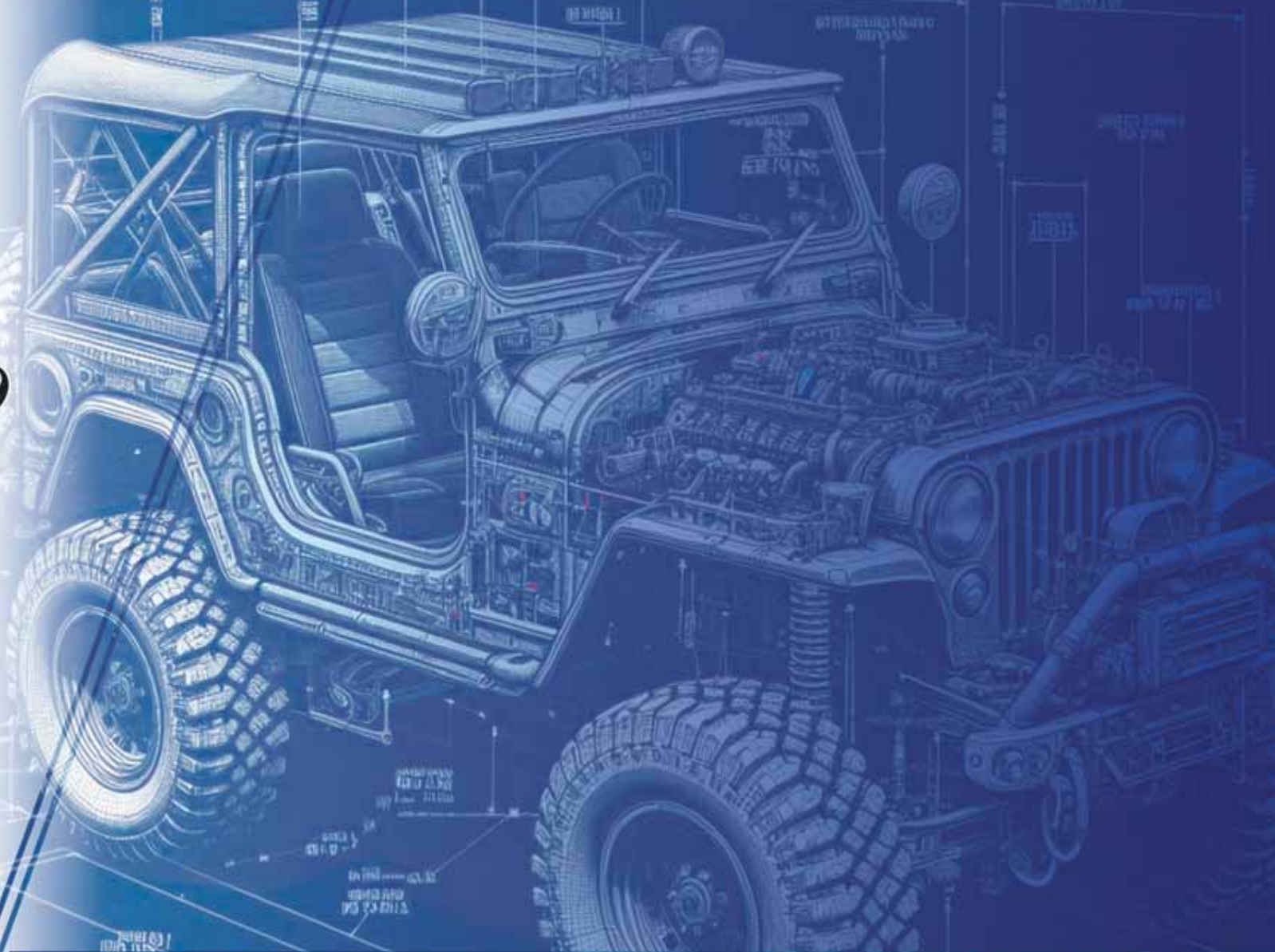


ADVANCE ADAPTERS  
**ATLAS**  
PERFORMANCE TRANSFER CASES



# 2025

# PRODUCT CATALOG

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## Business Hours (Pacific Time)

**Monday - Friday**  
**7:30 am to 4:00 pm**  
**Saturday - Sunday**  
**Closed**

(Closed for lunch daily 11 am to 11:30 pm)



SCAN ME

# Calling in for Sales, Technical or Customer Service

Customer service is very important to us. We have set up our phone system with the options listed below to streamline phone support for you. We have a well trained staff that has great product knowledge here to help you.

**SALES (Press 1)** - Our sales department is ready for sales questions, help, product applications or placing orders.

**CUSTOMER SERVICE (Press 2)** - Customer service can assist regarding shipments, tracking info, or RGAs etc.

**TECHNICAL SERVICE (Press 3)** - Our technical service department can help with fitment questions, conversion issues or any other product problems you may be experiencing.

## Our Website and Features

We are continually working on and making improvements to the Advance Adapters website because it is one of your direct sources for the most current, up-to-date information on our products. We have several features that will help you in the proper selection of products.

**TECH VAULT KNOWLEDGE BASE** - For more than 50 years now, we have been collecting data and doing drivetrain conversions on various four-wheel drive vehicles. At one time in our print history, we used to publish six different vehicle-specific manuals from our knowledge base; however, these are now all part of our Tech Vault. The Tech Vault has a link from our home page, but now we are linking relevant information on the Tech Vault to each product number. The important fact is that we want YOU to be informed & educated as much as possible on your project. If for any reason you don't see the information you are looking for, we are just a phone call or email away. Please let us know.

**REWARDS PROGRAM** - We realize that web shopping is a competitive marketplace and most on-line shoppers are looking for a special price or a reason to purchase at a particular store. For this reason, we offer a simple rewards program that is easy to redeem, and you are automatically signed up with your first order.

**SOCIAL NETWORKING** - Like us on Facebook or follow us on Twitter for new products, latest news or to just see what's going on with us here at Advance Adapters. We post weekly information to keep you informed.

**PRODUCT NAVIGATION** - We offer our search windows on the home page for key word searches plus several main category drop-downs to navigate to the products you are looking for. Once you have the product page up that you are looking for, there are linked instruction sheets, related items that you may also want, and the Tech Vault related information.

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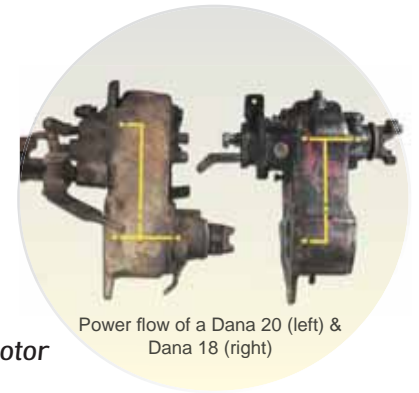




# Jeeps 1941 to Current Introduction

Jeeps can be broken down into 4 specific categories: Jeeps 1941-1979, Jeeps 1980-86, Jeeps 1987-2011 & Jeeps 2012 to Current production. Over the past 80 years, Jeep vehicles have been equipped with numerous different transmissions over the years making it difficult to identify the specific transmission by the year of the vehicle. Listed on the following pages are the basics of the stock Jeep drivetrains and products we offer. Additional detailed information can be found in our Tech Vault Knowledge Base area of our website.

When starting a conversion project, you will need to determine whether or not you will need a transmission-to-transfer case adapter, a transmission-to-engine adapter, or in some cases both. There are other essential engine and drivetrain swap components that may also be required. We offer everything from Adapters, Transmission Retrofits, Special Conversion Bellhousings, Clutch Components, Motor Mounts, Radiators, Exhaust Headers, and Steering Conversions.



Power flow of a Dana 20 (left) & Dana 18 (right)

## Jeeps and Scouts 1941-79

**Transfer Cases:** These transfer cases, although used in different vehicles, all have the same bolt pattern. When considering a new transmission for one of these transfer cases, there are two things you must confirm: The transfer case indexing to the new adapter and the female splines on the transfer case input gear. We manufacture adapters for the most common GM and Ford manual and automatic transmissions.

We offer several items to upgrade your stock transfer case: Rebuild kits, Low gear sets, heavy duty 32 spline output shaft kits, shift knob replacements, intermediate gear kits, and the Saturn Over Drive.

## Jeeps 1980-86

**Transfer Cases:** In 1980, the transfer case in Jeep vehicles changed to the Dana 300 transfer case. This was a good improvement over the Dana 20, and it seems to handle V8 horsepower without any problems. We manufacture several adapters that will bolt the different GM & Ford manual and automatic transmissions to this transfer case.

All Jeep Dana 300s are a right-hand drop. They have a circular bolt pattern, 23 tooth input spline, case length of 12", and main case material of cast iron. The transfer case uses an aluminum retainer that indexes this transfer case to the transmission. The stock low gear ratio is 2.62:1. The power to the rear axle is in line with the transmission. This is a good gear-driven transfer case to retain when doing an engine or transmission swap.

We manufacture numerous Dana 300 input shafts which include 10, 21, 23, 27, 29, 31, 32, & 35. The aluminum index retainer incorporates a front seal to protect the transfer case fluid from entering the transmission. The Dana 300 has a stock rotation of approximately 35 degrees.



We offer several items to upgrade your stock transfer case: Rebuild kits, New idler shaft, Dana 300 rotation kits, Heavy duty 32 spline output shaft kits, and Twin stick shifter with custom knobs.

## Jeeps 1987-2011

**Transfer Cases:** The New Process transfer cases used in late model Jeeps are always a left-hand drop configuration. The stock rotation on the New Process transfer case depends on the year of the vehicle and the stock transmission used. The rotations are approximately 13 or 23 degrees. Most of our adapter housings will have both bolt pattern options.

The input splines on these transfer cases vary from 21 to 23 splines, and the transmission that is mated to these transfer cases had either a long or flush output shaft length.

There are numerous styles of New Process transfer cases, and you must be very careful in making your identification of such. The first units were the NP207s, and they were used in the early model Cherokee Jeeps. The full-size Jeep trucks and Grand Wagoneers used the NP208. Jeep soon added the NP231 which replaced the Model 207 in 1987. A Model NP242 was also added for the full time 4WD models.

We offer several items to upgrade your stock transfer case: Rebuild kits, Heavy duty SYE kits, Cable shifter upgrades, and a reduction gear box "The Rubicrawler" for the Jeep TJ's and JK's with the 42RE transmission.

## The Atlas Transfer Case

The Advance Adapters Atlas Heavy Duty gear-driven transfer cases are the ultimate in gearing and strength. These units are the solution for combining both on and offroad performance. From its inception in 1996, we have received numerous inquiries to fit the Atlas into a wide spectrum of vehicles. To date the Atlas has been installed into a multitude of different vehicles such as Jeeps, Broncos, Explorers, Dodge, Chevy & Ford Trucks. These units can be found in daily driven vehicles, extreme rock crawling vehicles, all the way up to the Ultra 4 & KOH race rig. When you want or need peace of mind on the trail, in the rocks, on the sand, or in the mud, the Atlas is the transfer case for you.

## JEEP TRANSFER CASE SELECTION CHART

**DANA 18/20  
6 SPL. 1941-79**

**DANA 300 23 SPL.  
1980-86 NP208 &  
(84-86 Cherokee)**

**NP T/C FLUSH 23  
1987-06  
(999/NV3550)**

**NP T/C LONG 23  
1989-99  
(AX15)**

**NP T/C 21 Spl.  
1987-02 (AX4/AX5,  
PEUGEOT SOME AW4)**

**Atlas  
Transfer Case**

GM SM420 4 SPEED	50-2401	50-9702	50-9702	50-9702	50-9702	50-9702
GM SM465 4WD 10 SPL.	50-4703	50-9810	50-9808	50-9808	50-9808	51-9807
GM SM465 2WD 35 SPL.	50-4703	50-9807	50-9812	50-9812	50-9812	51-9807
GM SM465 32SPL. 4"(STICKOUT)		50-4732	50-4732	50-4732		
FORD TRUCK OD (RTS) 4SD	CALL A.T.V.					Stock 4WD
FORD & JEEP T98 4SPEED		50-7503	50-7503	SPECIAL	50-7503	50-7503
JEEP T18 4 SPEED	50-8705	50-7502	50-7502	SPECIAL	50-7502	50-7502
FORD T18 4 SPEED	50-7202 / 50-7201	50-7500	50-7500		50-7500	50-7500
FORD NP435 4 SPEED	50-6102	50-3801	50-3801	50-3801	50-3801	50-3801
DANA 300 & ROTATION KIT		50-8604 / 50-8603				
AMC 1980 & NEWER MANUAL	50-8601 / 50-8602	50-3021 / 50-8603/04				Stock
GM NV4500 4WD 32 SPL.	50-0210	50-0205	50-0212	50-0212	50-0212	51-0205 & 51-0220
DODGE NV4500 4WD 23 SPL.		STOCK & 716221	50-0204	50-0204	50-0204	Stock
DODGE NV4500 4WD 29 SPL.		52-0229 & 716221	50-0231 / 50-0231A	50-0231 / 50-0231A	50-0231 / 50-0231A	Stock
JEEP NV3550 4WD TRANS.	50-8602	50-8604				Stock
JEEP AX15 5 SPEED	50-8602	50-8603				Stock
FORD ZF 4WD TRANS.		50-9925				Stock
GM MUNCIE 4 SPEED	50-0100	50-6000				50-6000
TR-4050 5 SPEED	50-8602	50-8603	715543 T/C linkage	715543 T/C linkage	715543 T/C linkage	Bolts to the Atlas
GM TH350 2WD TRANS.	50-3000	50-6300	50-6300 / 50-6801/2	50-6307 / 50-6801/2	50-6305/A / 50-6801/2	50-6300 / 50-6802
GM TH350 4WD TRANS.	50-3001	50-6304	50-6304 / 50-6804/5	50-6308 / 50-6804/5	50-6306/A / 50-6804/5	50-6304 / AS-6800
ALLISON 4WD TRANS.						50-9420
Jeep JL Transmission Auto Trans V6						50-9900
Jeep JL Transmission Manual						50-9901
Jeep JL Transmission Diesel						50-9904
Jeep JL Transmission 392 Hemi & 4XE						50-9903
Dodge 8HP70 or 8HP95						50-9905 or 50-9906
GM TH400 2 & 4WD TRANS.	50-1300	50-6400 / 50-6404	50-6402/A	50-6403 / 50-6402/A	50-6402/A	AS-6440 / AS-6401
GM 4L80 & 4L80E 4SP TRANS.		50-0401 / 50-0440	50-0442 (NP241 2.72:1)	50-0442 (NP241 2.72:1)	50-0442 (NP241 2.72:1)	AS-6450 / AS-6455
GM 700R / 4L60 O/D 4 SP 2 & 4WD	50-6905	50-6303	50-9102	50-9102	50-9103/A	50-9102
GM 700R / 4L60 O/D 4 SP 4WD		50-6309	50-9104/5	50-9104/5	50-9104/5	AS-9111
GM 4L60E 2 & 4WD TRANS.		50-0404	50-0402	50-0402		50-0404 / AS-9111 (4WD)
GM 4L60E 2 & 4WD TRANS.		50-0432	50-0430	50-0430	50-0431/A	AS-9300 (4WD)
GM 4L60E 4WD TRANS.		50-0432	50-0434/5	50-0434/5	50-0434/5	50-9305
GM 6L80 TRANS. 32 SPL.		50-9620				50-9600
GM 6L90 TRANS. 29 SPL.		50-9621				50-9600
AMC 1980 & NEWER AUTOMATIC	50-8601 / 50-8602	50-3021 / 50-8603/04				Stock
FORD C4 3 SPEED TRANS.	50-2900 / 50-2904	50-8100	50-8100	50-8100		50-8100 / 50-2905
FORD C6 3 SP. TRANS.	50-3300	50-9925				Stock
FORD 6R80 6 SP.						50-3900 (31 short input)
FORD 6R140						50-6140 / 50-6142

**SCOUT DANA 300 23 SPL.**

TH350 transmission to Scout Dana 300 P/N 50-3102 (2WD) or P/N50-3103 (4WD) 1.85" Adap. thickness.

TH400 transmission to Scout Dana 300 P/N 50-1401 2.87" Adapter thickness.

**Jeep 1969-71 10 SPL.**

Jeep with the 10spl. transfer case gear can use any of the kits listed for the 1941-79 Jeeps with the addition of a new gear, 52-1401 (20 degree) or 52-1402 (17 degree).

**Jeep Quadra-Trac 10 SPL.**

700R 4WD transmission to Jeep Quadra-Trac P/N 50-2501 (output shaft must be cut)

NP refers to New Process transfer cases 231, 207 & 241.



### 1941-79 Jeep Adapters retaining the stock transmission:

Most of the early transmissions used a long transmission input shaft. We manufacture adapter plates that make the stock Jeep transmission look just like a Chevy or Ford. This enables us to bolt a Chevy or Ford engine and stock bellhousing to this adapter plate. With these adapter plates, we utilize a new front bearing retainer to obtain proper bellhousing alignment.

Upgrade or retain your Jeep clutch linkage. Jeep has used both hydraulic and mechanical clutch linkages over the years. When doing an engine conversion, it is not uncommon to have clutch linkage changes. Many of these stock linkages can be retained. We also offer products to improve or replace your stock clutch linkage. Along with the clutch linkage kits we do also offer complete clutch systems (pressure plate, disc, & release bearings).



### 1980-86 Adapters retaining the stock Jeep transmissions:

Between 1980-86, the Jeep transmission input shaft was designed shorter than the earlier Jeep transmissions. This presented a problem with clutch & pilot bushing engagement when trying to use an adapter plate. For these year Jeep vehicles, we manufacture a full bellhousing. These bell housings are designed to bolt directly to the stock 4 or 5 speed transmission and retain the stock clutch linkage.

Upgrade or retain your Jeep clutch linkage. Whether you have a hydraulic or mechanical clutch linkages we can help. When doing an engine conversion, it is not uncommon to update the clutch linkage. We also offer products to improve or replace your stock clutch linkage. Along with the clutch linkage kits we do also offer complete clutch systems (pressure plate, disc, & release bearings).



### 1987-11 Adapters retaining the stock transmission:

The transmissions used in Jeeps 1987-2011 changed once again. The indexing of these transmissions to the bellhousing was no longer done by a bearing retainer. Dowel pin alignment was then introduced. Along with this new type of indexing, Jeep also changed the design of their clutch mechanism. In these early year series Jeeps (1987-93), Jeep used an internal hydraulic throw-out bearing design, then changed to an external design in 1994 & newer models. For these transmissions, we still manufacture a full bellhousing due to the overall length of the input shaft.

These year series Jeeps all had hydraulic linkages and use both internal and external release mechanisms. When installing a new engine and retaining the stock 5 speed transmission, we normally use an external slave cylinder.

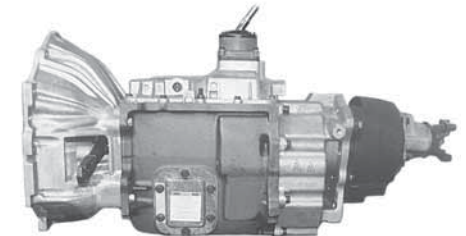
When looking to upgrade your Jeep clutch linkage, Jeep TJ's 1997-2006 had a hard plastic hydraulic hose assembly. We offer a replacement stainless braided hose assembly with two fittings for the master and slave cylinders.

For Jeeps 1987-1993 with the internal hydraulic release bearings, we offer a stainless braided hose replacement kit for the stock clutch hose line as well as a conversion one for those of you upgrading to a larger engine. Our hose assembly kits offer two master cylinder fittings to ensure you have the correct application.



### Jeep Transmission Retrofits: (JEEPS RETAINING STOCK AMC ENGINE & STOCK TRANSFER CASE)

On many of the Jeeps 1980 to 2006, the stock engines that were used were adequate for horsepower and torque. Examples of these engines include the 4.0L, 4.2L, 258 6 cylinder. The weak link is normally the stock transmission up against these power plants. We manufacture bellhousing adapters to retain these stock Jeep engines with new, stronger transmissions. The most popular applications are the following: AX15, NV4500, TR4050, GM automatics.





## Transmission Models

	CASE LENGTH	BELLHOUSING	STOCK TRANSFER CASE ADAPTER	OUTPUT SHAFT SPLINE DATA	Chevy V8 & V6	Ford V8	Buick V6	AMC 4.0
JEEP T-90 3 SPEED	8.12"	9.00"		1-3/8"-6	712502	712505	712502	N
JEEP T-14 V6 3 SPEED	8.75"	9.00"		1-3/16"-10	N	N	N	N
JEEP T-14 STR 6 3 SPEED	8.75"	8.00"		1-3/16"-10	712510	N	712510	N
JEEP T-15 3 SPEED	9.125"	8.00"		1-3/8"-6	712510	N	712510	N
JEEP T-150 3 SPEED	9.25"	6.625"		1-3/8"-6	712548	FORD B/H	712583	N
JEEP T-18	11.875"	Varies	.875	1-3/8"-6	See Website	N	See Website	N
JEEP T-98	11.875"	10.75"	.875	1-3/8"-6	See Website	See Website	See Website	N
JEEP T176 4 SPEED	10.25"	6.625"	2.625"	23	712548	FORD B/H	712583	712569
JEEP T4, T5, SR4 (*4cyl. are 1"-14)	9.18"	6.625"	5.937"	23	712548	FORD B/H	712534	712569
JEEP PEUGEOT 5 SPEED	13.50"	7.25"	3.50"	21	712566	N	712566	N
JEEP AX4, AX5	15.750"	6.75"		21	712565	N	712565	N
JEEP AX15 5 SPEED	16.75"	7.375"		23	712567	712543	712567	See Website
JEEP NV3550 5 SPEED	16.75"	7.375"		23	712591	712544	712591	See Website
JEEP NSG 370	25.25"			23	N	N	N	N
GM MUNCIE CAR 4SP (716041)	10.43"	6.375"		27	712577	N	712581	712570
TR-4050	12.5"	6.50"	7.00"	23	712576	712551	N	712568
GM SM420 (also need a 716041)	10.43"	6.375"		10, 35	712577	N	712581	712570
GM SM465	12.00"	6.375"	8.50"	10, 35, 32	712577	N	712581	712571
FORD 4 SPEED RTS	10.12"	6.25"		28, 31	712549	Stock	712583	712569
FORD 4 SPEED T18	11.875"	6.25"		28, 31	712549	Stock	712583	712569
FORD 4 SPEED T19	11.875"	6.25"		28, 31	712549	Stock	712583	712569
FORD 4 SPEED NP435	10.875"	6.375"	8.00"	28, 31	712549	Stock	712583	712569
GM NV4500 92-94	12.375"	6.375"	8.25"	32	712577	N	N	712571
GM NV4500 95 & UP	12.375"	7.50"	8.25"	32	712576	N	N	712568
DODGE NV4500 4WD GAS	12.375"	7.50"	6.375"	23, 29	712550	712551	712550	See Website
DODGE NV4500 4WD DIESEL	12.375"		6.375"	29	N	N	N	N
JEEP TH400 (1974 & NEWER)	24.375"		2.50"	10, 32	716133	N	N	N
JEEP 727 T.FLITE (1980 & UP)	17.00"		6.625"	23	716131	N	N	N
JEEP 904 (30RH) T.FLITE	16.00"		6.625"	23	N	N	N	N
JEEP 999 (32RH) T.FLITE	16.00"		6.625"	23	716131	N	N	N
JEEP 42RLE	17.00"		7" TJ 7.4 JK	23	N	N	N	N
CHEVY POWERGLIDE	16.25"			27	STOCK	N	N	N
CHEVY AUTOMATIC TH350	21.50"			27	STOCK	712588	716134	716138
CHEVY AUTOMATIC TH400	24.375"		2.5"	32	STOCK	712588	716134	716138
CHEVY AUTO 700R/4L60	23.375"		3.25"	27	STOCK	712588	716134	716138
CHEVY AUTOMATIC 4L60E	23.375"	6.3" / 6.9"		27	STOCK	N	N	N
CHEVY 4L60E W/ REM. B/H	15.50"			27	STOCK	N	N	N
CHEVY AUTOMATIC 4L80E	26.00"	6.812"		32	STOCK	N	N	N
CHEVY AUTOMATIC 6L80E	16.50"	6.812"		32	STOCK	N	N	N
CHEVY AUTOMATIC 6L90E	17.90"	6.00"		29	STOCK	N	N	N
FORD C4	11.187"			28	N	STOCK	N	N
FORD C6	20.00"		5.75"	31	N	STOCK	N	N
FORD AOD, AODE	20.50"		6.375"	28, 31	N	STOCK	N	N
FORD 4R70W / 75W	20.50"			31	N	STOCK	N	N
FORD 6R80	23.50"			31	N	N	N	N

Items that have "See Website" have multiple options. Please see the Tech Vault for options.

Gen III, IV & V flywheel kits are available with most of the Chevy bellhousing kits

## Jeep Clutch Linkages:

For detailed information on most clutch linkages, see our TECH VAULT and then go under the year of the Jeep you are working with. Listed below are some of the more popular linkage kits.

Jeeps 1941-1971 used a torque tube that pivots off the stock transfer case. The clutch pedal & bellhousing arm used rods that connected to this torque tube. We have a new assembly that removes the torque tube & rods and replaces them with a sprocket and chain, P/N 716640.

Jeeps 1972-1986 (**Mechanical**) - These Jeeps use a torque tube that pivots off the bellhousing. This linkage uses a ball pivot bracket that bolts to the stock bellhousing. When using one of our Chevy conversion bellhousings, the stock bracket can be retained. We offer an upgrade to your clutch linkage as well and this kit is mounted to the original push rod that extends out of the firewall, P/N 716639.

Jeep TJ 1997-2006 have a hard plastic hydraulic hose assembly. We offer a replacement stainless braided hose assembly with two fittings for the master and slave cylinders, P/N 716130TJH.

Jeeps 1980-2006 (**Master cylinders**) - Jeep master cylinders up to 1991 have threaded fittings, and 1992 to 2006 Jeep master cylinders have a pin-type connection. On these master cylinders, you will have two options of pin-style connectors for either the YJ or TJ.

P/N 716130 - Pin-type fitting for Jeep YJ to dash 3 fitting  
P/N 716130TJ - Pin-type fitting for Jeep TJ to dash 3 fitting

We also offer a 42" long stainless braided hose with #3 female fittings, P/N 716130H. In some cases, the 42" hose is not long enough; therefore, we carry a 12" extension hose, P/N 716130E or a 60" hose P/N 716130-60 for when you're just short of the proper fit.

Jeeps 1987-1993 (**Internal Hydraulic Release Bearings**) - We have had several requests for both a stainless braided hose kit for a replacement for the stock clutch hose line as well as a conversion one for those of you upgrading to a larger engine. The nice thing on these kits is they will work on either application. Our hose assembly kits offer two master cylinder fittings to ensure you have the correct application. Also included is a new 42" stainless braided hose and then a new adapter fitting to couple to the factory Jeep internal hydraulic release bearing.

P/N 716130IR - 1987-92 Jeeps master cylinder hose kit w/ internal release bearing  
P/N 716130IR-93 - 1993 Jeeps master cylinder hose kit w/ internal release bearing

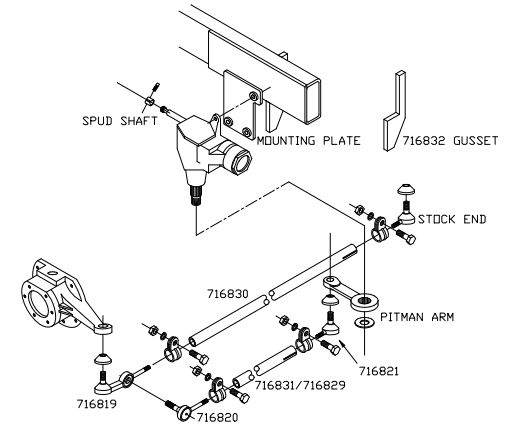
## Jeep Accessories 1941-79:

The Saginaw Steering Conversions for these vehicles are a proven advantage in Jeeps 1941-71. The problem with the stock steering on these vehicles is excessive play or backlash. In addition to offering a sound positive means of controlling your vehicle, it can be performed at a reasonable cost. Additional advantages include exhaust clearance, engine positioning, and custom steering columns, [P/N 716806](#). For Jeeps 1972-79, we offer replacement steering shafts from the firewall to the steering box.



**The Saturn Overdrive:** This all-range overdrive is a great addition to any of the early model Jeeps from 1940 to 1971, and I.H. Scouts 1961 to 1965 with the Model 18 transfer case. The addition of this 25% overdrive unit offers you the needed gearing that the early Jeeps were lacking. The Saturn overdrive is a fully synchronized unit that can be shifted-on-the-fly. When installing the unit, only minor modifications are required to the floorboard for the shifter. The Saturn is built to handle up to 300 ft.-lbs. of torque, well within the range of a stock V8.

The Saturn is the original unit designed and developed by Warn Industries. Advance Adapters purchased the tooling, engineering data, and inventory from Warn in 1991. The components we manufacture today are the same as the old Warn components. We have incorporated a few upgrades on the units we sell today, but these units are all still interchangeable with the original Warn overdrive. (Note: The Saturn is not compatible with the Husky unit.) [P/N 715670](#) or [P/N 715672](#) are the most common applications, but we do offer additional kits.



**Jeep Windshield Latches:** The CJ5 & CJ6 Jeep vehicles (up to 1975) always had a problem with the stock windshield. The stock latches had a tendency of loosening up and allowing the windshield to fall forward. We remedied this problem by designing aluminum castings that would replace the stock dash & windshield brackets. [P/N 716127](#).

More information on the 1941 to 1979 Jeeps can be found on our **Tech Vault Knowledge Base**.

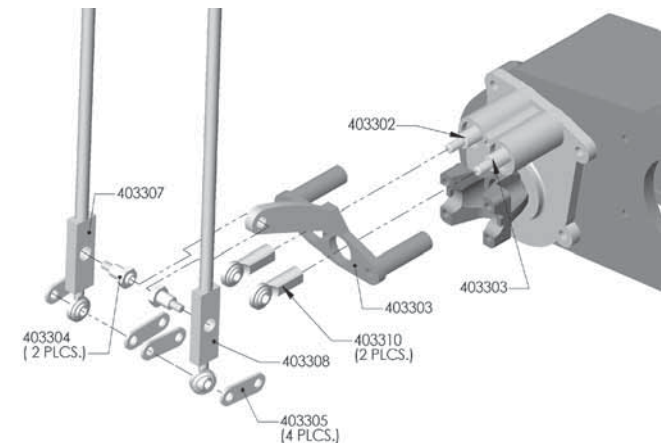
## Jeep Accessories 1980-86

**Jeep D300 HD Output Shaft Kit:** The stock Dana 300 output shaft is a 1-1/8" diameter, 26 spline. We offer a new, larger 1-3/8" diameter 32 spline output shaft for this transfer case. The Dana 300 has two different stock tailhousing lengths (approximately 4.25" "long tail" and 3.25" "short tail"). The bolt patterns on these two tail housings are different when bolting to the Dana 300 case. We offer heavy duty output kits for both tailhousing versions. [P/N 50-3032A](#) or [P/N 50-3034A](#)

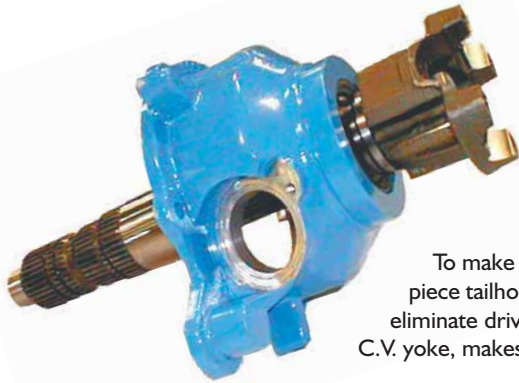


**Jeep Dana 300 Twin Stick Kit:** Another option for the Dana 300 transfer case is a twin stick shifter. This twin stick shifter application requires the installation of two new shift rails. This kit is securely mounted off of the stock aluminum shifter housing. The new shifter kit contains a Heim joint linkage for a smooth, positive shifter motion. [P/N 403300](#)

**Jeep Dana 300 Rotation Kit:** Since ground clearance is a concern for most vehicles, we have developed a rotation kit to allow the Dana 300 to be clocked at a higher than stock rotation. Our kit allows up to three different rotations other than stock. The adapter is .750" thick and includes a new, longer input shaft for the Dana 300. [P/N 50-8604](#) or [50-8603](#)



## Jeep Accessories 1987-11:

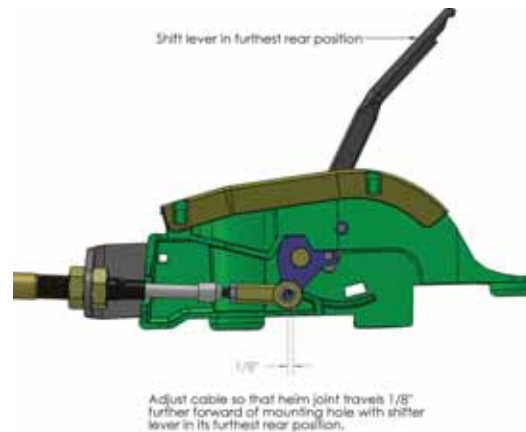


The Jeep NP231 S.Y.E. Kit: The Jeep NP231 is one of the most commonly used transfer cases today. It is a chain-driven, planetary designed gear box with a low ratio of 2.72 to 1. For the average 4-wheeler, this is a good transfer case. One of the biggest faults of this transfer case is the overall length. At 20+ inches, this creates an extremely short rear driveshaft in the Jeep YJ & TJ Wranglers, which becomes even more crucial when the vehicle is lifted or a transmission swap is performed. In addition to a lift kit installation, larger tires are usually the next upgrade. Strength and driveline angle of the output shaft then becomes a concern.

To make the NP231 better suited for these upgrades, we have designed our "Fixed Yoke" kit with the best features available. We manufacture a new one-piece tailhousing that will add 3-1/2" to 4" to your rear driveline length on a YJ, and up to 6" on a TJ. This will allow you to obtain a better driveshaft angle and eliminate driveline vibrations. We also manufacture a new 32 spline output shaft that is over 50% stronger than stock. This kit, along with a new 1310 series C.V. yoke, makes the NP231 a better transfer case for trail use.



Our Deluxe Cable Shifter for Jeep TJ's alleviates the stock problematic shifting mechanism. This heavy duty shifter was designed to correct the binding, hard shifts, and slipping-out-of-gear that's inherent when lifting a Jeep TJ or altering the drivetrain components. These kits replace the body mounted mechanical system with a robust cable actuated design that creates a crisp and carefree transfer case shifting experience.



The Jeep JK heavy-duty cable shifter upgrade design was created for the offroader who is consistently shifting their transfer case in and out of various ranges. The improved cable and mounting system offers both a durable and dependable shifter that removes the easily worn out or broken factory shifter system.



## RubiCrawler:

This unit fits Jeeps 2003 to 2011 with the 42RLE automatic overdrive transmission. This new reduction unit replaces the stock 42RLE tailhousing with a 6 gear planetary reduction box featuring a 2.72 low range. This is a true bolt-in doubler that couples to the stock Jeep transfer case or an existing Atlas transfer case.

The RubiCrawler increases your available gear ratios allowing you to gear your Jeep to the terrain on which you're wheeling. The various ratios will allow you more control of the vehicle, which results in extreme offroad performance while maintaining a fun and safe offroading experience.

**Ratios with a Stock New Process 231/241 are a 2.72:1 and a 7.40:1**  
**Ratios with a Stock NP Rocktrac are a 2.72:1, 4.0:1 and a 10.88:1**

No Driveline Modifications. No Crossmember Modifications. Most installations can be done in 8 hours. Clean, factory look upon completion.





The Advance Adapters Atlas heavy duty gear-driven transfer cases are the ultimate in gearing and strength. These units are the solution for combining both on and offroad performance. From its inception in 1996, we have developed the Atlas to fit into a wide spectrum of vehicles. To date the Atlas has been installed into a multitude of different applications such as Jeeps, Broncos, Explorers, Dodge, Chevy & Ford Trucks. These units can be found in daily driven vehicles, extreme rock crawling vehicles, all the way up to the Ultra 4 & KOH race rig. When you want or need peace of mind on the trail, in the rocks, on the sand, or in the mud, the Atlas is the transfer case for you.

The **Atlas 2 Speed** is 2-1/2" shorter than a NP231 with a fixed yoke conversion kit. Applications with a NP231 will have to lengthen the rear driveshaft and shorten the front driveshaft. Applications with a Dana 300 transfer case or Bronco Dana 20 will have to shorten the rear driveshaft and lengthen the front driveshaft. Most applications will require crossmember modifications.

(2SP) Atlas, 13.8" & Atlas (with AST32 short tailhousing), 11.8"

The **Atlas 4 Speed** is 1-3/4" to 3-3/4" shorter than a standard NP231 transfer case (length depends on which tailhousing is used). Applications replacing a NP231 will have to lengthen the rear driveshaft and shorten the front driveshaft. Applications replacing a NP241, Dana 300 transfer case or Bronco Dana 20 will have to shorten the rear driveshaft and lengthen the front driveshaft. The Atlas 4 speed offers you the ultimate multiple-use vehicle. The several low gearing options allow you to gear your rig as a daily driver as well as an extreme rock crawler.

(4SP) Atlas, 18.80" & Atlas (with AST32 short tailhousing), 16.80"

**Stock transfer case lengths:**

NP 231 Series, 20-1/2";

NP Rock Trac T/C, 15-1/4";

Dana 300, 12"



## Ordering Your Atlas

Each Atlas transfer case is custom built per your vehicle requirements. All Atlas orders consist of several sub-assemblies that make your transfer case unique to your vehicle. The Atlas part numbers are generated by the gear ratio, input spline, case drop, tailhousing configuration, yokes, and twin stick shifter options. There are several optional items that can also be added to your Atlas build.

Please thoroughly review the following pages. Whether you order by phone or online, this information is required in order to customize a unit for your vehicle.

## Atlas Transfer Cases for the Jeep JK and Jeep JL

We have pre-configured units for the Jeep JK and JL's. On these Jeeps we just need to know the gear ratio and the yokes. Both the Jeep JK's and JL's are prime candidates for the Atlas. There are certain features that these Jeeps need. So to make sure you get the proper components, our pre-configured units include all the necessary items for the proper installation.



JK's Atlas  
2 Speed and  
4 Speed



**On Jeep JL's:** We offer units for the stock drivetrains as well as the 392 Hemi, 4XE, and Diesel. The applications come with the adapter necessary to mount the Atlas.

JL's Atlas  
2 Speed



# Custom Build Your Atlas Trail or Pro G2 Series Transfer Case

## 1. Gear Ratios

### TRAIL (1.25" Idler)

<b>ATLAS30</b>	3.0 Gears 1.25 Idler Pin
<b>ATLAS38</b>	3.8 Gears 1.25 Idler Pin
<b>ATLAS43</b>	4.3 Gears 1.25 Idler Pin
<b>ATLAS50</b>	5.0 Gears 1.25 Idler Pin

### G2 HD (1.50" Idler) ALL ATLAS 4 SPEEDS

<b>ATLAS15-G2</b>	1.5 Gears W/ 1.5" Idler Pin	*109% increase in beam strength
<b>ATLAS20-G2</b>	2.0 Gears W/ 1.5" Idler Pin	*7% dynamic
<b>ATLAS30-G2</b>	3.0 Gears W/ 1.5" Idler Pin	*15% static load rating bearing sets
<b>ATLAS38-G2</b>	3.8 Gears W/ 1.5" Idler Pin	*25% thrust surface area for higher thrust loads
<b>ATLAS43-G2</b>	4.3 Gears W/ 1.5" Idler Pin	*7% reduction in weight

### WE OFFER ALL OF OUR "G2" GEAR SETS WITH A SUPER FINSH OPTION. ADD A "SF" TO THE G2 GEAR SET ABOVE.

The super finished gears provide a number of benefits: less friction / lower operation temperatures, extended component life, increase efficiency & reduce lubrication requirements.

## 2. Input Splines - Atlas 2 Speeds

<u>2 SPEEDS</u>	<u>Gear Set</u>	<u>Description</u>
A10	T,G2	GM 10 Spline
A21	T	JEEP 21 Spline
A23	T,G2	2" Input Stickout (JEEP JL'S)
A23LONG	T,G2	Long Input
A23SHORT	T,G2	JEEP 42RLE Trans JK Manual (ALL NSG-370)
A26A	T	2012-18 JK AUTO Trans. (Trail Case) *Skip Item 3 Case Option
A26A-G2	G2	2012-18 JK AUTO Trans. (Pro Case) *Skip Item 3 Case Option
A26A-G2-FT	G2	2012-18 JK AUTO (Pro Case Flat Tow) *Skip Item 3 Case Option
A27	T,G2	GM 27 Spline
A27LONG	T,G2	GM 27 Long used for adapter kit 50-2704E
A28	T,G2	BRONCO C4 & FORD Transmission
A29	T,G2	DODGE 29 Spline
A29HD	G2	DODGE 29 Spline (HD MATL.)
A31	T,G2	FORD 31 Spline
A31S	T,G2	Short FORD 31 (6R80/ALLISON)
A32	T,G2	GM 32 Spline
A32HD	G2	GM 32 Spline (HD MATL.)
A34	T,G2	FORD 34 Spline
A35	T,G2	GM 2WD 35 Spline
A43F	G2	43 FORD 6R140 Trans.
A-DIV-T3	T,G2	DIVORCED ATLAS (Req. Extra Yoke, Front Yoke Needs Counter Bore)

## 2. Input Splines - Atlas 4 Speeds

<u>4 SPEEDS LEFT DROP</u>	<u>4 SPEEDS RIGHT DROP</u>	<u>Description</u>
A4-21L		JEEP 21 SPLINE
A4-23L	A4-23R	JEEP 23 SPLINE
A4-23SL	A4-23SR	JEEP SHORT 23 (42RLE TRANS)
A4-23WJ		WJ LONG 23 SPLINE
A4-27L	A4-27R	GM 27 SPLINE
A4-29L	A4-29R	DODGE 29 SPLINE
A4-31L	A4-31R	FORD 31 SPLINE
A4-32L	A4-32R	GM 32 SPL.

## 3. Case Drop

<u>LEFT DROP</u>	<u>RIGHT DROP</u>	<u>Description</u>
ALC-T	ARC-T	<b>TRAIL SERIES CASE</b>
ALC-D	ARC-D	<b>TRAIL SERIES CASE DIVORCED</b>
ALC-G2	ARC-G2	<b>G2 CASE 1.5" Idler Pin</b>
ALC-G2-D	ARC-G2-D	<b>G2 DIVORCED CASE 1.5" Idler</b>
ALC-T-GM	ARC-T-GM	<b>GM TRAIL CASE</b>
ALC-G2-GM	ARC-G2-GM	<b>GM G2 CASE</b>
A4-LC-G2	A4-RC-G2	<b>4SP CASE 1.5" IDLER</b>

## 4. Shift

### Shift Control Options - ALL Gear Sets

<b>301510A</b>	Left Shift Control	<b>301511A</b>	Right Shift Control
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## 5. Tailhousing

### TRAIL OPTIONS:

<b>ALT-T</b>	Output Shaft (STD. Tailhousing)
<b>AST-T</b>	Output Shaft (SHORT Tailhousing)
<b>AVT-T</b>	GM VSS Tailhsg / RIGHT or LEFT DROP

### G2 HD OPTIONS:

<b>ALT-G2</b>	300M Output Shaft (STD. Tailhousing)
<b>AST-G2</b>	300M Output Shaft (SHORT Tailhousing)
<b>AVT-G2</b>	300M GM VSS Tailhsg / RIGHT or LEFT DROP

## 6. Yokes

### List Rear Output First

A1310	32 Spline Yoke (non C.V.)
A1310CV	32 Spline Yoke
A1330CV	32 Spline Yoke
A1350	32 Spline Yoke (non C.V.)
A1350CV	32 Spline Yoke
A1410	32 Spline Yoke (non C.V.) strap style
A1410U	32 Spline Yoke (non C.V.) u-bolt style
AF1300	32 Spline FLANGE Yoke 1310-1350
AF1350	32Sp FLANGE 1350, 1410 (CV 3.125 Male Index)
AF1410	32Sp FLANGE 1350, 1410 (non CV 2.75 Female)
AF1410STD	32Sp 1350, 1410 (non CV 2.75 Female, 7/16-20)
AF1480	32 Spline FLANGE Yoke
AFJL	32 Spline Jeep JL Yoke
AFTOY	32 Spline TOYOTA Yoke
A1399	2.125" Seal Sleeve Kit
A1399CV	1.875" Seal Sleeve Kit

## 8. Speedometer Options

301506	MECH. SPEEDOMETER HOUSING
300621	SPEEDOMETER HOLE PLUG
300640	ELEC. SPEEDOMETER (TJ)

## 9. OIL KIT

303210	Oil & Stud kit Atlas 2SP 75W-90 API GL4
303211	Oil & Stud kit Atlas G2 HEAVY SHOOKPROOF
303212	Oil & Stud kit Atlas G2 ATF FLAT TOW CASE
303213	Oil & Stud kit Atlas G2 4SP 75W-90 API GL4

## 7. Shifter Options

### 2 Speed Shifters

303000HD	H.D 2.5" UNIVERSAL SHIFTER
303000HD1	H.D 5.5" UNIVERSAL SHIFTER
303000L	UNIVERSAL LEFT & RIGHT
303002L	TJ AUTOMATIC
303002U	TJ UNIVERSAL
303003L	TJ MANUAL
303004L	BRONCO
303005L	ZJ
303007L	XJ
303035	JK SHIFTER
303036	JK WITH RUBICRAWLER
303009	UNIVERSAL CABLE
303009-72	72"UNIVERSAL CABLE
303012L	CHEROKEE WJ SHIFTER
303020	TJ CABLE SHIFTER
303030	JL CABLE SHIFTER

303025L	DIVORCED SHIFTER LEFT CASE
303026R	DIVORCED SHIFTER RIGHT CASE

### 4 Speed Shifters

303000HD	H.D 2.5" UNIVERSAL SHIFTER
303000HD1	H.D 5.5" UNIVERSAL SHIFTER
344000	UNIVERSAL RIGHT or LEFT
344002	TJ 97-02 AUTO
344003	TJ MANUAL 03 & Newer
344004	BRONCO
344005	ZJ
344007	XJ

303009	UNIVERSAL CABLE
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303012L	CHEROKEE WJ SHIFTER
303020	TJ CABLE SHIFTER

### 4SP Reduction Shifter

344020	CABLE SHIFT REDUCTION BOX
344025	JK CABLE SHIFT REDUCTION BOX

## 10. Low Range Switch

300364	JEOP TJ'S NON RUBICON (QTY 1)
300377A	JK / JL ATLAS CONTROL MODULE

Order your Trail Series Pro Series (G2) or The Atlas 4 Speed online with our Atlas product configurator:



Trail Series Atlas 2SP



Pro Series Atlas 2SP



Atlas 4SP



# Engine Mount Selection Chart

Advance Adapters has been doing engine conversions for many years. We learned the hard way to only count on top-quality, proven design installations. Our mounts are secured with a 5/8" diameter bolt between the engine brace and frame bracket. No rubber vulcanization failure will let you down. To ensure that you have our premier engine mounts, make sure our name is on the box. Do not accept look-a-like knock offs. We are the "4-Wheel Drive Experts" and have the quality to prove it.

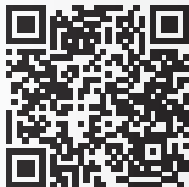
Vehicles Motor Mounts	CHEVY V8 ALL SB, 4.3 & 229 V6	GM GEN. III V8 & LS1 BLOCKS	GM GEN. 5 V8	CHEVY V8 LT1 SB	BUICK V6 231 & 3.8	FORD V8 ALL SB	AMC V8 304, 360 & 401	DODGE HEMI	DODGE 318/360
1941-71 JEEP UNIVERSALS	713001			713005	713003 / 713011	713002	713120	713097	
1972-86 JEEP & SCOUT UNIVERSALS	713001 / 713089	713088	713085	713005	713011	713006	713120	713097	713095
1941-84 JEEP WAGON & TRUCKS	713007	713088-W	713085-W	713005	713011	713006	713120	713097	713095
1987-96 JEEP YJ WRANGLERS	713001 / 713087	713088	713085	713005	713011	713006	713120	713097	713095
1997-06 JEEP TJ WRANGLERS	713090 / 713091	713092 / 713093			713001			713098	713094
1984-01 JEEP CHEROKEES XJ 4WD	713109								
Chevy Car & Trucks with Gen 1 & 2 V8's	Stock	713088-P							
Toyota Trucks 1979-85	713001-S			713001-S	713011	713002-S			
Toyota Trucks 1986 & up replacing 4 Cyl.	713013			713013					
Toyota Trucks 1988 & up replacing V6	713125 / 713126			713125					
Toyota Land Cruiser FJ40 & FJ60	713124	713088-TLC	713085	713124	713011	713006		713097	713095

## Radiators



### Cooling Components

We also offer fan kits, transmission cooler lines & temperature sensor adapters.



	CHEVY V8 & V6 Buick V6	GM GEN. III V8 & LS1 BLOCKS	CHEVY V8 LT1 SB	FORD V8 ALL SB	DODGE HEMI
<b>MANUAL TRANSMISSION APPLICATIONS</b>					
1972-86 JEEP CJ	716692-AA	716692-LS	716692-LT	716692-FM	
1987-06 JEEP WRANGLERS	716693-AA	716693-LS	716693-LT	716693-FM	716688-AB
Toyota Trucks 1979-95	716698-ABV6				
Toyota L/C FJ40	716697-AB	716697M-LS	716697M-LT		
Toyota L/C FJ60	716699-AB	716699M-LS			
<b>AUTOMATIC TRANSMISSION APPLICATIONS</b>					
1972-86 JEEP CJ	716690-AA	716690-LS	716690-LT		
1987-06 JEEP WRANGLERS	716691-AA	716691-LS	716691-LT	716691-FM	716688-AA
Toyota Trucks 1979-95	716698-AAV6				
Toyota L/C FJ40	716697-AA	716697A-LS	716697A-LT		
Toyota L/C FJ60	716699-AA	716699A-LS			

### Special Radiators:

1966-71 CJ5 GM V8 Auto Trans - 716684

M38A1 Manual Trans GM V8 - 716684-M38A

1966-71 CJ5 Buick V6 Manual Trans 716684-V6

# GM Transfer Case Adapter Chart

We offer numerous adapters for GM vehicles. Whatever transmission and/or transfer case combination you're looking for, whether it will be upgrading a 4 speed manual to a 5 speed manual, or a 3 speed automatic to a 4 speed overdrive automatic, there is a good chance that we offer the necessary components to accommodate your needs.

Over the years, GM has offered numerous transmission and transfer case combinations. Some of these combinations have similar spline counts or bolt patterns - allowing the combination of a transmission to a transfer case that may have never been offered as stock.

Transmission Models	<i>NP205 1971-79 27 SPL. MALE (ORIG.TH350) fig.8 pattern</i>	<i>NP205 1971-84/85 10 SPL. MALE (ORIG. SM465) fig.8 pattern</i>	<i>NP205 1979-84/85 32 SPL. FEMALE fig.8 pattern</i>	<i>NP205 1985-91 32 SPL. FEMALE cir.6 pattern</i>	<i>NP208 &amp; NP241 1981-00 32 SPL. cir.6 pattern</i>	<i>NP203 1971-79 27 SPL. (ORIG.TH350)</i>	<i>NP203 1973-77 32 SPL. (TH400)</i>	<i>NP208 &amp; NP241 1981-00, 27 SPL. (ORIG. 700R, 4L60, 4L60E)</i>
<i>GM NV4500 4WD 1993-2001</i>	50-0218/50-0206	50-0217/50-0206	50-0206	50-6911	STOCK			
<i>DODGE NV4500 4WD 29 SPL</i>	50-9551	50-9551	50-9551	50-9552				
<i>GM MUNCIE (M21,M22)</i>		50-3400				50-3400		
<i>GM MUNCIE (SM465)</i>	52-9502	52-9504		51-4705	51-4705			
<i>GM POWERGLIDE</i>								50-9212
<i>GM TH350 AUTOMATIC</i>	50-5302	50-5304			50-5306		STOCK	50-7100/50-8606
<i>GM TH400 AUTOMATIC</i>	50-3202/50-3203	50-3202/50-3203	51-5302	50-7010	50-7010	50-3200		50-7000
<i>GM 700R &amp; 4L60 AUTO O.D.</i>	50-6900	50-6906	50-6902	50-6901	50-6901	50-6900/50-8505		
<i>GM 4L60E AUTO O.D.</i>	50-6900	50-6906	50-6902	50-6901	50-6901	50-6900/50-8505		51-7102
<i>GM 4L60E REMOVABLE B.H.</i>	50-5310	50-5311	50-0405	50-0405	50-0405	50-0405	50-0405	
<i>GM 4L80E AUTOMATIC</i>	50-0410/50-0411	50-0410/50-0411	50-0410/50-0411	50-6912				
<i>GM 6L80 AUTOMATIC 32SPL</i>	50-9551B	50-9551B	50-9551B	50-9552B				
<i>GM 6L90 AUTOMATIC 29SPL</i>	50-9551A	50-9551A	50-9551A	50-9552A				

## GM TRANSMISSION AND TRANSFER CASE INFORMATION:

The early GMs used a Dana 20 style transfer case and no adapters are available for these vehicles. In 1971, New Process introduced a model NP203 (chain-driven), and NP205 (gear-driven) transfer case. Both of these transfer cases used various input splines. As a general rule, all of the transfer cases that couple to a TH350 automatic are normally a 27 spline input; when coupled to a manual transmission a 10 spline input; and when coupled to a TH400 a 32 spline input. The NP203 was used from 1971 to 1979. This transfer case was mated to the TH350, TH400, and SM465 transmission.

The NP205 was used from 1971 to 1991. The 1971-79 NP205 was only found mated to the TH350 and the SM465 transmission. For 1-ton vehicles between 1979 to 1984, GM used a TH400 and the SM465. The

transfer case mated to the TH400 was equipped with a female 32 spline input, while the SM465 retained the male 10 spline input. These model transfer cases had a figure-eight front bolt pattern. In 1985 to 1991 vehicles, GM started using a different version of the NP205. The input spline for both the TH400 and the SM465 transmissions was a female 32 spline, and the front bolt pattern changed to a circular bolt pattern.

In 1981, GM introduced the NP208 chain-driven transfer case. The NP208 also has a circular bolt pattern and had either a 27 or 32 spline input. In 1988, GM next introduced the NP241 chain-driven transfer case. This transfer case, as far as bolt patterns and splines are concerned, is identical to the NP208. [P/N 716097](#) is a 32 spline input for the GM NP208.

## STOCK GM ADAPTERS and COUPLERS:

The early GM transmission-to-transfer case adapters were mostly cast iron. These stock adapters were strong; however, years of offroad use, weather elements, and vehicle abuse have taken their toll on these adapter housings. Ordering a replacement GM casting was an easy fix until GM started discontinuing these older housings. The other option was to search salvage yards, but these parts are becoming harder to find and/or were damaged. To remedy this problem, we began to re-manufacture these

discontinued GM items. The adapters we are manufacturing are cast out of aluminum rather than cast iron. These high tensile cast aluminum replacement housings offer you a durable, quality option. We've reproduced some of the more popular stock adapter housings.



# Ford Bronco and Truck Transfer Case Adapter Chart

AUTOMATICS	1966-77 Bronco Dana 20 T/C	Atlas Transfer Case	Ford NP 205	Ford NP 208	Ford Borg Warner T/C	Bellhousing Adapters	Transmission Adapter Packages
GM TH350 AUTOMATIC		50-6802 / AS-6800	50-6908	50-6908	50-6908	712588	
GM TH400 AUTOMATIC	50-3601	AS-6440	50-3204 / 50-3206	50-3206	50-3206	712588	
GM 700R/4L60 O/D 4 SPEED	50-2706	AS-9111	50-6904	50-6904	50-6904	712588	
GM 4L60E 2 & 4WD TRANS.		AS-9111					
GM 4L60E 2 & 4WD TRANS Hex Pattern		AS-9300	50-6924	50-6924	50-6924		
GM 4L80E 4WD TRANS.		AS-6450 / AS-6455	50-3205				
GM 6L80 TRANS.		50-9600	50-9550B				
GM 6L90 TRANS.		50-9600	50-9550A				
FORD C4 3SD TRANS	50-4200 / 50-4200A	50-8100					
FORD AOD & AODE	50-2704 / 50-2704A or 50-2704E	FORD ADAPTER or Dana 20 Adapter					
FORD C6	50-4301	FORD ADAPTER					
FORD 6R80	50-3901	50-3900					
FORD 6R140 6 SPEED		50-6140/6141/6142					
MANUALS							
T&C Ford Car 4 SPEED	50-1900	50-1900					
FORD T18 4 SPEED	50-2700	50-2700					
FORD NP435 4 SPEED	50-2700	50-2700					
ZF 5 SPEED	50-4303	FORD ADAPTER					
DODGE NV4500 4WD 23 SPL.	50-0209	STOCK	50-0207	50-0207	50-0207	712551 / 712546	
DODGE NV4500 4WD 29 SPL.	50-0230	STOCK	50-9550	50-0220	50-0220	712551 / 712546	27-0044T / 27-0040T
TR-4050 23 SPL. w/ Dodge Input	50-0209	STOCK	50-0207	50-0207	50-0207	712551 / 712546	
AX15 23 SPL.	50-9920A	STOCK				712543 / 712546	27-3525 / 27-3520AX15
NV3550 23 SPL.	50-9920	STOCK				712544 / 712546	27-3520AA

## Ford Truck Information

Most of the early Ford trucks produced had either a single gear ratio Dana 21 transfer case or they had a divorced New Process transfer case. The Dana 21 was very light-duty, and therefore, not very popular to adapt to. The divorced New Process transfer cases were good gear boxes; however, no adapters were required when changing transmissions, just a custom driveshaft did the job.

Around 1977, the first Ford married transfer cases came on the scene. From 1977 to 1979, both the NP205 & NP203 transfer cases were found in Ford trucks. Both New Process transfer cases used a 31 spline input; however, the bolt patterns were different. Since the NP203 was discontinued in 1979, we have never made any adapters for this transfer case. In 1980, Ford changed transfer cases to the New Process 208 and the 6 bolt Borg Warner transfer cases. At that time, Ford still offered the NP205 on special order applications. Transfer cases (NP205, NP208, and the 6 bolt

B/W transfer case) found in these vehicles are all basically treated the same when adapting to them. They all have a circular 6 bolt pattern, a 31 spline input, and the same index diameter. The New Process 205 has one difference that does play a part with our adapters. The adapter requires a clearance notch for the stock transfer case shifter linkage. Since these Ford transfer cases all have the same basic configuration, the task of swapping a Ford 4WD transmission with another Ford 4WD transmission can normally be accomplished with the stock adapter.

The adapters we manufacture are designed to couple the different Chevy automatic transmissions, Newer Ford transmissions, NV4500 5 speed & TR4050 transmissions to the Ford transfer cases. We've also designed bellhousing adapters to couple these transmissions to the stock Ford engines.



## Ford Bronco Information

The early Ford Broncos were normally equipped with a 6 cylinder or V8 engine up to a 3 speed manual transmission. On this transmission, Ford used two different lengths of adapter housings when coupling this 3 speed to the stock transfer case. The adapter housing is either 6-1/2" or 9-3/8". Vehicles equipped with a V8 had a 9-3/8" tailhousing which set the bellhousing further into the engine compartment. Vehicles with the 6 cylinder had the 6-1/2" tailhousing. This shorter adapter compensated for the longer engine. In 1973, Ford began offering the C4 automatic. A special tailhousing and output shaft was manufactured to couple this transmission to the stock transfer case.

The 1966-77 vehicles were equipped with a Bronco Dana 20 transfer case. This transfer case, unlike the Jeep Dana 20, has the front driveshaft on the driver's side of the vehicle. The input gear of this transfer case is 6 spline. Ford always used a spud shaft that coupled this 6 spline transfer case to the

transmission 28 spline output shaft. The transmission-to-transfer case adapters used both a dowel pin and alignment retainer. The spud shaft is supported in this retainer with a bearing. The adapter kits we manufacture utilize this type of design. In some applications, we also retain the stock spud shaft. This transfer case has a 2.46:1 low gear ratio. In early 1973, Ford switch to a 2.34:1 low gear ratio. These transfer cases used two different shifter designs known as either the "T" handle or "J" pattern. The "T" handle was used from 1966 to 1972, and the "J" pattern from 1973 to 1977.

The adapters we manufacture are on the previous page. We also offer a stock Bronco replacement spud shaft under [P/N 52-2710](#).

### Popular Bronco Transmission Swaps:

**AX15 & NV3550:** These transmissions are ideal tranny swaps for the early Broncos. The weight of these 5 speeds is similar to the stock 3 & 4 speed transmissions. The overall size and length make it an ideal fit. The gearing of these 5 speeds is as follows:

AX15 is 1st 3.83:1; 2nd 2.33:1; 3rd 1.44:1; 4th 1.00:1;  
5th 0.79:1, and Reverse 4.76:1.

NV3550 is 1st 4.01:1; 2nd 2.32:1; 3rd 1.40:1; 4th 1.00:1;  
5th 0.78:1, and Reverse 3.57:1.

The AX15 and the NV3550 have a 7-1/2" long input shaft. We manufacture an adapter plate that bolts to the front of this transmission and then to a stock Ford bellhousing. A new crossmember for the AX15/NV3550 transmission makes this a clean transmission swap.

**Dodge NV4500 5 speed:** The NV4500 was introduced in 1993 and is a great choice of manual transmission. With a 5.61:1 low gear ratio, 27% overdrive and a synchro-reverse, this transmission works well with the early Broncos. The adapters we manufacture only fit the Dodge gas version.

**Dodge TR4050 5 speed: (New Transmission)**  
TREMEC® TR-4050 Heavy Duty 5 speed O/D transmission for 4WD applications. The Ratios of: 6.16, 3.11, 1.71, 1.00, .76 Rev.  
6.03, 600 LB-FT @ 15,000 Lbs GCWV, Right side PTO - 6 Bolt.

Chrysler/Jeep Transfer case bolt circle with 23 spline output shaft.

The NV4500 and TR4050 both use the same adapters, a special spud shaft, and the necessary bearings and seals. The Dodge NV4500 & the TR4050D have a 7-1/2" long input shaft. We manufacture an adapter plate that bolts to the front of this transmission. We do also offer a new crossmember for supporting these transmissions. When installing these components, driveline and floorboard modifications will be required.

**AOD & AODE:** This automatic overdrive transmission has become very popular among Bronco owners. The gear ratio found in this transmission is great for trail and highway use. We manufacture adapters for both AOD & AODE (4R70E) transmissions. This transmission assembly is 1-1/2" longer than the stock V8 assembly. It requires relocation and modifications to your stock crossmember. The "T" handle transfer case shifter is the easiest linkage to use, having only minor modifications. The "J" pattern can be used - but with a little ingenuity. The adapter kit comes complete with an adapter housing, main shaft, spud shaft, bearings, and seals.

**Ford 6R80 Automatic transmission:** This newer automatic overdrive transmission is a very popular choice for the Broncos. The gear ratios starting out with a 4.17:1 and a double overdrive, this transmission is great for trail and highway use. We manufacture adapters for the 4WD version of this transmission.

This transmission is 27" long and the adapters adds 4.625". It requires a new crossmember which we manufacture for this application [P/N 716040](#). The adapter kit comes complete with an adapter housing, spud shaft, bearings, bearing retainer and seals.

**Bellhousing Adapter to Modular Ford "Coyote" Engine:** This is a full Ford bellhousing that has been modified for a hydraulic clutch linkage. The bellhousing comes with the slave cylinder & bracket, clutch arm, pivot ball, starter index plate and crank bushing with a .750" I.D. This bellhousing has a 4.848" index and can be coupled to any early Ford transmission with a pilot bearing change or we suggest using it on a NV4500, TR-4050 or AX15. These transmissions along with the 1" adapters to make them look like a Ford and are a perfect fit for these engines. [P/N 712546](#).



# Toyota Truck Adapters

Toyota 4WD engine conversions are extremely popular. Whether you are retaining the stock transmission or converting to a Chevy or Ford transmission, we offer the adapters necessary. This section will cover transmission-to-transfer case adapters.

## Truck Transfer Case Adapter Chart

AUTOMATICS	<b>21 SPL. T/C 1979-95</b> TRANNNY's L43, L45, L50, L52, G52, G54, W56	<b>23 SPL. T/C 86-87</b> <b>Turbo 4 cyl.</b> TRANNNY R151F	<b>26 SPL. T/C</b> <b>1989-95 4 cyl.</b> TRANNNY G58
GM TH350 4WD TRANS.	50-5702	50-5704	
GM TH350 2WD TRANS.	50-5700	50-5703	
GM 700R/4L60 O/D 4 SPEED	50-5705	50-5706	50-3703
GM 4L60E 2 & 4WD TRANS.	50-5705	50-5706	50-3703
GM 4L60E 2 & 4WD Trans Hex Pattern	50-5760	50-5761	50-0405 / 50-3703
MANUALS			
FORD T18 4 SPEED	50-5801	50-5802	
FORD NP435 4 SPEED	50-5804		
DUAL CRAWLER REDUCTION BOX	50-5905D	50-5906D	
TOYOTA R150F TO Gear Drive T/C	50-5708	50-5707	

## Truck Transfer Bellhousing Adapter Chart

	<b>21 SPL. T/C 1979-95</b> TRANNNY's G52, G54, W56, G58	<b>23 SPL. T/C 86-87</b> <b>Turbo</b> TRANNNY's R151F, R150F
Bellhousing kit 153T flywheel	712560	712561
Bellhousing kit 168T flywheel	712560V	712561V
10.5" Pressure Plate	LC360056-PP	
11" Pressure Plate	LC165552-PP	
Clutch Disc	716105	
T/O Bearing	N-1430	
153T Flywheel	CF700100 / CF700170	
168T Flywheel	CF700120 / CF700160	
BUICK 160T Flywheel	CF700010	
Starters Options	22-0001 / 22-0003	
Slave Cylinder	716213	

### TOYOTA INFORMATION:

Throughout the years Toyota used basically two types of transfer cases: chain-driven or gear-driven. In order to identify the different transfer cases Toyota used, we reference the stock transmissions in these vehicles. These transmission codes are normally found in the engine compartment on vehicles 1979-83, or the driver's side door jam on vehicles 1984 & newer. All gear-driven cases have the same bolt pattern with a 2.28:1 low gear ratio. They did, however, use two input splines which were 21 and 23. The chain-driven transfer case offered two input splines which were

23 and 26. The bolt pattern on these cases differed from the gear-driven transfer case. These chain-driven transfer cases have a 2.57:1 low gear ratio.

Toyota used many 4 & 5 speed transmissions. We manufacture full bellhousing adapters to retain most of these stock Toyota trannys. These bellhousings adapt to the popular Chevy 4.3 V6 & V8, and the Buick V6. The transmissions we do not offer any bellhousing adapters for are the 4 & 5 speed transmissions

(1979-83) with tranny codes L43, L45, L50 and L52. The L43 & L45 4-speeds were only used for a short time and not strong or popular enough to warrant an adapter. The L50 & L52 5-speeds were an integral (one piece) bellhousing and transmission, which makes it very difficult to adapt to.

Our on-line Tech Vault will help on the identification of the Toyota drivetrains. Motor mounts and radiators can be found on-line or the Chart on **Page 12**.

### “Sumo Gears” New JAPANESE Made TOYOTA Low Gears:

These new 4.7:1 Toyota Truck gears are made in Japan at one of the original gear cutters that supplied many of the gear components on your Toyota Truck. Sumo Gears are of the highest quality and not to be compared to anything else sourced from overseas. These are a direct replacement for your stock gear-driven Toyota transfer case gears. There are no driveline modifications required. Average installation time between 6-8 hours, less time when using our 51-5911 casting. The kit includes the gear set, bearings, seals, and gaskets. P/N 48-4721 or P/N 48-4723

We also offer complete rebuild kits for your Toyota Truck transfer case. Our rebuild kits are superior to the other kits on the market today. They are assembled with quality gaskets which come from KP, an O.E. supplier. The bearings are brand name O.E. bearings and the seals are NOK, the choice of all the big Japanese manufacturers. [P/N 400107](#), [P/N 400105](#), [P/N 400104](#)





## Dual Transfer Case CRAWLER BOX (TX2):

Because of larger tires with a stock drivetrain, most Toyota trucks are not geared low enough. A double transfer case crawler adapter can be an easy solution to your gearing problems. Low gearing allows you to control crawl over obstacles; and keeping the vehicle under control saves on wear & tear and, in many cases, less breakage.

Designed for 1979-95 Toyota truck gear-driven transfer cases (21 or 23 spline), this new double bearing design is ideal to help with gear support and deflection. **Tx2** kits have a casting length of only 2.375" long.

This gear box takes the stock Toyota transfer case from a low gear ratio of 2.28:1, to a 5.20:1 low gear ratio. The stock gear-driven Toyota transfer case is assembled from the factory in 3 basic portions. By using the front section of the transfer case as a donor box, our adapter will allow you to install this reduction box between your transmission and transfer case. When installing this unit, driveline and floorboard modifications are required. Since the stock transfer case is also being relocated further back, an extended speedometer cable will be necessary. The kits we offer fit both the 21 & 23 spline gear-driven transfer cases.

[P/N 50-5905D](#) or [P/N 50-5906D](#)



## Toyota Case HEAVY-DUTY FRONT HOUSING:

For aftermarket Toyota low gears, the case must be machined or ground to provide clearance for the cluster gear. You can grind the necessary clearance; however, it is recommended to machine the case for this clearance.

If you're not sure about this grinding or the machining process, we offer a new heavy duty front Toyota housing. Our new Toyota HD housing can be used as a crawler box with stock Toyota gears or with a low gear sets. This housing will save you time and money. When installing our low gears into a stock Toyota housing, grinding & machining on the stock case is required. Our housing has been engineered with additional clearance for our gear sets. Thus, hours of grinding & expensive machining labor are eliminated. A "stock" housing is die-cast aluminum and only has an average wall thickness of .200". This housing is made from 356-T6 heat-treated aluminum alloy with an average thickness of .550". [P/N 51-5911](#)



## Toyota TACOMA, TUNDRA, T100, and FJ Cruisers STOCK TRANSMISSIONS to ATLAS Transfer Case:

These kits are designed to adapt the Atlas transfer case to a Toyota transmission. The plates work with either a right or left hand front output drop. The left hand drop (driver's side) is the same as stock. No crossmember modifications are needed. The stock mount and location are retained. Some floorboard modifications are needed. Driveshaft modifications are required, and some grinding may be required on the Atlas tailhousing and shifter tower.

We offer flange yokes for the Toyota [P/N AFTOY](#). These will mate to most Toyota driveshafts. Cable shifters are recommended [P/N 303009](#). These allow the shifters to be placed in the most desirable location. There is also some wiring needed on later Tacoma models with VSS and/or push button shifting.

**Cable Speedometer 1995-1997:** Fully mechanical speedo. We offer an adapter cable that adapts the Atlas to the stock cable [P/N 300613](#)

**VSS Speedometer 1998 & UP:** We offer a cable/VSS sender that couples to the Atlas speedometer drive. This unit provides the stock VSS signal that the Toyota transfer case did. The Atlas speedometer can be calibrated to tire size and axle ratio when doing these upgrades. [P/N 300605](#)

For more detailed information: Check out the Atlas Toyota Tech Vault section online.

## Toyota Transmissions to Atlas Transfer Case Adapters:

### Toyota Applications with Adapter needed:

Tacoma 1996-04 w/ 3.4L V6 & 2.7L automatic [P/N 50-5710](#)  
 Tacoma 1996-04 w/ 2.7L manual [P/N 50-5711](#)  
 Tacoma's 2005 & up with a 4.0L manual [P/N 50-5715](#)  
 Tacoma's 2005 & up with an automatic [P/N 50-5716](#)

4 Runner 1996-02 w/ 3.4L V6 & 2.7L automatic [P/N 50-5710](#)  
 4 Runner 1996-02 w/ 2.7L manual [P/N 50-5711](#)  
 4 Runners 2003 & up with an automatic [P/N 50-5716](#)

### Toyota Applications with Adapter needed:

Tundra 1999-06 4.7L automatic [P/N 50-5710](#)

The FJ Cruiser 2007 & up with a 4.0L manual [P/N 50-5715](#)  
 The FJ Cruiser 2007 & up with an automatic [P/N 50-5716](#)

### Adapter Information:

[50-5710](#) - Couples a Toyota 23 spline output to a Short Atlas 23  
[50-5711](#) - Couples a Toyota 26 spline output to a Short Atlas 23  
[50-5715](#) - Couples a Toyota 22 spline output to a Standard Atlas 23  
[50-5716](#) - Couples a Toyota 23 spline output to a Short Atlas 23



# Toyota Land Cruisers - Transfer Case Adapter Chart

Toyota Land Cruisers are well designed vehicles. The durability of the chassis and transfer case components offers a great opportunity for the installation of new engine & transmission assemblies. Whether your vehicle was previously equipped with a 3 or 4 speed, we offer a full line of engine & transmission conversion parts. We also manufacture components for steering upgrades, transfer case replacements, and transmission retrofits.

## GENERAL INFORMATION:

We offer conversion components for the 1963 to 2002 Land Cruiser models. Land Cruisers produced before 1963 used a small cast iron transfer case coupled to a manual 4 speed transmission. No adapters are available for this drivetrain.

In 1963, Toyota began using a one-piece aluminum transfer case coupled to a 3 speed manual transmission. This transfer case had a 10 spline input gear. Beginning in 1974, Toyota changed the transmission to a 4 speed manual. Although they continued using the same transfer case, they changed the input gear to 16 splines.

In August of 1980, Toyota once again changed the drivetrain. The manual 4 speed was still being used; however, the transfer case had been upgraded to a split-case design with a 19 spline input gear. In 1990, Toyota switched to a new transfer case called the HF2A. All of these transfer cases work well when coupled to a Chevy or Ford drivetrain.

**CROSSMEMBERS 1963-1980:** Land Cruisers have the stock transmission & transfer case supported by using bellhousing mounts. When installing a new transmission, a new crossmember is mandatory. We offer two types of crossmember designs. The most popular design bolts on the back of the stock transfer case. There is a 6 bolt cover that must be removed and our new crossmember bolted in its place. This crossmember extends to the inner frame rails. It is supported by L-brackets that must be welded to the frame rail. These components are insulated on rubber cushions. [P/N 716022](#). We also manufacture an option for transmission support, [P/N 716004](#). This crossmember is designed for the TH350, 700R & TH400.

**CROSSMEMBERS 1981-1990:** Land Cruisers with the split style 19 spline transfer case used a crossmember that was located underneath the stock transmission. This crossmember is

	TOYOTA 3 SPEED T/C 10 SPLINE 1963-1973	TOYOTA 4 SPEED T/C 16 SPLINE 1974- JULY 1980	TOYOTA 4 SP. T/C 19 SPL. AUG. 1980-90 SPLIT-CASE DESIGN	TOYOTA L/C HF2A T/C 1990-2002
AUTOMATICS				
GM TH350 4WD TRANS.	50-7300	50-7400	50-7401	
GM TH350 2WD TRANS.	50-7300	50-7400	50-7401	
GM TH400 AUTOMATIC	50-1500	50-1600	50-1700A	
GM 700R/4L60 O/D 4 SPEED	50-8901	50-8902	50-8903	50-8904A
GM 4L60E 2 & 4WD TRANS.	50-0406	50-0407	50-0408	50-0409
GM 4L60E 2 & 4WD TRANS Hex Pattern	50-0406A	50-0407A	50-0408A	50-0420
GM 4L80E 4WD TRANS.	50-1501	50-1601	50-1701	50-1702
GM 6L80 TRANS.	50-9610	50-9611	50-9612	6245-003
GM 6L90 TRANS.			50-9615	
FORD C4 3SD TRANS	50-8200	50-8300		
MANUALS				
FORD T18 4 SPEED		50-8000		
GM SM420 4 SPEED	50-2601	50-2602		
GM SM465 4WD 10 SPL.	50-4601	50-4602		
GM SM465 2WD 35 SPL.	50-4901	50-4902		
GM NV4500 4WD 31 SPL.	50-0211	50-0213	50-0214	
DODGE NV4500 4WD 23 SPL.	50-0225	50-0226	50-0227	
DODGE NV4500 4WD 29 SPL.	50-0222		50-0224	
TR-4050 23 SPL. / AX15 23 SPL.	50-0300	50-0301	50-0302	

a weld-in unit that comes with two new L-brackets for your frame rails and works with the stock rubber support. The crossmember works with the TH350 and 700R transfer case adapters. [P/N 716183](#)

**MOTOR MOUNTS & RADIATOR:** See the chart on Page 12.

**TRANSFER CASE REBUILD KITS:** All of the transfer case adapters we manufacture require you to access the stock transfer case. This is a perfect time to rebuild the transfer case. Our rebuild kits are superior to the other kits on the market today. They are assembled with quality gaskets which come from KP, an a O.E. supplier. The bearings are brand name O.E. bearings and the seals are NOK the choice of all the big Japanese manufacturers. [P/N 401310](#) - 3 speed t/c, [P/N 401416](#) - 4 speed 16 spl. t/c, [P/N 401418](#) - 4 speed 19 spl. T/C rebuild kit 34MM, [P/N 401419](#)

4-speed 19 spl. T/C rebuild kit 38MM, [P/N 401420](#) - 19 Spline gasket & bearing, [P/N 021020](#) - Orion & Stock TLC HI/LOW T/C fork

**TRANSFER CASE LINKAGE:** The 10 spline transfer case used either a vacuum or mechanical linkage and the 16 & 19 spline transfer cases are both mechanical. We offer shifter brackets for most adapters for mounting the T/C shifter controls.

**TWIN STICK LINKAGE FJ40:** The new linkage will allow the transfer case to shift into High and Low range, and in-and-out of 4WD easily. This new product simplifies the stock Land Cruiser complex linkage. The twin stick benefits include: no linkage binding, no shifter gating, low 2WD option, smooth operation, and a universal fit. Some applications will require welding.

## Toyota L/C Engine Swaps

Land Cruiser engine conversions are extremely popular due to the cost and availability of stock GM engine parts. The components covered in this section are for retaining the stock transmission.

Toyota 3 speed transmission was offered in both column and floor shifted models. Our kit is only compatible with the floor shifted transmission. If your transmission is column shifted, you can either upgrade to a floor shifted 3 speed or use a different transmission. The stock 3 speed transmission can be retained when using a Chevy V8 only. The adapter kit for mating this stock 3 speed is a simple spacer plate and bearing retainer, which does not require any transmission modifications. To obtain the proper firewall clearance, the transmission and transfer case assembly will need to be relocated a minimum of 3-1/2" forward. [P/N 713028-EK](#) is a complete kit to install a GM V8, these parts can be ordered separately.

The stock 4 speed transmission can be retained when using a Chevy V8 or GEN III V8. There are two styles of adapter kits for mating the stock 4 speed to these engines. We manufacture a new bellhousing that bolts the Chevy V8 to the Land Cruiser 4 speed. Our bellhousing will require the transfer case to be relocated forward a minimum distance of 3-1/2". This relocation is required for clearance necessary around the Chevy V8 distributor. This kit also requires driveshaft & floorboard modifications. [P/N 713024-EK](#)

Another option to retain the stock 4 speed is to use a Mark's 4WD adapter kit. This conversion bellhousing is for the Chevy engines. This bellhousing adapter is 4-7/8" thick and mounts directly onto the engine side of the original Land Cruiser bellhousing. Although the Mark's 4WD kit is slightly more expensive than our design, their special housings provide a very distinct advantage of retaining the drivetrain in the stock location eliminating any relocation of the transfer case. The Mark's 4WD kits retain the stock clutch linkage & slave cylinder and includes a new release bearing. [P/N 713025-EK](#)

We offer two kits like the ones above for the Vortec GEN III V8 engines. These kits are similar to the Gen 2 V8 kits with the exception of the motor mounts and the addition of a new flywheel, pressure plate, clutch disc and release bearing. These kits also include the metric fasteners needed and an in-line temperature sensor kit for the Land Cruisers.

**GEN III V8 conversion kit with AA Bellhousing [P/N 713026-EK](#),  
GEN III V8 conversion kit with Mark's 4WD Bellhousing [P/N 713027-EK](#)**

The A440F & A440L transmissions were found in the FJ60, 62, 80 & 100 series Land Cruisers coupled to either a 3F or diesel engine. Mark's 4WD offers kits for either an early or late model Chevy V8 to fit directly to these transmissions. These kits use a stock GM flywheel on the engine, a crank spacer, and then a special adapter ring which bolts to the stock Land Cruiser torque converter. The kit sets the engine in the right location so that driveline modifications should be avoided.

## Toyota L/C Tranny Swaps

NV4500 & TR-4050 Bellhousings:

These transmissions are a popular choice when installing a Chevy or Ford engine in a Land Cruiser. The adapters listed below are necessary to perform this conversion.

[P/N 712577](#) - GM NV4500 (1993-95) to GM block, full bellhousing

[P/N 712576](#) - GM NV4500 & TR-4050 (1996 & up) to GM block, full bellhousing

[P/N 712550](#) - Dodge Gas NV4500 to GM 5.125" bellhousing indexed adapter plate

(You can use bellhousing [P/N 712576](#) by installing a new input shaft, [P/N 52-0221](#).)

[P/N 712551](#) - Dodge NV4500 & TR-4050 to Ford 4.848" bellhousing indexed adapter plate

Tranny Retrofits:

*SM465:* Some customers prefer not to replace the stock Land Cruiser engine. For these applications we offer the SM465 transmission option. By using a 1963-73 Land Cruiser 3 speed bellhousing, we are able to adapt the popular SM465 transmission to your stock engine. [P/N 712519](#)

*NV4500 with CHEVY V8 (TRANSMISSION PACKAGES):* These transmission packages include a transfer case adapter, full bellhousing, slave cylinder bracket, release bearing and a new shifter handle. These kits do not include motor mounts, rear crossmember or clutch components.

GM NV4500 1996 & Up for Transmission 1995 & Earlier add an "E" to the Part Number

[P/N 27-0020G](#) - Stock GM 4WD. Land Cruiser 10 spline T/C & V8 engine full bellhousing  
**O.A.L. 25.350"**

[P/N 27-0021G](#) - Stock GM 4WD. Land Cruiser 16 spline T/C & V8 engine full bellhousing  
**O.A.L. 25.350"**

[P/N 27-0022G](#) - Stock GM 4WD. Land Cruiser 19 spline T/C & V8 engine full bellhousing  
**O.A.L. 25.350"**

## Saginaw Steering

We offer complete Saginaw steering kits for Toyota Land Cruisers. The stock steering often had excessive play and backlash. The Saginaw system is a proven advantage for these vehicles. Saginaw steering will provide your Land Cruiser with a more responsive steering system, more engine compartment space, and easier exhaust clearance. For full details on the Toyota L/C steering check out the Steering Conversion T.L.C. section of our website Tech Vault.



## Toyota L/C Tranfer Case Gearing Options



### ORION LOW RANGE TRANSFER CASE

Advance Adapters is proud to offer the Orion transfer case. This transfer case has a low ratio of 4.0:1, it is a cast iron designed transfer case that is sure to capture the attention of the Land Cruiser enthusiast. Advance Adapters is not the manufacturer of this transfer case; however, we are the exclusive distributor.

The Orion kits come with a new cast iron case, four new gears, a new 34mm cluster pin, and a complete gasket bearing and seal kit. This transfer case, however, is not a complete "ready-to-bolt-in" unit like the Atlas. The transfer case does require the use of your stock front and rear output shafts and housing. The new unit also requires the use of the stock P.T.O. gear and inspection covers.

**ORION4** - 4.0:1 fits vehicles with 10 or 16 spline inputs.  
The web site will direct you to the input spline option.

We also carry replacement output shafts for the Orion transfer case. We have found that most stock transfer case output shafts have excess wear on the gear journals. These new shafts provide a closer tolerant installation for the Orion gears.



### FJ60, FJ62 TRANSFER CASE LOW GEARS:

We offer gearing options for the 19 spline split transfer case. All gear sets require a small amount of internal case modifications to clear the new gear diameters; however, the installation of any gear set does not require any floorboard, driveshaft or crossmember modifications.

The FJ60 & FJ62 used two different cluster pin diameters on the idler gears: 34mm cluster pin transfer cases were used from August 1980 to October 1985, and 38mm cluster pin transfer cases from October 1985 to January 1990.

The 4:1 low gear set offers you some gearing options without swapping axles or drivetrain components and requires no driveshaft modifications. The kit does not include bearings or new seals. We recommend obtaining a Toyota service manual for the proper disassembly procedures and the proper torque specifications during reassembly. The installations of the 4:1 gears requires some machining to the rear half of the Toyota transfer case. The machining should be performed at a machine shop to ensure that proper case clearance is obtained without removing too much case material thus weakening the case. Note: This gear set will also alter your high range ratio. The high range ratio will now result in a 10% underdrive. [P/N 716938](#) or [716934A](#)

Our rebuild kits are superior to the other kits on the market today. They are assembled with quality gaskets which come from KP, an O.E. supplier. The bearings are brand name O.E. bearings, and the seals are NOK, the choice of all the big Japanese manufacturers. [P/N 401420](#)

### FJ80 TRANSFER CASE LOW GEARS:

This new gear set gives you a 3.1:1 low range from your stock 2.48:1. The Sumo Gears are made in Japan and are the highest in quality. This new gear set will get you a 25% lower range to help safely crawl your rig through the trail.

3.1:1 low range FJ80 with H1FA, H2FA, H2FAV T/C's. [P/N 716940](#)

## Suzuki Applications

### Suzuki Samurai Gears

We now offer three different sets of Suzuki Samurai low range gears. The kits come with three gears, one shaft & gear, a new cluster pin, thrust washers, cluster gear needle bearings, and a new gasket set. These gears are manufactured in Japan and are of the highest quality. 4.16:1 low range with a 12% high gear reduction [P/N 48-4160](#), 4.90:1 low range with a 16% high gear reduction [P/N 48-4900](#), 6.40:1 low range with a 17% high gear reduction [P/N 48-6400](#).


### Suzuki Vitara (GM Sidekick, GEO Tracker)

Along with the Samurai gears, The Sumo Gear Company also manufactures a 4.2:1 gear set for the Vitara, GM Sidekick or Geo Tracker. The stock transfer case was a 1.8:1 and low range and these new 4.2:1 low gears bring life to these SUV's. This gear set is made out of 4320 chromoly steel. [P/N 48-4200](#)



# Clutch Selection Chart

The Centerforce or Luk clutches and flywheels listed below are recommended when using Advance Adapters conversion components. We design our adapter kits around these clutch designs. If clutch components from other manufacturers are used, we cannot guarantee proper clutch operation.

	<b>1-1/8" 10 SPLINE</b>	<b>1-1/16" 10 SPLINE</b>
	ALL GM TRANS. NV4500, JEEP T5, T176, T90, T86, T14, T15, T18 TR4050	ALL FORD TRANS. JEEP T150 JEEP T18 1976-79
GM 10-1/2" PRESSURE PLATE	**LC360056/CF360056	CF360056
10-1/2" CLUTCH DISC	383271	381021
GM 11" PRESSURE PLATE	**LC165552/CF165552	**LC281226/CF165552
CLUTCH DISC	383735	281226
AMC 10-1/2" PRESSURE PLATE	CF361675 or CF361897 or CF361890	CF361675 or CF361897 or CF361890
CLUTCH DISC	384193	384180
FORD 10" P.P. (3 sets of 2)	CF360030	CF360030
CLUTCH DISC	383303	280490
FORD 11" P.P. (3 sets of 2) (6 bolts evenly spaced)	CF260000	CF260000
CLUTCH DISC	CF360049	CF360049
BUICK 10-1/2" P.P.	383735	281226
CLUTCH DISC	CF360056	CF360056
SPECIAL PRESSURE PLATE FOR RECESSED 225 FLYWHEEL	383271	381021
	CF361662	
	383271/N1178	

\*\*This is a Luk clutch assembly. The kit includes a pressure plate, disc, bearing, and alignment tool.



## GM GEN III/IV Bellhousing Components:

The Gen III engines have the same block bolt pattern as the early GM with the exception of one bolt hole. When bolting an earlier GM transmission or one of our bellhousings to the Gen III block, you will only be able to use 5 bolts. The Gen III engine used a different crank stickout from the back of the block and a different crank bolt pattern.

This means the early style flywheels and flexplates will not bolt to the new Gen III blocks.

The stock flywheels and flexplates from the Gen III blocks are also unique with regard to the clutch bolt pattern and the torque converter bolt pattern. We have designed kits for either a manual transmission or an automatic.

Early GM manual transmissions adapting to late GM engines needs kit [P/N 712500M](#). This kit includes a flywheel, flywheel bolts, 11" Luk pressure plate & disc, bolts for the pressure plate, pilot bushing spacer, release bearing, and metric bolts & washers for the bellhousing.

Early GM manual transmissions adapting to late GM engines needs kit [P/N 712500M-CF](#). This kit includes a flywheel, flywheel bolts, 11" Centerforce pressure plate & disc, bolts for the pressure plate, pilot bushing spacer, release bearing, and metric bolts & washers for the bellhousing.

Early GM Automatic adapting to late GM engines needs kit [P/N 712500A](#); and for the TH400/4L80E transmission, [Part No. 712500A4](#). These kits include a modified flexplate (drilled for an early GM torque converter), flexplate bolts, and crank spacer bushing.

**NOTE:** The 4L80E will only use 3 of the 6 torque converter bolts to the flexplate.

## Flywheels and Starters

<a href="#">P/N CF53005524</a>	JEEP 4.0 1991 & UP (CAST STEEL) 1" Thick
<a href="#">P/N CF700010</a>	BUICK V6 160T Flywheel 231 for EVEN-FIRE 1977 and Up (BILLET STEEL)
<a href="#">P/N CF700100</a>	153T GM Flywheel Up to 85 (BILLET STEEL) <a href="#">P/N 22-0003</a> High torque starter
<a href="#">P/N CF700120</a>	168T GM Flywheel Up to 85 (BILLET STEEL) <a href="#">P/N 22-0003</a> (straight pattern) or <a href="#">P/N 22-0001</a> (staggered) High torque starter
<a href="#">P/N CF785168</a>	168T GM Flywheel Up to 1985 (CAST STEEL) <a href="#">P/N 22-0003</a> (straight pattern) or <a href="#">P/N 22-0001</a> (staggered) High torque starter
<a href="#">P/N CF700170</a>	153T GM Flywheel 1986 & Up (BILLET STEEL) <a href="#">P/N 22-0003</a> High torque starter
<a href="#">P/N CF700160</a>	168T GM Flywheel 1986 & Up (BILLET STEEL) <a href="#">P/N 22-0003</a> (straight pattern) or <a href="#">P/N 22-0001</a> (staggered) High torque starter
<a href="#">P/N CF786168</a>	168T GM Flywheel 1986 & Up (CAST STEEL) <a href="#">P/N 22-0003</a> (straight pattern) or <a href="#">P/N 22-0001</a> (staggered) High torque starter
<a href="#">P/N CF720000</a>	Flywheel (Iron Head 6.0L 99 & 00) & (4.8L 99-03 Manual Trans.) NON RECESSED Crank W/ Early P/P bolt pattern (BILLET STEEL) <a href="#">P/N 22-0002</a> High torque starter Gen III
AMC Blocks	We also carry 1" thick flywheels for the 304,360 & 401 AMC blocks with both crank indexes.

## Clutch Alignment Tools:

These are great tools for installing a new clutch assembly. It allows you to align the clutch disc splines to the pilot bushing while bolting down the pressure plate to the flywheel. When it comes time to bolt the transmission to the bellhousing, you'll know you will have the correct alignment.

<a href="#">716228</a>	- 1-1/8" 10 spline .590 pilot tip
<a href="#">716229</a>	- 1-1/16" 10 spline .670 pilot tip
<a href="#">716230</a>	- 1" 14 spline .590 pilot tip
<a href="#">716231</a>	- 1-1/8" 21 spline .460 pilot tip

## Clutch Release Arms & Bearings:

The GM arm we use is the straight cast iron style that accepts the groove-type throw out bearing, [P/N 716176](#). On most of our conversion bellhousings and adapter plates, we recommend this part number (except on P/N 712548 bellhousing assembly).

Jeeps are similar to the early Fords in that they use a clip-type release bearing. The only application that we retain the stock Jeep throw out arm is with our conversion bellhousing P/N 712548 (vehicles 1976-86). When using this bellhousing on vehicles that were originally equipped with a 4 cylinder, you will need to purchase: [Part No. 716332](#) (boot), [716333](#) (spring) & [716334](#) (T/O arm).

# Transmission Options

## AX15 TRANSMISSION: (New Transmission)



The AX15 transmission has always been a great transmission, able to handle the torque and horsepower of most V8s. The biggest problem has always been the availability of new units. With the lack of availability of a new NV3550, we revisited the possibility of obtaining the Aisin Warner AX15 transmission and were successful. Although the torque specifications are not listed on this transmission in any service manual, we feel it's similar enough to the NV3550. The NV3550 was the transmission that superseded the AX15; and Jeep used the same engine with the same vehicle ratings. With the availability of AX15 transmissions, the transmission can be used in multiple vehicles. The most common are the Jeep and Bronco; however, this transmission is easily adapted to most transfer cases we work with. Shift handles are sold separately. *New AX15 transmissions (23 spline output) come with a 1 year warranty.* [P/N 26-AX15](#)

**Direct Replacement Jeep YJ & TJ:** The AX15 was used in Jeep vehicles used between 1988 to 1999, and the NV3550 between 2000 to 2004. With these Jeeps getting up in mileage a new AX15 or a NV3550 would be your direct replacements. The AX15 is available in both an internal and external release bearing design. And because the AX15 and NV3550 are the exact same dimensions, you can replace a NV3550 with a AX15.

**Replacing the AX5 (AX15 Only):** This kit is for all 4 cylinder Jeeps 1987 to 2002. The AX5 is considered a light duty transmission compared to the AX15. Jeeps equipped with larger tires and lower gears in the axle & transfer case may find the weak link in the drivetrain is the stock transmission. You can now install the AX15 in place of the AX5 to gain some drivetrain strength.

**Replacing the Peugeot 5sp.:** The AX15 & NV3550 are ideal replacements for this light-duty transmission. The kits we

offer include a new input gear for either the New Process 231 or 207 transfer case. Due to vehicle variances, some applications may require transfer case linkage modifications. Kits include a new bellhousing, transfer case shifter linkage, crossmember adapter mount that retains the stock Peugeot rubber mount, slave cylinder kit, and an input gear for your transfer case.

**1980-86 Jeep Replacements:** We offer the adapters for replacing the stock Jeep T5, T4, SR4 and T176 transmissions found in Jeeps 1980-86. The overall length of the new transmissions are 16.75" long, and most bellhousings we offer for this transmission are 7.500" long. Therefore, most applications will require driveline modifications.

**AX15 4.0L & 4.2L Jeep Bellhousing:** We offer a full bellhousing to fit both the 4.0L & 4.2L stock 6 cylinder, these bellhousings are equipped to replace the internal release bearing setup with an external slave cylinder and new release arm. [P/N 712590](#)

Ford Bronco: See Page 15.

## TR-4050 TRANSMISSION: (New Transmission) TREMEC® TR-4050 Heavy Duty 5 speed O/D transmission for 4WD applications



**Features:** Ratios: 6.16, 3.11, 1.71, 1.00, .76 Rev. 6.03, 600 LB-FT @ 15,000 Lbs GCWV, High-contact constant mesh helical gears for maximum strength. Die-cast aluminum alloy housing saves weight while offering considerable rigidity. Tapered bearing on input, main and counter shafts provide excellent internal stability. Needle bearings under gears reduce friction and noise output. All

forward gears and reverse gear synchronized. Weighs 164 lbs, 19.5" overall length.

We offer adapters for the following Transfer Cases:

*Dana 300* - [50-8603](#)

*New Process Jeep Transfer Cases* - [P/N 715543](#)

*Atlas Transfer Case* - The Atlas will bolt directly to the rear of the TR-4050

*GM NP205 10Spl.* - [P/N 52-9523](#) & [P/N 50-2800](#)

*Dodge NP205 23Spl.* - [P/N 50-2800](#)

*Ford NP205* - [P/N 50-0207](#)

*Ford Bronco Dana 20* - [50-0209](#)

*Toyota Land Cruiser* - We offer 3 adapter kits to fit the TR-4050.

[50-0300](#) fits the 10 spline,

[50-0301](#) fits the 16 spline, and

[50-0302](#) fits the 19 spline

## NV4500 ADAPTERS & COMPONENTS:



We offer a large selection of bellhousing and transfer case adapters for the NV4500. There have been many versions of this transmission as well as component changes. We offer a large selection of stock shafts, bearing retainers, gears, shifter components as well as rebuild kits. The transmission information section on-line, located in our Tech Vault, offers insight to all the available parts and history of the NV4500.

# Dodge Bellhousing and Transfer Case Adapters



## Dodge NV4500:

Between the years of 1989-1993, Dodge used a German made Getrag 5 speed transmission coupled to the Cummins™ diesel engine. These transmissions were used in both 2WD and 4WD vehicles. Re-manufactured transmissions and replacement parts have been extremely difficult to locate. We have developed a new bellhousing that will permit the use of the newer heavy-duty NV4500 transmission.

Many customers (aware that the NV4500 is currently available with the Cummins™ diesel) reason that they can simply use a stock New Venture bellhousing from Chrysler. Although this may be true, as was our initial thought, these original components from Chrysler proved to be extremely expensive. Not only would a new bellhousing be required, but also new clutch components, slave cylinder, engine intermediate plate, and considerable labor.

The bellhousing we manufacture bolts to the Cummins™ 5.9 diesel and utilizes the stock slave cylinder, clutch arm, and release bearing. This bellhousing comes with a new pilot bushing for both the 2WD and 4WD applications. The 4WD kits also include a crossmember mount and transfer case shifter bracket.

The stock clutch arms have become very hard to come by when doing the Getrag replacement. We decided to remanufacture this arm to the factory specifications. [P/N 712584C](#) is a direct replacement arm.

*On 2WD installations*, the new transmission is approximately 6-1/2" longer than the stock Getrag transmission. This conversion will require driveline and crossmember modifications. A new rear output yoke will need to be purchased and we offer this item as [Part No. 716087](#). Not all Dodge 2WD transmissions have a speedometer option on the tailhousing. The 1998 & newer transmissions used a speedometer located in the rear axle, thus these transmissions do not have any way of connecting a speedometer cable to them. A GPS speedometer may be the only way to accommodate a speedometer in your vehicle with the newer transmission. Floorboard modifications may be necessary because of the new shifter handle location.

*On 4WD installations*, the new transmission is a direct replacement for the Getrag 5 speed. You will have minor floorboard modifications for the new shifter handle location. The bellhousing kit comes with a crossmember adapter block and transfer case shifter bracket. The stock Dodge NV4500 transfer case adapter housing bolts directly to the stock transfer case. Most applications will require the stock adapter seal to be removed.

1992 & 1993, Dodge used a gated transfer case shifter. This shifter bracket is not included in the bellhousing or transmission kits. If your vehicle has this shifter as illustrated, you will need to purchase this bracket or you can order bellhousing kit [P/N 712584A](#) which includes this gated bracket.



## Stock Dodge Cummins™ to NV4500 bellhousing:

These bell housings were discontinued from Dodge in 2012; therefore, we started making them soon after. The bell housings are stock replacement housings, not heavy-duty housings built for more torque. If you have a Cummins engine that is built, you may want to limit the twisting on the drivetrain if you purchase one of these bell housings. [P/N 712586](#) or [712586A](#)

## Dodge NP205:

Dodge used two versions of the NP205. 1971 to the mid 70's they offered divorced units as well as a married unit in the mid-70's to 1993. The married unit was a right drop with a figure 8 bolt pattern. Dodge used an adapter between the 205 and stock transmission, this adapter took the figure 8 pattern to a circular 6. This adapter also provided the room to couple the two male shafts together.

All married units except the Cummins diesel Getrag 5 speed 89-93 had 23 spline inputs and used a coupler sleeve like Chevy. They used an adapter casting fig 8 on transfer case side to circle 6 transmission bolt pattern and used the small input bearing like the Chevy male inputs.

1989-93 Getrag 5 speed diesel only 29 spline male inputs and fig 8 to circle 6 adapters. This adapter is special to this t-case due to the use of the large input bearing like a Ford 31 spline or Chevy 32 spline. This HD 205 also had a special heavy duty fixed yoke rear output shaft. The design of the shaft makes it stronger than any other 205 rear output and commonly swapped into Ford and Chevy cases for extreme duty use. We offer the stock 29 spline input gears for the NP205 transfer case. We offer the stock couplers between the male transfer case spline and the male transmission splines.

[P/N 52-9541](#) 23 X 23 spline coupler, [P/N 52-9540](#) 29 X 29 spline coupler. We developed a hybrid coupler also that will take the 23-spline male shaft from the transfer case and then couple it to a 29 spline from a NV4500 or Getrag. [P/N 52-9542](#) 23 X 29 spline coupler

In recent years the availability on the stock adapter housings has dwindled. We are now offering the stock replacement adapters for both the 23 spline and the 29 spline transfer cases. These adapters are a two-piece billet combination that is the exact same length as the stock adapter.

## Dodge NP205 Transfer Case to Transmission Adapters:

- [P/N 50-2800](#) - Dodge NP205 stock adapter small bearing index (6307)
- [P/N 50-2801](#) - Dodge NP205 stock adapter large bearing index(6210)

- [P/N 50-9551](#) - Dodge NP205 to NV4500 29 spline trans (not a factory replacement adapter)
- [P/N 50-9551A](#) - Dodge NP205 to GM 4WD 6L90 29 spline transmission
- [P/N 50-9551B](#) - Dodge NP205 to GM 6L80 32 spline transmission

- [P/N 50-9905](#) - RAM 5.7 8HP70 23 spline output to an Atlas
- [P/N 50-9906](#) - RAM TRX & TRACK HAWK 6.2 8HP95 43 spline output to an Atlas



# Gen III and IV Engine Conversion Information:

## INSTALLATION CONSIDERATIONS:

The GM Generation III & IV blocks are classified as a 4.8L, 5.3L, 5.7L(LS1), and 6.0L. These blocks are popular because of the emission controls required when performing an engine swap. A few things to consider when using a Generation III\* V8 block are as follows: All fasteners are metric. The heads of a Gen III are wider than an early GM V8, so the exhaust manifolds are tough to fit between the frame rails on most vehicles. The exhaust on the driver's side can be a problem for mechanical clutch linkages. The oil pan is aluminum and cannot be modified.

We recommend the installation of a Gen III into the following vehicles: Jeep TJ, YJ, and CJ7 (CJs may be required to use a header system), Toyota Land Cruiser, full size Chevys, and any other vehicle with a minimum of a 25" inside frame width.

**Transmission Combinations:** The Gen III engines have the same block bolt pattern as the early GM with the exception of one bolt hole. When bolting an earlier GM transmission or one of our bellhousings to the Gen III block, you will only be able to use 5 bolts on some bellhousing kits. The Gen III engine used a different crank stickout from the back of the block and a different crank bolt pattern. This means the early style flywheels and flexplates will not bolt to the new Gen III blocks. The stock flywheels and flexplates from the Gen III blocks are also unique with regard to the clutch bolt pattern and the torque converter bolt pattern. We have designed kits for either a manual transmission or an automatic.

The kits designed to fit a manual transmission includes a flywheel, flywheel bolts, 11" pressure plate, disc, bolts for the pressure plate, pilot bushing spacer, release bearing, metric bolts & washers for the bellhousing (see Page 21 for these options).

The kit designed to fit the TH350 or 700R automatic transmission is [P/N 712500A](#); and for the TH400 transmission [Part No. 712500A4](#). These kits include a modified flexplate (drilled for an early GM torque converter), flexplate bolts, crank spacer bushing. Transmissions such as the 700R4 will require a TV cable kit. Transmissions like the TH350 and TH400 will require a Lokar kickdown cable.



**Exhaust:** The truck manifolds fit the majority of applications with the exception of the Jeep CJ. The Jeep CJ can use a 2010 & newer Camaro manifold or exhaust headers which we manufacture.

**Vacuum Lines:** You will notice that the Gen III block has no provision for vacuum lines. There is a small port on the back of the intake manifold that can be used. First, pull out the black plug on the intake manifold by holding pressure on the gray ring. Once the plug is out, drill and tap the black plug for a 1/8" pipe thread. Use a 90 degree 1/8" pipe by 3/8" barb adapter and thread it into the tapped plug. Press the plug back into the manifold and attach the hose.

**Radiators:** The Gen III requires a steam release port which is a standard feature on our radiators indicated with part numbers ending with a "-LS". The Gen III also require smaller water inlets and outlets on the radiators. A 50/50 mixture of Dex-cool and water is recommended for the Gen III engines (see page 12 for the Radiators we offer).

**Fan:** We recommend using an electric fan in most installations. Our Spal fans allow for ample clearance in the engine compartment providing for good air circulation. We offer a Spal fan kit to fit our radiator that is rated at 2070 CFM.

**Wiring:** Installing the Gen III is fairly simple; however, depending on the year of the vehicle, coupling to the stock gauges may require a vehicle service manual. For example, on a Jeep TJ we retained the stock Jeep sending units and attached them to the GM block (oil pressure, temperature, and fuel level). All of them work fine except the tachometer (in which we installed an aftermarket one). Since we used the stock sending units and because the Jeep TJ had a computer-controlled stock engine, the Jeep computer thinks that the original engine is still sending information. Vehicles that were not originally computer controlled may just need new dash gauges coupled to the Gen III sending units.

**Throttle Linkage:** The throttle cable that comes on most Gen III engines has a standard cable connection which can be fitted to most gas pedals. A new, larger access hole may need to be drilled in the firewall where the stock cable was originally located.

**Fuel:** The Gen. III fuel rails have anywhere between 50-60 pounds of fuel pressure! **Only approved high pressure hose and fittings should be used.** The Gen III engines need a minimum diameter of 3/8" line on the pressure side, and a minimum of 5/16" on the return side (3/8" is best for the return line).

## Gen V Engines:

We offer a few items for the Gen V going up to a manual transmission. Like the Gen III, we offer a clutch kit with a new flywheel for these blocks. In addition, we also offer a weld-in mount system that works with the Jeeps as well as the Toyota L/C applications.

\*When we refer to Gen III we are also including the Gen IV