

## GM TRUCK 4SPEED MODEL SM465 TO JEEP 6 SPLINE DANA 18/20

**KIT CONSISTS OF:**

No.	Qty	Part No.	Description
1.	1	51-4703	ADAPTER PLATE
2.	1	52-4703	MAIN SHAFT 6 SPLINE
4.	1	716302	BEARING
5.	1	716310	308 TRANSMISSION BEARING
6.	1	716347	THRUST WASHER
7.	1	716348	BEARING SPACER
8.	1	716515	GASKET
9.	1	716568	GASKET
10.	2	716660	LARGE MOUNT
11.	2	716661	SMALL MOUNT
12.	2	716664	BOLT SLEEVE
13.	2	722523	WASHER-FLAT-1/4"
14.	1	723101	NUT-5/16-18
15.	2	723102	SET SCREW-5/16-18-.25
16.	1	723125	BOLT-SHCS-5/16-18-1.25 LOW PROFILE
17.	1	723701	3/8"-16 NUT
18.	3	723722	BOLT-HHCS-3/8-16-1.25
19.	8	723731	BOLT- SHCS-3/8"-16 x 1"
20.	4	723735	WASHER-FLAT-3/8"
21.	1	723775	STUD-3/8"-16 x 1.25"
22.	2	724357	BOLT-HHCS-7/16"-14 x 3.25"
23.	4	724321	WASHER-FENDER 7/16"
24.	1	728701	NYLON LOCK NUT
25.	1	728702	WASHER
26.	1	716349	SHAFT SLEEVES

**OPTIONAL ITEMS:**

Qty	Part No.	Description
1	716001 or 716002	T90-T86 BRG. RET.



**SPECIAL NOTE:** The components packaged in this kit have been assembled and machined for specific type of conversions. Modifications to any of the components will void any possible warranty or return privileges. If you do not fully understand modifications or changes that will be required to complete your conversion, we strongly recommend that you contact our sales department for more information. This instruction sheet is only to be used for the assembly of Advance Adapter components. We recommend that a service manual pertaining to your vehicle be obtained for specific torque values, wiring diagrams and other related equipment. These manuals are normally available at automotive dealerships and parts stores.



P.O. Box 247, 4320 Aerotech Center Way  
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PAGE 2 OF 5 Page Rev. Date: 03-13-17  
P/N: 50-4703

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### GM & CHEVY SM465 4 SPEEDS 1968 & UP:

This transmission can be identified by a case length of 12". The casting numbers on the case should be GM465452, 6273212 or 3901127. The top shift cover casting number should be GM3901131. The P.T.O. opening is available on both sides of the main case. This transmission has a non-synchro first gear. The gear ratios for this transmission are as follows:

First Gear	6.46	Second Gear	3.58
Third Gear	1.70	Fourth Gear	Direct
Reverse	6.09		

Introduction: This kit fits a majority of Dana 18/20 to SM 465 applications. The new main shaft included in the kit is manufactured to fit the six spline input gear on both the Dana 18 and Dana 20. Although rare, customers with the 10 spline input gear will have to purchase a new 6 spline input gear (Call for availability). The Dana 18/20 cases were manufactured with several different shifter styles, because of this each installation may differ slightly. For more information on stock shifter applications see Page 4.

Preparation For Assembly: The most difficult part of this installation is replacing the SM465 main shaft. Advance Adapters highly recommends using a manual transmission shop for this part of the install.

If you attempt the installation on the SM465 shaft on your own, please be careful with the sleeves as they are a press fit and they can shatter during installation. The sleeves are a very close tolerance. To help in the assembly of these sleeves, you can heat them in a oven (250 degrees for 10 minutes) which will increase the size of the bushing making it easier to install. (Be sure to use eye and face protection when pressing, and leather gloves when handling the heated bushing.)

To start off, make sure you received all parts included in the kit. Also, check to make sure you received the correct bearing retainer. The Dana 20 uses AA Part# 716001 and Dana 18 uses AA Part# 716002.

### Procedure:

1. To make the installation easier, drain the oil out of the transmission and transfer case.
- 1A. Determine the Dana 18/20 rotation desired and then install the bolt in the lower pocket of the adapter for the transfer case (see page 5 notes)
2. Next, install the gasket between the transmission and adapter plate. Gasket sealer will make this step easier by holding the gasket in place.
3. Then install the adapter plate on the transmission with the eight 3/8"-16 x 1" socket head cap screws. Torque the bolts to 35 ft./lbs.
4. The adapter plate comes with three clocking positions. When the desired angle has been chosen, install the supplied set screw studs. There are several different size studs supplied for this step. The 3/8"-16 x 1.25" stud will thread into the tapped hole of the Dana 18/20 case.

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**NOTE:** The fine thread 1.5" stud threads into the lower bearing hole on the adapter. Prior to installation, the threads should be coated in RTV silicone to prevent possible oil leaks in the future. Also supplied are two smaller set screws to plug lower unused mounting holes. These should also have a small amount of RTV silicone applied to the threads before installation.

**\*\*\*CHECK TO MAKE SURE SET SCREW IS FLUSH WITH ADAPTER PLATE AND DOES NOT CONTACT THE COUNTER SHAFT\*\*\***

At this point, check to make sure all studs are in their correct hole position for your application.

5. Next, install the supplied bearing spacer onto the output shaft.
6. Install the bearing retainer and supplied sealed bearing. For Dana 20 applications, the sealed bearing is followed by a snap ring.
7. The bearing installation should then be followed by the six spline input gear, washer, and lock nut. Torque the lock nut to 75 ft./lbs.

**NOTE:** For Dana 18 applications, the input gear will be installed after the case has been bolted to the adapter.

8. Before installing the second gasket, test fit the transfer case to the adapter. Check to see if all bolts line up and are correct lengths. The stud length can be adjusting by hand or with an Allen wrench.
9. If everything checks out, install the adapter to the transfer case gasket with gasket sealer if so desired.
10. Finally, install the transfer case to the adapter using the supplied hardware. The best way to accomplish this is to turn the transfer case output shaft (assuming it's in gear) while inserting the case onto the adapter and input gear. Torque all nuts to approximately 35ft./lbs.

### Transmission Mount:

1. The supplied rubber mounts sandwich between the top and bottom of the stock crossmember. Some trimming is required to mount the supplied rubber mounts to the bottom of the adapter.
2. The passenger mount requires trimming when the transfer case is clocked to its furthest down position.

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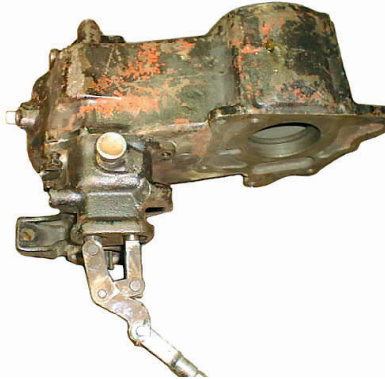
**Stock Angle:** 33.36  
**Pan angle:** 24.38



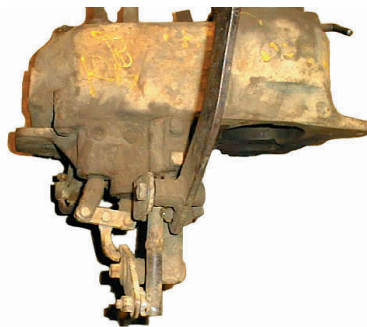
This shifter style is primarily found on scouts. Customers with this style shifter can only install the transfer case on the lowest clocking position. Clocking up requires major shifter modifications or swapping in a different shifter style.



This style shifter can be will allow for installation in any of the three positions. Minor grinding is necessary on the crossmember mount when clocked furthest down.

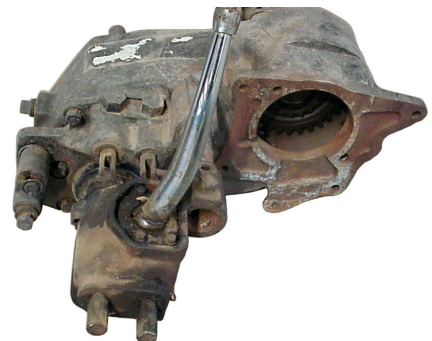


This shifter casting has same clearancing problems as first. Trimming to get 45 degrees can be done on either the transfer case or tranny. Modifications on shifter are required. 30 degrees to 37 degrees can be done without trimming and 45 degrees (WT).



This style shifter requires clearancing when clocking up is desired. Grinding can be done on either shifter housing or SM465 case.

We are not sure on this transfer case as it was not available for testing.



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	51-4703	ADAPTER-SM465 TO D18/20	1
2	52-4703	SHAFT-SM465-OUTPUT 6T	1
3	716001	HOUSING-D18 INPUT BEARING	1
4	716302	BEARING-6307-SEALED	1
5	716310	BEARING-6308-SR SEALED	1
6	716347	WASHER-SM465 REAR THRUST	1
7	716348	SPACER-INPUT BEARING	1
8	716515	GASKET-SM465-REAR OUTPUT	1
9	716568	GASKET-D18/20 INPUT	1
10	716660	MOUNT-TRANSMISSION-LARGE	2
11	716661	MOUNT-TRANSMISSION-SMALL	2
12	716664	SLEEVE-BUSHING SUPPORT 7/16"	2
13	722523	WASHER-FLAT-1/4"	2
14	723101	NUT-5/16-18	1
15	723102	SET SCREW-5/16-18X.25	2
16	723125	BOLT-SHCS 5/16-18X1.25 LOW PROFILE	1
17	723701	NUT-3/8-16	1
18	723722	BOLT-HHCS-3/8-16X1.25 GR5	3
19	723731	BOLT-SHCS-3/8-16X1.00	8
20	723735	WASHER-3/8" FLAT	4
21	723775	STUD-3/8-16X1.25	1
22	724357	BOLT-HHCS 7/16-14X3.25 GR5	2
23	724321	WASHER-FENDER-7/16"	4
24	728701	NUT-NYLOCK-7/8-16	1
25	728702	WASHER-7/8"	1

NOTES: 50-4703  
 1. TEST FIT PARTS TO DETERMINE DESIRED ROATION  
 2. APPLY RTV SILICONE TO PARTS 15 AND 21  
 3. PARTS 22, 9, AND 23 MAY REQUIRE TRIMMING ON LOWEST ROTATION  
 4. PART 16 MUST BE INSTALLED ON 1 BEFORE ASSEMBLY ONTO TRANSMISSION.  
 5. TEST FIT ONTO TRANSMISSION TO CHECK FOR INTERMEDIATE SHAFT INTERFERENCE.

