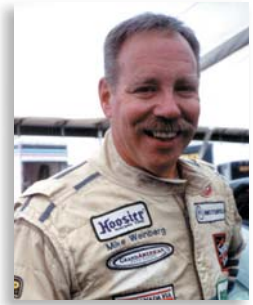


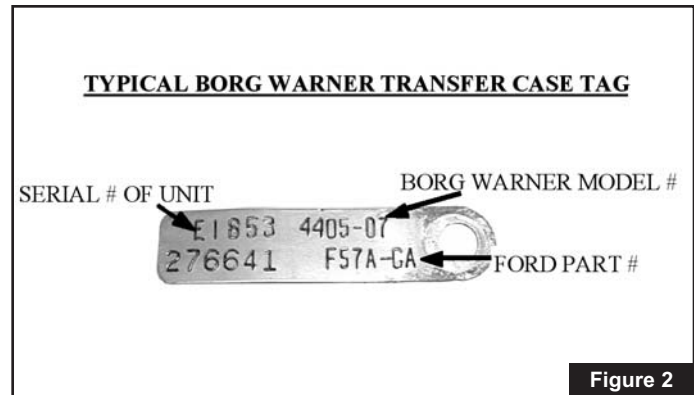
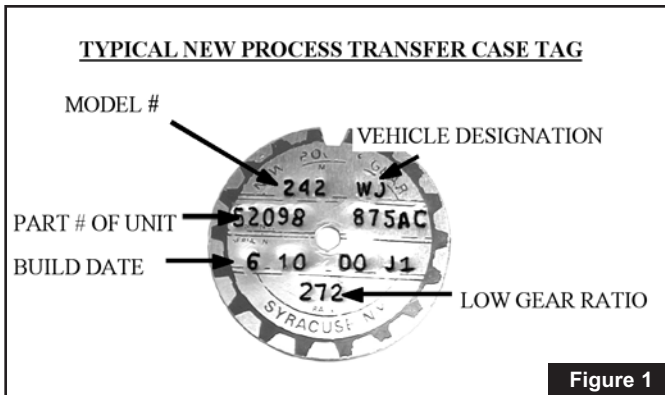
Transfer Case Identification Guide



by Mike Weinberg, President,
Rockland Standard Gear Inc.

Standard transmissions, which once were found in 100% of all cars and trucks produced, now occupy 18-20% of the overall US market. Transfer cases, which once occupied only a fraction of the market, have grown exponentially. Fueled by the

dominance of SUV's and the great expansion of the light truck market, the greatest growth in the gearboxes is in transfer cases. It is easy to predict the continuation of this trend as manufacturers create new technology to make more passenger cars all-wheel-drive.



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These “cross over” vehicles will continue to grow as the public demands better handling and traction year round.

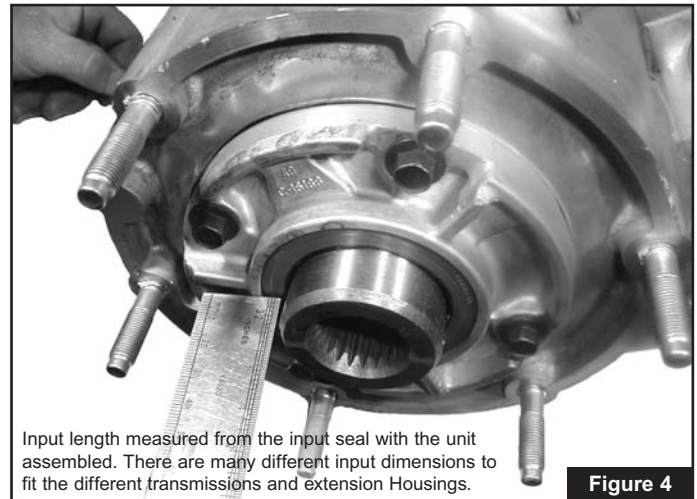
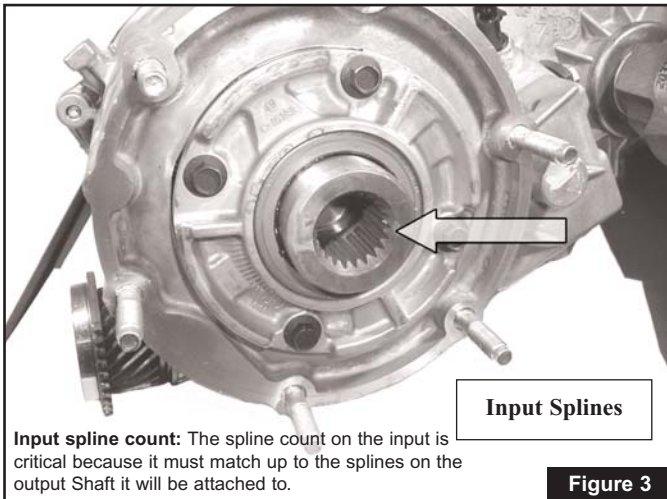
In the 60s there was only a handful of transfer cases used by the American carmakers. Typically of cast iron construction and heavy, they were bypassed after the energy crisis of the 70s made fuel economy and weight savings a high priority. Today, there are over 40 different models of transfer cases of American manufacture plus a number

of offshore units.

The two major transfer case manufacturers are Borg Warner Torque Transfer Systems, and the New Venture Gear Co. New Venture Gear was a joint venture between Daimler Chrysler Corporation and GM. This deal was recently dissolved, but it consisted of the New Process Gear Division of Chrysler joining with the Muncie Division of GM to produce manual transmissions and transfer cases. Any

transfer case that was built by New Process Gear will be included in the New Venture transfer case line for purposes of this article.

One of the greatest problems facing the transmission rebuilder and parts suppliers in the last decade or so is the tremendous proliferation of new units. The transfer case is no different, with a number of new units appearing annually. Adding to the confusion is the fact that a great number of transfer case



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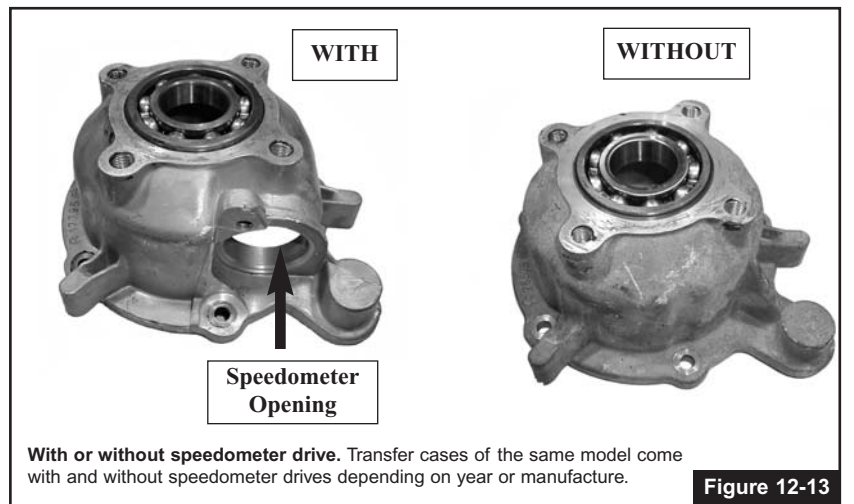
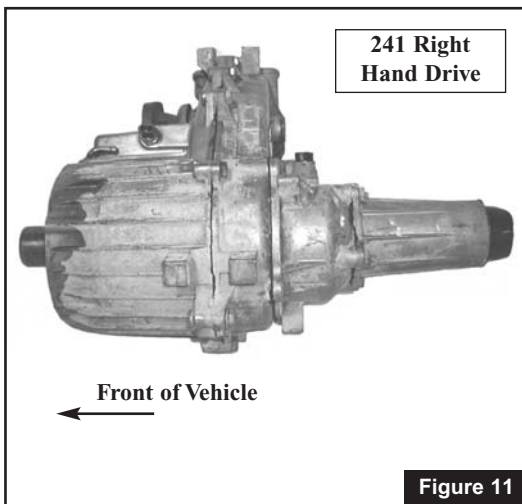
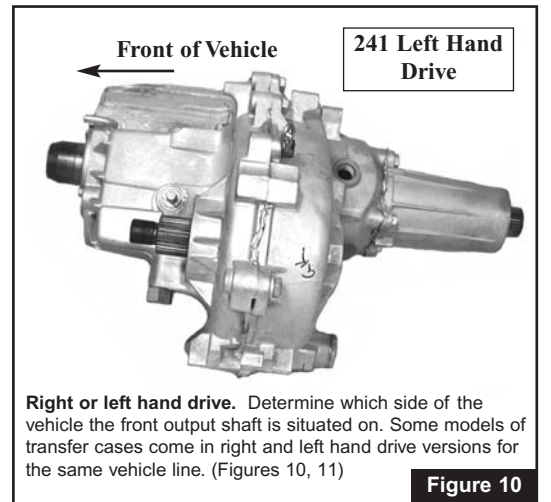
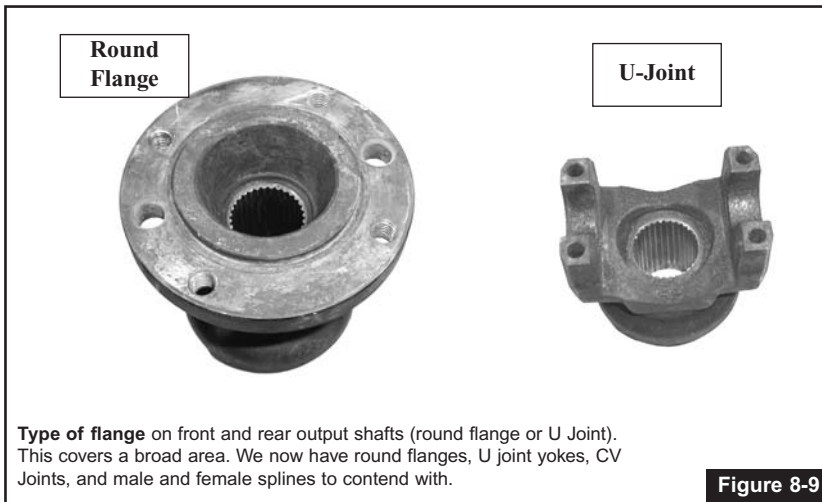
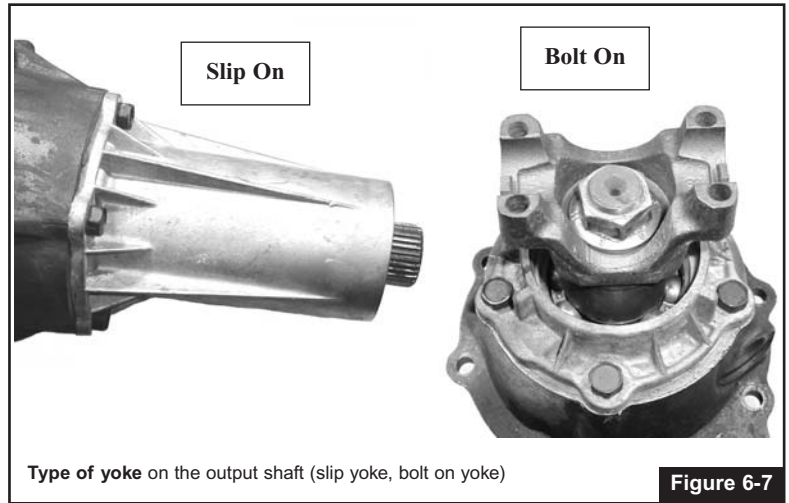
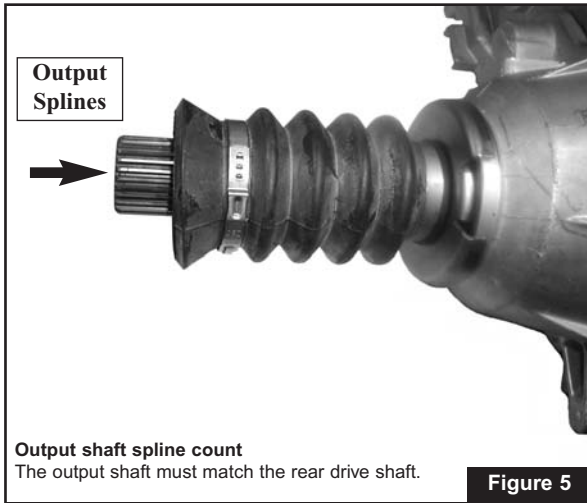
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Transfer Case Identification Guide



models cross over multiple car lines, and while the basic design is the same, there are numerous variations that are model specific. For reasons unknown many people in the repair industry think that one size fits all. For example, the NV231 transfer case is found in Dodge, Jeep, and GM vehicles. It is easy to realize that a Jeep 231 will not bolt up

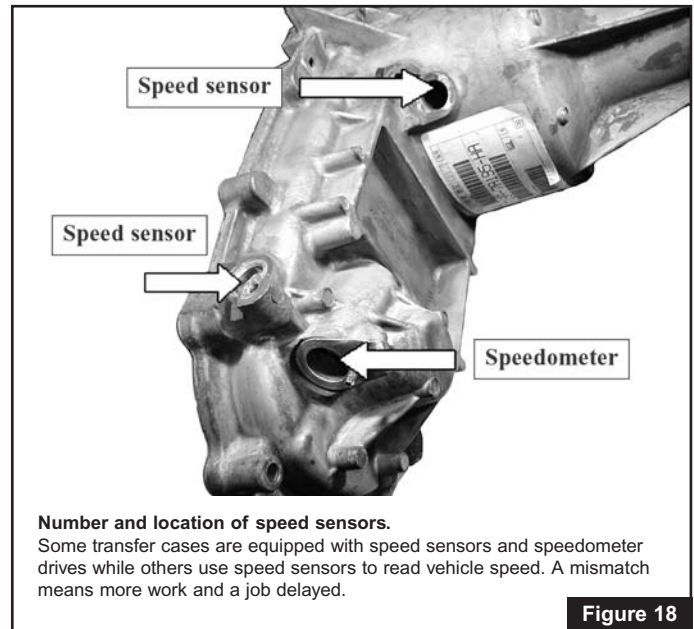
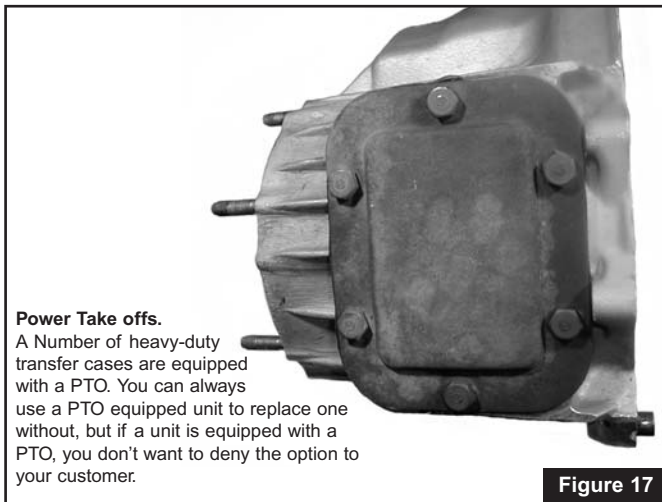
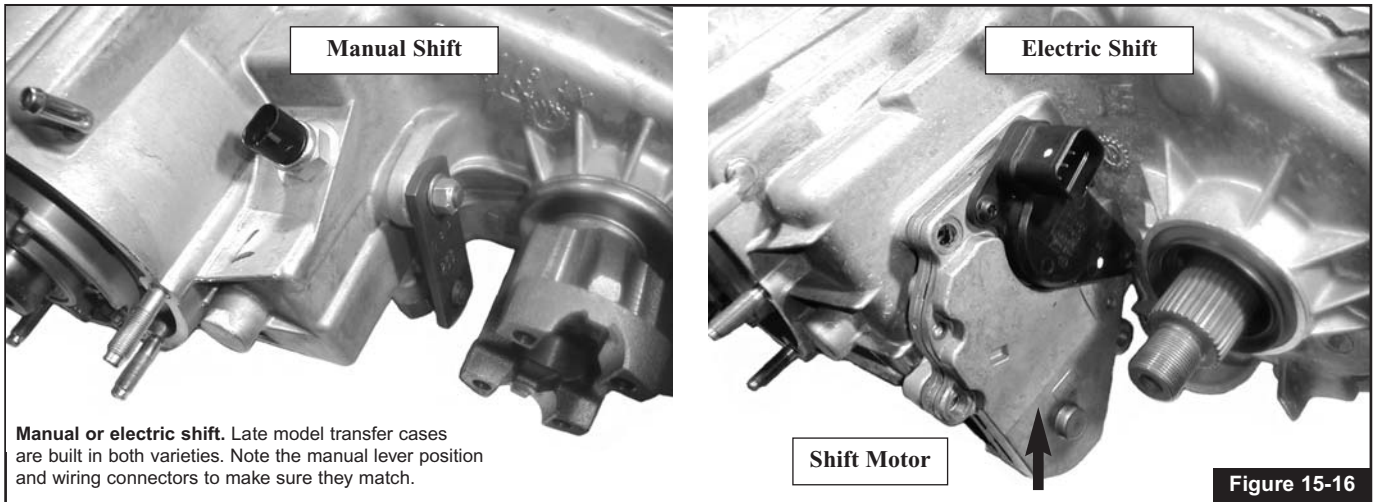
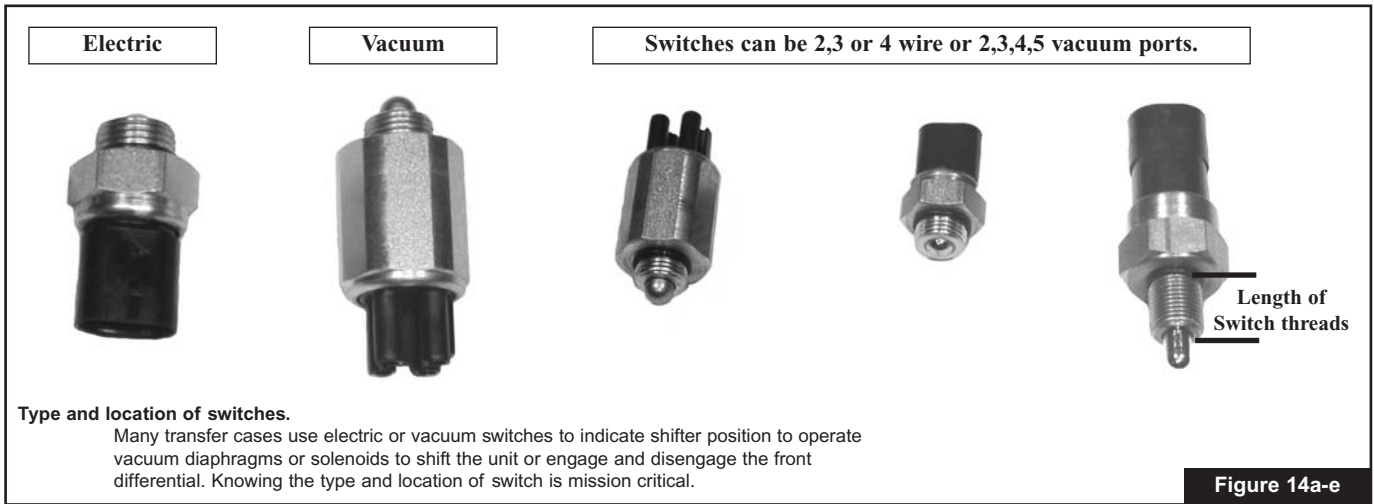
to a GM powertrain, but most shops don't realize that there are 12 different variations of the 231 found in Jeeps. Add 6 more for GM and 11 models for Dodge and we have 29 models of the 231 transfer case that can find their way into your shop. The intent of this article is to explain the differences between these variations, so that you can obtain

the correct information when ordering parts or a unit. Again, for reasons unknown, a great many shops resist answering the questions that the parts supplier needs to make this one-stop shopping.

Tag and Vehicle Identification

It is absolutely necessary to note as

Transfer Case Identification Guide



much information as possible about the vehicle. Year, production date, engine size and type, and model of transmission are all vital pieces of information. Next we must look at the transfer case

ID tag. Typical ID tags are shown here (Figures 1 & 2) with an explanation of what the information means. Record this information on your work order along with the previously gathered

vehicle specs. On late model units you will find barcode decals on the cases with OEM part numbers attached.

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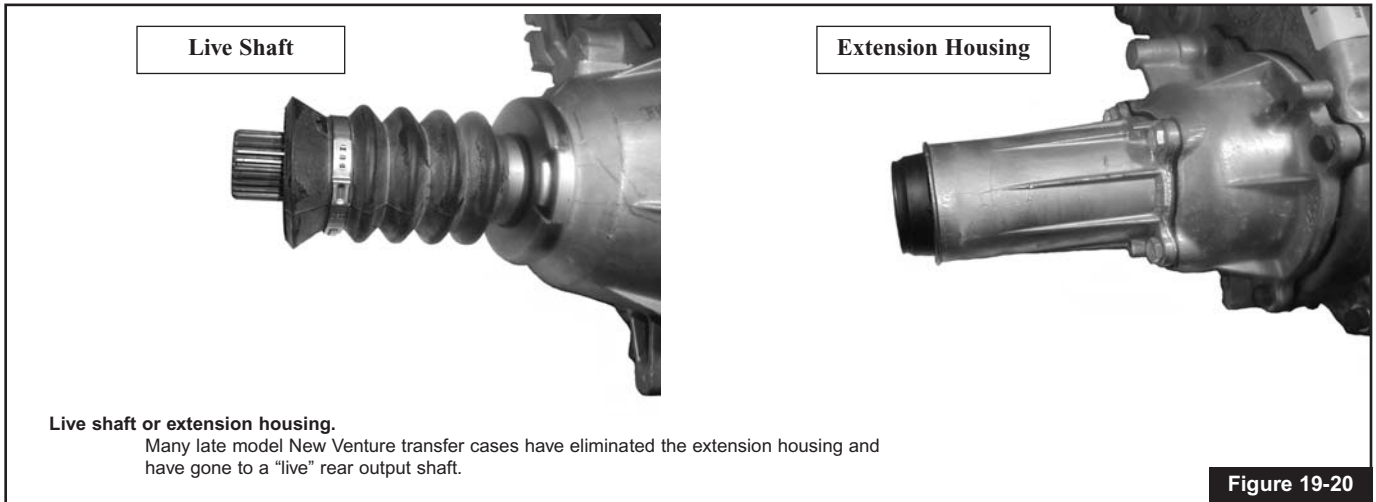


Figure 19-20

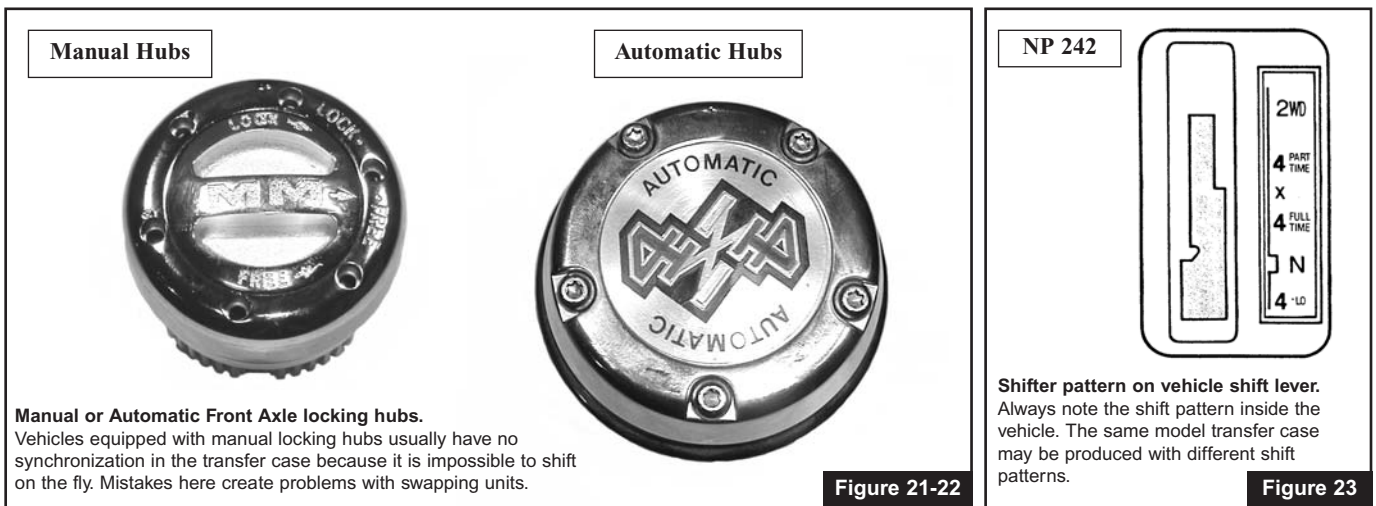


Figure 21-22

Figure 23

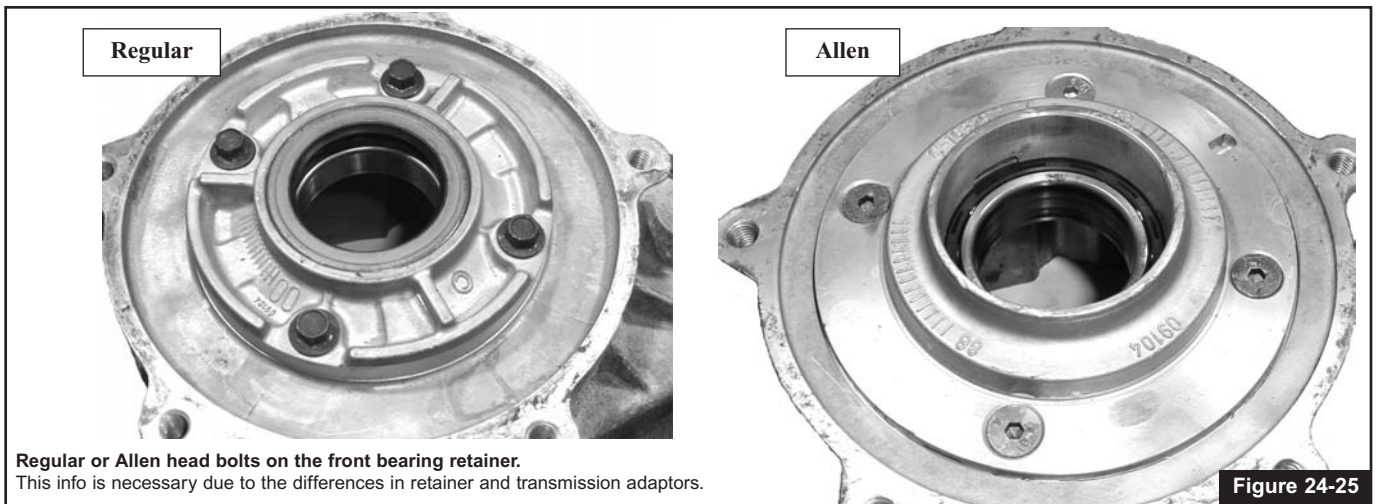


Figure 24-25

Figures 3 through 25 show the main differences in transfer cases that you must be aware of to handle these units like a pro.

Next we will go through all the different areas on the transfer case that can affect positive ID of the unit. This information is necessary because ID tags may be missing, unreadable or wrong! Never forget that someone before you may have cobbled together something from used parts and the tag may have come from another unit. Many a shop has found itself involved in a nightmare because a previous owner took it to the butcher shop before it got to you. You know the guys I mean... "if it's close we will make it fit, we don't worry about warranty after we get the money, it will be some one else's headache."

Figures 3 through 25 show the main differences in transfer cases that you must be aware of to handle these units like a pro. Not all of these areas apply to every transfer case, but making a check list will ensure that you get the right parts or the right unit for your application.

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TRANSFER CASE	APPLICATION	YEAR	NOTES
NP203F	F150, F250, Bronco	1973-79	Full time unit, heavy-duty, cast iron, chain driven with direct and remote mounting.
NP205F	F150, F250, Bronco	1973-79	Part time unit, heavy-duty, cast iron, gear driven with direct and remote mounting.
NP208F	F150, F250 Bronco	1980-86	Part time aluminum case unit.
NV271F	F250-550	1999 - up	Heavy-duty manual shift, aluminum case
NV273F	F250-550	1999 - up	Heavy-duty electric switch, aluminum case
BW1345F	F250	1980-92	Magnesium case, medium-duty, manually shifted transfer case.
BW1350F	Bronco II, Ranger, Explorer	1983-89	Light-duty, magnesium case. Manual and electric shift.
BW1356F	Full size Bronco, F-150, 250	1987-96	Medium-duty, magnesium case, manual and electric shift
BW 4404F	Explorer & Mountaineer	1996 - up	Medium-duty, magnesium case, all wheel drive equipped with viscous coupling.
BW4405F	Explorer & Mountaineer	1995-99	Electric shift, clutch pack driven torque transfer
BW4406F	F150, F250, Expedition, Navigator	1997 - up	Built with electric shift, manual shift, and torque-on-demand models.
BW4407F	F250, F350	1996 -98	Medium-duty, magnesium case, manual shift. Built with and without PTO option
Dana28 (RA28)	Aerostar AWD models	1990-96	Magnetic clutch actuated torque transfer
NP203C	Blazer, K series	1973 -79	Heavy-duty chain driven, cast iron case found behind manual trans, TH350, TH400.
NP205C	Blazer, K10-K30	1966-84	K30 and 3500 series trucks 1984 and up. Heavy-duty cast iron, gear driven unit. Found behind SM465, Th350, and TH400.
NP207C	S10 & Jimmy	1983-87	Light-duty, aluminum case with manual shift.
NP208C	Full size Blazer, Jimmy, & Pick-ups	1981-88	Part time, aluminum case built in synchronized and non-synchronized models. Used behind man. And auto trans.
NP231C	S10, Jimmy, and pick-ups	1988 - up	Light-duty, aluminum case. Built with and without torque arm, cable and electric speedo, maual shift.
NP233C	S10, Jimmy	1992 - up	Light-duty, aluminum case, electric shift, built with and without torque arm.
NP236C	Astrovan, Safari, GMC & Blazer	1998 - up	Light-duty, aluminum case, electric shift, male splines on front output shaft.
NP241C	Blazer, Suburban, Tahoe	1987 -98	Medium-duty, aluminum case with manual shift. Part, time unit built in right and left drive models.
NP243C	Blazer, Suburban, Tahoe Yukon, & Pick ups	1996 - up	Medium-duty, aluminum case, electric shift. Found behind 4L60E and 4L80E trans.
NV246C	Tahoe, Yukon, Suburban	1998 - up	Medium-duty, magnesium case, electric shift.
BW1370C	K3500 models	1988 - up	Part time unit with 3-piece magnesium case with oil pump spacer plate. Also known as BW4470.
BW4401C	K3500 New Body Style Pick-ups	1987 - up	Part time unit with 2-piece magnesium case without oil pump spacer.
BW4472C	Astrovan, Safari, Bravado Typhoon, Cyclone models	1991-98	Full time unit, magnesium case with viscous coupling.
NV136C	Astrovan, Safari, Blazer	1998 - up	All wheel drive unit (AWD) with electric clutch pack apply
NP203D	Ram Charger W100-300 models	1973-79	Heavy-duty, cast iron case, chain driven, full time unit Direct and remote mount.
NP205D	W100-350 Ram truck	1982-93	Heavy-duty, cast iron case, gear driven, part time unit
NP208D	Ramcharger & Pick-ups	1980-88	Medium-duty, aluminim case, part time unit. Built in synchronized and non-synchronized models.
NP231D	Dakota, W150 & Durango models	1987-01	Light-duty, aluminum case. Part time unit. Manual shift unit with many variations of vacuum and electric switches. Produced with two shift patterns.
NP241DLD	Ram Charger, W150-250 models	1987 - up	Light Duty. Part time unit with aluminum case, manual shift. Produced with 2 types of shift patterns.
NP241DHD	W350 Pick-ups		Heavy Duty Part time unit with aluminum case, produced with 2 types of manual shift patterns and all models equipped with PTO
NP242D	Durango, Dakota	1997 - up	Part time-Full time unit with internal differential for full full time use.
Quadratrac Dana 300	Jeep Cherokee CJ7 models CJ5, CJ7, CJ8	1973-79 1980-86	Full time unit with cone clutch differential. Some models equipped with low reduction unit. Cast iron case, part time unit with manual shift.
NP128J	AMC Eagle	1986-88	Full time unit without viscous coupling
NP129J	AMC Eagle	1979-85	Full time unit with viscous coupling
NP207J	Wrangler Cherokee models	1983-88	Part time, aluminum case, manual shift.
NP208J	Wrangler, J10, Cherokee models	1980-83	Part time, aluminum case, manual shift.
NP219J	Wagoneer, Cherokee, & pick-up models	1980-83	All wheel drive (AWD) unit with viscous coupling.
NP228J	Cherokee, Wagoneer, Grand Cherokee	1986 only	Part time unit with aluminum case. Vacuum and mechanical shift without viscous coupling.
NP229J	Cherokee, Wagoneer, Grand Cherokee	1982-92	Part time unit with aluminum case. Vacuum and mechanical shift with viscous coupling.
NP231J	YJ, TJ, ZJ, WJ, XJ	1987 - up	Part time unit, aluminum case with manual shift. Wide variety of vacuum and electric switches. Produced with live shaft and extension housing.
NP242J	Cherokee/Grand Cherokee	1987 - up	Part time, full time unit, aluminum case with internal differential. Produced with live shaft and extention housing. Manual sift.
NV247J	Grand Cherokee, WJ model	1999 - up	Full time unit with progressive coupling. Uses two internal pumps and clutch pack for torque transfer. Manual shift for low lock only.
NP249J	Cherokee/Grand Cherokee	1993 - up	Full time unit with viscous coupling. Manual shift. Produced with and without low lock.

These are the most common areas that you need to be aware of. On your vehicle inspection please note any torque arms braces, or weights that bolt directly to the transfer case so that the replacement unit or case will be bored and threaded to accept these pieces. The factory doesn't put anything on the

vehicle for the fun of it. There are no unimportant parts so don't have anything "left over" after the unit is installed.

From the chart above you can see that many models of transfer cases cross over many different vehicle lines, and even within the same car line there

are many variations of shift patterns, switches, and internal parts. This should only make you more aware of the need to know everything you can about the unit and the vehicle you are working on. Information is like the truth, it sets you free.



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- A.) Climb the closest tree
- B.) Scream and fight back
- C.) Lay down and play dead

Answer: C. Some grizzlies can climb trees and most attacks are the result of trying to remove a perceived threat. Fighting back risks a prolonged mauling. In this situation, experts generally agree your best chance for survival is to lie down in a submissive position and cover your head and extremities.

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