 8.0" tail housing	170-28025	170-28080	D	80-80041
4-spd. (518)	Pick-ups w/ Cummins Diesel or V-10 engine, mid '91-'95	170-68025*	170-68080*	F	80-80050*
4-spd. (518)	Pick-ups w/ Cummins Diesel or V-10 engine, '96 & up	170-68025*	170-68080*	F	80-80051*

Manuals

5-spd. (NV4500)	Pick-ups '94 & up	170-68125	170-68180	C	80-80044
6-spd. (NV5600)	Pick-ups '99 & up	170-68125*	170-68180*	E	80-80056*

* These applications are not recommended as "Do-It-Yourself" installations.

Dodge 4WD Automatics

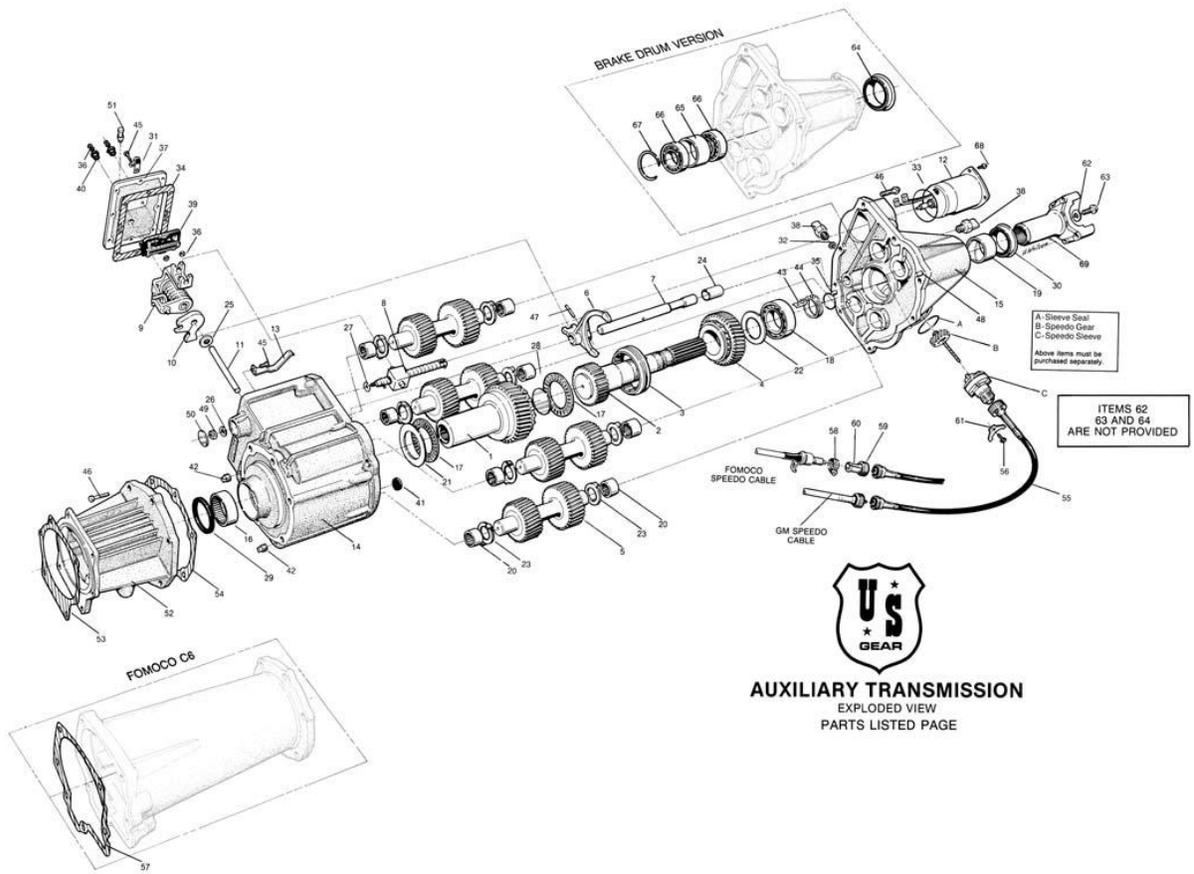
4 spd. (518)	Pick-ups w/ Cummins diesel and gas engine, '94 & up	140-68325**	140-68380**	C	80-80084**
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Manuals					
5-spd. (NV4500)	Pick-ups w/ Cummins diesel and gas engine, '94 & up	140-68925**	140-68980**	C	80-80085**
6-spd. (NV5600)	Pick-ups w/ Cummins diesel engine	140-68925**	140-68980**	C	80-80086**
** These applications require fuel tank modification on standard cab trucks or trucks with short beds. 4WD units are mounted between the primary transmission & transfer case.					
Ford 2WD Automatics					
3-spd. (C4)	Light duty vans and pickups (replaces 13" tail housing)	170-48825	170-48880	B	80-80014
3-spd. (C6)	Heavy duty Pick-ups, vans, & Class C mini-motorhomes	170-48025	170-48080	A	80-80026
3-spd. (C6B)	John Deere / Oshkosh Class A Motorhome chassis w/ transmission parking brake	140-28125	140-28180	E	80-80026B
4-spd. (E4OD)	'89-'98 pick-ups (F250/350), vans, & Class C mini-motorhomes. All w/o transmission parking brake	170-48025**	170-48080**	B	80-80036
Note: '95-'97 pick-ups w/ 7.3L DI "PowerStroke" require Part Number 80-80002 catalytic converter extension kit.					
4-spd. (E4OD/4R100)	'99-'03 Pick-ups (F250/350/450/550 Super Duty), Excursions, vans, & class C mini-motorhomes. All w/o transmission parking brake	170-48025**	170-48080**	B	80-80038
4-spd. (E4OD/4R100)	Pre-'99 F450 Super-Duty Cab-Chassis w/ transmission parking brake	140-48025**	140-48080**	C	80-80036B
4-spd. (E4OD/4R100)	Ford Chassis Super Duty Class A & C Motorhomes w/ transmission parking brake	140-48025**	140-48080**	C	80-80181
Manuals					
5-spd. (ZF5-B)	Pre-'99 F450 Super-Duty Cab-Chassis w/ transmission parking brake	140-48025	140-48080	C	80-80180
** Installations on '92 or newer Diesel and '93 or newer Gasoline vehicles or any E4OD that has been upgraded, will require our Speed Processor PN 84-80006 for proper operation. (This includes all vehicles with the 4R100 transmission.)					

Ford 4WD Automatics					
3-spd. (C6)	All trucks w/ NP205/208 or BW1345/1356 transfer case.	140-48025	140-48080	C	80-80060
4-spd. (E4OD/4R100)	Same as above	140-48025**	140-48080**	C	80-80060
Manuals					
4-spd. (T18-19)	Same as above	140-48025	140-48080	C	80-80065
5-spd. (ZF5)	Same as above	140-48025	140-48080	C	80-80065
6-spd. (ZF6)	Same as above	140-48425	140-48480	C	80-80065
<p>4WD units are mounted between the primary transmission & transfer case; installation on Ford single cab 4 x4 vehicles with dual fuel tanks will require modification of front tank. Also, Ford Crew-Cab models will require modification to floor pan to make the necessary clearance for the Dual Range and the new location of the transfer case. This can normally be accomplished by pushing up on the floor. Contact your dealer for more details on your application.</p> <p>** Installations on 92 or newer Diesel and 93 or newer Gasoline vehicles or any E4OD that has been upgraded, will require our Speed Processor PN 84-80006 for proper operation. (This includes all vehicles with the 4R100 transmission.)</p>					

Dual Range® Price Schedule

Price Code	Retail
A	\$2,395.00
B	\$2,495.00
C	\$2,595.00
D	\$2,695.00
E	\$2,795.00
F	\$2,895.00
80-80001	\$176.00
80-80002	\$99.00
84-80006	\$200.00
92-80012	\$35.00



(High Quality Image, Zoom for more detail)